Reproductive Health

RESEARCH

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Changes in the prevalence of child marriage in Ethiopia, 2005–2016

Annabel Erulkar*

Abstract

Background: Child marriage has powerful implications for a young woman's reproductive health, education, and personal development as well as the development of communities and nations. Child marriage frequently marks the beginning of a young woman's sexual activity and early childbearing. As a country where child marriage is common, Ethiopia has placed additional emphasis on addressing child marriage over the past years.

Methods: Using data from Ethiopia Demographic and Health Surveys for 2005, 2011 and 2016, this paper explores trends in child marriage over the last decade in various locations and regions of Ethiopia.

Results: Between 2005 and 2016, the percentage of young Ethiopian women married before age 18 declined from 49 to 40%, a reduction of 18% from 2005 levels. The percentage of women married before age 15 experienced even greater reductions, declining by 26% in the same period. The greatest reductions in child marriage took place in the Addis Ababa, Amhara, and Tigray regions. Over the period, estimates for Oromia and Somali suggest that child marriage has increased in these regions. Notwithstanding recent declines, Afar, Beneshangul-Gumuz, Somali, and Oromia are regions where nearly half or more of all girls are married before age 18.

Conclusions: Nationally, Ethiopia has experienced impressive declines in child marriage over the last decade. However, progress has also been uneven. Trends in the last decade have resulted in a geographical shift in where child marriage is most prevalent. In particular, locations that are challenging in terms of access, including the most remote and hard to reach, pose persistent challenges to those attempting to eradicate the practice. Intensifying efforts in rural areas and underserved regions can facilitate further declines in child marriage in Ethiopia.

Keywords: Ethiopia, Child marriage, Trends, Prevalence

Plain Language Summary

Child marriage has powerful implications for young women's reproductive health, education, and welfare. Using data from Ethiopia Demographic and Health Surveys for 2005, 2011, and 2016, this paper analyzes subnational trends in child marriage over the last decade.

Between 2005 and 2016, the percentage of Ethiopian women married before age 18 declined from 49 to 40%, a reduction of 18%. The percentage of women married before age 15 experienced even greater reductions, declining by 26% in the same period. The greatest reductions in child marriage took place in Addis Ababa, Amhara, and Tigray regions. Over the same period, estimates for Oromia and Somali regions suggest that child marriage has increased in these regions. Afar, Beneshangul-Gumuz, Somali, and Oromia are regions where more than or nearly half of all girls are married before age 18.

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Nationally, Ethiopia has experienced impressive declines in child marriage over the last decade. However, progress has also been uneven, resulting in a geographical shift in where child marriage is most prevalent. Remote and hard-to-reach locations pose persistent challenges to eradicating child marriage. Intensifying efforts in rural areas and underserved regions can achieve the elimination of child marriage in Ethiopia.

Background

Currently, 650 million women and girls were married before their 18th birthday, with 12 million underage girls married each year [1, 2]. The age at which a woman or girl marries has tremendous implications for her reproductive health trajectory in addition to the negative impacts on her rights, her education, and the development of communities and nations. The practice of child marriage (marriage to someone under age 18) exacerbates the reproductive health vulnerabilities of girls and young women. Child marriage frequently hastens girls into early sexual relations, which are oftentimes unwanted and forced [3]. Likewise, the practice is associated with early childbirth; 90% of adolescent births occur among girls who are already married [4]. Early first births are known to be the riskiest, a risk compounded by the fact that girls who marry as children are often from the poorest communities in the most remote rural locations, where access to quality health care is tenuous, resulting in suboptimal health-seeking behavior [5, 6]. In addition, in many communities of Ethiopia, it is traditional that the first child be born at home, which adds to the risk of early first births associated with child marriage. It is estimated that 25% of known fistula cases are directly attributable to child marriage [7]. Child marriage is also associated with elevated rates of maternal mortality [8], making efforts to eradicate child marriage a critical strategy in improving reproductive health.

Globally, there has been increased attention to the impact of child marriage on girls' health, their welfare, and the overall development of nations [9]. Over the past decade, UNICEF estimates that 25 million child marriages were averted, 7 million because of expected global declines and 18 million because of increased attention; preventive actions; and interventions by governments, international bodies, and civil society agencies [10]. This decline underscores the potential important contribution that governments and development agencies have in eliminating child marriage. However, the same report highlights that, despite this progress, substantially more effort is required to achieve the Sustainable Development Goal of eliminating the practice by 2030, citing an increasing global burden of child marriage in sub-Saharan Africa. If efforts to prevent child marriage are not intensified, estimates are that 150 million more girls will be married by 2030 [11].

Globally, Ethiopia has the 15th highest rate of child marriage in the world. However, due in part to its large and growing population, the country ranks fifth in the world in terms of the sheer number of child brides, estimated at more than 2.1 million [12]. Furthermore, Ethiopia is among the countries with the highest rate of girls married by age 15 (called under-15 child marriage here), which is arguably the most severe and harmful form of the practice [13].

Ethiopia's law and policy environment strongly supports the elimination of child marriage. Its Constitution states: "Marriage shall be entered into only with the free and full consent of the intending spouses" (Article 34) [14]. Marriage of a male or female child under the age of 18 is illegal in Ethiopia; the Ethiopia Revised Family Code, issued in 2000, states that "[n]either a man nor a woman who has not attained the full age of eighteen years shall conclude marriage" [15]. Ethiopia has many other policies and action plans that call for the elimination of harmful traditional practices (HTPs), including child marriage, such as the 2013 "National Strategy and Action Plan on HTPs Against Women and Children in Ethiopia" [16].

In 2014, the Ethiopian government committed to eradication of child marriage and female genital mutilation/cutting (FGM/C) at the Girl Summit in London, after which followed a National Girl Summit in Ethiopia in 2015. The Ethiopian government chairs the National Alliance to End Child Marriage and FGM/C, the coordinating body of national efforts to eradicate child marriage, and is 1 of 12 countries implementing the Global Programme to Accelerate Action to End Child Marriage in collaboration with UNICEF and United Nations Population Fund. The attention by non-governmental organizations (NGOs) to the issue has also expanded and multiplied over the years including programs such as Berhane Hewan (Population Council; 2006–present) [17–19], End Child Marriage Programme: Finote Hiwott (Maxwell Stamp; 2011–2017) [20], TESFA (Care; 2010–2017) [21], and Hiwott Ethiopia [22], all implemented in the Amhara Region.

More recently, in 2019, the Ethiopia Federal Ministry of Women, Children and Youth launched the National Costed Roadmap to End Child Marriage and FGM/C.

The roadmap recommends five pillars of action: (1) empowering adolescent girls and families, (2) community engagement, (3) enhancing systems accountability and services, (4) promoting an enabling environment and (5) increasing data and evidence generation and utilization. Importantly, the roadmap highlights not only the harmful effects of child marriage on girls and women but also the economic benefits and reduction in population growth that accrue as a result of eliminating child marriage [23].

This paper explores trends in child marriage in Ethiopia over the past decade. Though available national data are not perfectly aligned with Ethiopia's intensification of attention to the practice, we use data from the Ethiopia Demographic and Health Surveys (EDHSs) for 2005, 2011, and 2016 to explore changes in the prevalence of child marriage, highlighting where the most and fewest gains have been made in eradicating the practice.

This paper does not explore correlates of child marriage, which have been extensively researched. Rather, we look at trends in different subnational regions of Ethiopia, suggesting direction for where intensifying future efforts and investments in child marriage prevention is warranted. With resources for child marriage programming limited, and the geography and population size of Ethiopia extremely large, the aim of this paper is explicitly to guide policymakers, program managers, and donors as to where progress has been made as well as where substantial levels of child marriage persist. We focus on descriptive data only to demonstrate the magnitude of the practice in various regions and do not examine factors that are correlated to or explain child marriage. Therefore, the aim of the analysis is to make better use of limited programmatic resources in order to geographically focus prevention efforts.

Methods

Data used for this paper are from EDHSs, which are nationally representative household surveys collecting information from reproductive-age women 15–49 years old. For our analysis, we focus on the last three rounds of EDHS, collected in 2005 [24], 2011 [25], and 2016 [26]. Mini-EDHSs were carried out in 2014 and 2019. However, these surveys do not include sufficient numbers of 20- to 24-year-olds, which is the cohort of women we use in this analysis.

Using data from the 2005, 2011, and 2016 surveys, we present descriptive results that examine the proportion of young women married both during early adolescence, meaning by age 15, and before age 18, which are commonly used standards of expressing child marriage prevalence. Variables were constructed to reflect those married by age 15 and age 18, using marital status and age at marriage/cohabitation variables available in the datasets. The two variables are not mutually exclusive; the variable reflecting those married before age 18 (called under-18 child marriage) also includes girls married before age 15. For analysis, we select the cohort of young women ages 20–24. We did this to account for censored cases and to reflect the youngest cohort of women—and thereby most recent trends—for each round of the survey. Data are weighted using the sample weight available in the datasets. We have not analyzed age at marriage across different age cohorts of Ethiopian women because previous research has demonstrated that reports of age at marriage are subject to reporting errors, especially in older cohorts of women [27].

Using descriptive results, we analyze trends over three successive surveys at the national level, at the regional level, and by urban-rural residence. The percentage change between 2005 and 2011 is calculated using the change in proportions married between 2005 and 2011, divided by 2005 levels of child marriage. In addition, the absolute percentage point change between 2005 and 2011 is presented.

Results

From 2005 to 2016, Ethiopia experienced overall declines in child marriage that are impressive. Nationally, the percentage of young women married before age 18 was 49% in 2005 and 40% in 2016, an 18% reduction (Table 1). Under 15-child marriage experienced even greater declines, from 19% to 2005 to 14% in 2016, a 26% reduction. Progress in the elimination of child marriage varied between urban and rural areas. Urban areas experienced greater declines in child marriage compared to rural areas. In 2005, the prevalence of women married as children in urban areas was 32%, whereas in 2016, the prevalence was 16%, a 51% reduction. During the same period, prevalence in rural areas declined from 53% to 2005 to 48% in 2016, a 10% reduction. According to estimates from the 2016 EDHS, child marriage is still quite prevalent in rural areas of the country, with nearly half (48%) of young women ages 20–24 having been married as children.

From 2005 to 2016, seven of nine regions registered reductions in under-18 child marriage (Table 2). The greatest reductions were in Addis Ababa (52%), Amhara (46%), and Tigray (38%) regions. These regions also had substantial reductions in under-15 child marriage. In particular, the Amhara region declined from an estimated 50% of girls married under the age of 15 in 2005 to 16% of girls married under age 15 in 2016.

Unfortunately, declines in child marriage are not consistent across all regions. Two regions—Oromia and Somali—experienced increases in the proportion of girls

Table 1 Percentage of young women aged 20 to 24 married by age 18 and age 15, by year and urban/rural residence or 2005, 2011, and 2016

	Percent 2005 (n = 2844)	Percent 2011 (n = 3022)	Percent 2016 (n = 2903)	Percentage point change 2005–2016	Percent difference 2005–2016
Married by age 18					
Ethiopia (all)	49.1	41.2	40.3	− 8.8	− 17.8
Urban	31.9	21.7	15.7	− 16.2	− 50.8
Rural	53.2	49.0	48.0	− 5.2	− 9.8
Married by age 15					
Ethiopia (all)	19.1	16.4	14.1	− 5.0	− 26.2
Urban	10.5	9.2	2.9	− 7.6	− 72.4
Rural	21.1	19.2	17.7	− 3.4	− 16.1

EDHS Ethiopian Demographic and Health Survey

Estimates for percent married by age 18 are inclusive of those married by age 15

Table 2 Percentage of young women aged 20 to 24 married by age 18 and age 15, by year and region for 2005, 2011 and 2016

	Percent 2005 (n = 2844)	Percent 2011 (n = 3022)	Percent 2016 (n = 2903)	Percentage point change 2005–2016	Percent change 2005–2016
Married by age 18					
Addis Ababa	16.9	11.8	8.1	− 8.8	− 52.1
Afar	70.0	55.2	66.7	− 3.3	− 4.7
Amhara	79.9	55.6	42.9	− 37.0	− 46.3
Beneshangul-Gumuz	59.3	57.6	50.0	− 9.3	− 15.7
Gambela	62.5	47.1	44.4	− 18.1	− 29.0
Oromia	42.6	40.8	47.7	+ 5.1	+ 12.0
Somali	44.4	52.9	49.4	+ 5.0	+ 11.3
SNNP	31.2	29.7	30.8	− 0.4	− 1.3
Tigray	68.8	43.0	42.8	− 26.0	− 37.8
Married by age 15					
Addis Ababa	6.6	3.0	2.7	− 3.9	− 59.1
Afar	20.0	10.7	18.5	− 1.5	− 7.5
Amhara	50.2	32.8	16.4	− 33.8	− 67.3
Beneshangul-Gumuz	25.9	21.2	15.6	− 10.3	− 39.8
Gambela	14.3	17.6	22.2	+ 7.9	+ 55.2
Oromia	10.3	11.9	17.3	+ 7.0	+ 68.0
Somali	7.4	9.6	9.9	+ 2.5	+ 33.8
SNNP	5.0	8.0	9.6	+ 4.6	+ 92.0
Tigray	26.1	17.0	15.8	− 10.3	− 39.5

EDHS Ethiopian Demographic and Health Survey, *SNNP* Southern Nations, Nationalities, and Peoples (region). *Estimates for percent married by age 18 are inclusive of those married by age 15*

married before age 18. From 2005 to 2016, the proportion of young women married before age 18 in Oromia rose from 43 to 48%; in Somali, the proportion rose from 44 to 49%. Based on the estimates, four regions experienced increases in under-15 child marriage from 2005 to 2016: Gambela; Oromia; Somali; and Southern Nations, Nationalities, and Peoples (SNNP).

Despite impressive declines in child marriage over the past 10 years, there are still locations where large proportions of girls are married before their 18th birthday. Afar, Beneshangul-Gumuz, Somali, and Oromia are regions where nearly half or more of all girls are married before age 18. The prevalence of under-15 marriage is also remarkable in several regions, including Gambela (22%),

Afar (19%), Oromia (17%), and Amhara (16%), among others.

Discussion

This study has limitations. The analysis presented here is limited to descriptive data on trends in child marriage in various subnational regions of Ethiopia. This descriptive analysis is explicitly directed toward program managers, policymakers, and donors and provides guidance on where the country has made positive progress and where to geographically focus child marriage prevention and support programs in the future. The analysis does not examine risk factors or correlates of child marriage but attempts to maximize programmatic resources in the country.

Likewise, the analysis does not allow us to confidently draw conclusions on what brought about these changes. Ethiopia's government has demonstrated a commitment to eradicate child marriage and to increase educational participation; its laws and policies support the elimination of child marriage, and there has been widespread attention by NGOs complemented by a strong evidence base. However, the descriptive results presented here only allow us to surmise that these factors may have contributed to declines in child marriage. Other factors undoubtedly contribute to the trends we witness, such as changing economies, security issues, and underreporting of the practice. Further research is needed to determine why some locations in Ethiopia succeeded in reducing child marriage while others remained unchanged or experienced increases.

Nationally, Ethiopia has experienced impressive declines in child marriage over the last decade. However, progress has been uneven. Urban areas and regions such as Amhara have experienced dramatic declines in the practice. A decade ago, Amhara was known to be the Ethiopian region with the highest rate of child marriage. As a result, Amhara has been the recipient of significant attention to and investments in child marriage prevention, including from NGOs. These efforts appeared to have yielded significant progress toward eradicating the practice, to the extent that Amhara region is now among the regions with relatively lower levels of child marriage.

A decade ago, regions such as Oromia have traditionally not been considered locations where child marriage was widespread, in comparison to other parts of the country. However, failure to focus attention on these locations may have resulted in modest increases in the practice of child marriage over the last 10 years. In addition, the dramatic reductions in regions like Amhara in conjunction with little change in others has meant the locus of the child marriage burden has shifted in Ethiopia to regions such as Afar, Somali, Beneshangul-Gumuz, and Oromia.

These regions, which currently exhibit the highest child marriage prevalence, are all characterized by rural locations that are the hardest to reach and inaccessible, posing challenges to the eradication of child marriage. However, these remote locations are precisely where child marriage tends to persist. Lack of roads, unreliable electricity, low media coverage, weak infrastructure, and limited human resources in remote areas all combine to undermine efforts to create awareness and deliver programs as well as to increase associated costs.

Ethiopia is a country of enormous geographical scale with a large population. Very often, resources are too limited to adequately serve the populations in need. Although datasets such as the EDHS are instrumental in identifying regions where child marriage continues to be prevalent, regional level data are probably still too broad to enable us to efficiently target often limited resources in specific geographical areas. District/woreda-level data would be the most useful for program planners and policymakers to identify the locations with the highest levels of child marriage—the true "hot spots"—and focus investments on prevention and support programs.

Conclusions

Based on evidence over the past decade, the burden of child marriage is shifting in Ethiopia. In a large country with limited resources, it is critical to use data and evidence to identify locations where the practice is most prevalent. The analysis presented here suggests we need to rethink where to focus child marriage prevention efforts in Ethiopia in order to make further progress in eradication of the practice and maximize returns on these efforts. There is a need to intensify attention in rural areas and underserved regions such as Afar, Somali, Beneshangul-Gumuz, and Oromia. In addition, opportunities to generate and use district-level data will aid in more effective geographic targeting of our efforts.

Abbreviations

EDHS: Ethiopia Demographic and Health Surveys; FGM/C: Female genital mutilation/cutting; HTPs: Harmful traditional practices; NGO: Non-Governmental Organization; SNNP: Southern Nations, Nationalities, and Peoples (region); UNICEF: United Nations Children Fund.

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All data generated or analyzed during this study are included in this published article. The datasets are available in the 2005, 2011 and 2016 Ethiopia Demographic and Health Survey (EDHS) websites (https://dhsprogram.com/pubs/pdf/FR179/FR179%5B23June2011%5D.pdf), (https://dhsprogram.com/pubs/pdf/FR255/FR255.pdf) and (https://dhsprogram.com/pubs/pdf/FR328/FR328.pdf).

Declarations

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Publisher's Note

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Life expectations in early adolescence and the timing of first sex and marriage: evidence from a longitudinal survey in Ethiopia

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Abstract

Background: Raising the median age at first sexual intercourse and first marriage among females is a policy goal of the Ethiopian government. Education figures prominently in the government's plans for achieving its goals, including primary and secondary schools; higher education; and out-of-school interventions such as youth centers, peer clubs, and youth associations In this study, we tested whether adolescents and youth who had high educational and occupational expectations at younger ages were at a lower risk of first sexual intercourse and marriage during adolescence and early adulthood.

Methods: Data came from multiple waves of a longitudinal survey of households and adolescents conducted in southwestern Ethiopia. A measure of career expectations was created from educational and occupational expectations measured at baseline when the adolescents were ages 13–17. The occurrence and timing of first sexual intercourse (called first sex) and marriage were measured four years later in a wave 3 survey. Discrete-time logistic hazard regression models were applied to a person-year file to predict first sex for males and females separately and first marriage for females.

Results: Male and female adolescents who had high career expectations at young ages were at a significantly lower risk of first sex during adolescence and early adulthood. Unlike the delaying effect of being in school, the effect of high career expectations did not wear off as adolescents aged. Among female adolescents, delaying first sex, staying in school, and having parents who desired them to marry at older ages were all associated with a significantly lower risk of marriage during adolescence and early adulthood.

Conclusions: The educational and occupational expectations and family plans that youth develop early in adolescence influence the timing of the transition into sexual activity and marriage. Ethiopian youth who develop high career expectations delay first sex, which for female youth is a key predictor of age at first marriage. Adolescents' perceptions of parents' expectations for them are strongly associated with their own expectations and behavior.

Keywords: First sexual intercourse, First marriage, Schooling, Ethiopia

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Plain Language summary

Raising the median age of their first heterosexual intercourse, or first sex, and marriage for females is a policy goal of the Ethiopian government. Research in Africa has found evidence of a positive association between higher levels of completed schooling and older ages at first sex and marriage among females. A substantial body of research conducted in the United States shows that youth who develop high educational and occupational expectations at young ages also tend to delay first sex and marriage. High expectations motivate youth to stay in school longer and avoid behaviors, such as early sex and marriage, that put their goals at risk. Evidence of a similar association in Ethiopia, however, has been lacking because of the scarcity of longitudinal data. In this study, we used data from the Jimma Longitudinal Family Survey of Youth conducted in southwestern Ethiopia to examine the impact of early career expectations and marriage plans on the risk of first sex during adolescence among male and female youth and on the risk of first marriage during adolescence among females. Using discrete-time logistic hazard regression models, we found that adolescents who had high career expectations at ages 13–17 were significantly less likely to have their first sexual intercourse over the following four years. We also found that the protective effects of being in school on delaying first sex wore off with time, but the effect of high career expectations persisted. Finally, we found that parents' desire for an older age at marriage for their daughters had a significant delaying effect on daughter's marriage.

Background

Ethiopia is a young nation with close to 40% of the estimated population of 115 million between the ages of 10 and 24 [1]. Although women's age at marriage has risen among recent cohorts, it remains relatively low. Among women ages 25–49, the median age at first marriage is 17.1 years and the median age at first heterosexual intercourse, or first sex, is 16.6 years [2]. The recent National Adolescent and Youth Health Strategy 2016–2020 of the Ethiopian government identifies raising the median age at first sex and first marriage among females to 18 years or above as one of its outcome targets [3]. Education—including primary and secondary schools; higher education; and out-of-school interventions such as youth centers, peer clubs, and youth associations—figures prominently in the government's plans for achieving its goals. The emphasis on early-life interventions is in line with the government's identification of the life-course approach as one of the guiding principles in its strategic framework [3]. The life-course approach emphasizes the important influence of early events, experiences, and contexts on choices, behaviors, and life chances at older ages. Most studies on age at first sex and first marriage use retrospective data from cross-sectional surveys that make it difficult to establish a causal relationship between early life experiences, expectations, and later behaviors. In this study, we use longitudinal survey data collected from a cohort of youth in southwestern Ethiopia to assess the influence of life expectations, experiences, and family context measured in early adolescence on the risk of first sex and first marriage during the adolescent and early adult years. We provide evidence that youth who had higher career expectations at young ages tended to delay first sex and marriage, even after taking into account the protective effects of being in school.

School is a highly influential institutional setting that shapes the life course of youth. A positive relationship between years of schooling and age at first sex and first marriage is well documented in the demographic literature [4–8]. Part of the effect of education on delaying sexual initiation and marriage results from being a student. The role incompatibility hypothesis argues that the sequencing of age-appropriate roles in the early life course is strongly regulated by social norms and institutional rules and regulations [9]. In most societies, schooling, especially at the primary and secondary levels, is viewed as preparing children and youth for adult roles and responsibilities. Being a student is often considered incompatible with being married and taking on marital and parental roles. Indeed, in many African countries, girls who become pregnant are required to leave school [10]. Keeping adolescents in school longer, however, is not always equally effective in delaying sexual initiation for male and female youth, especially at older adolescent ages. Meekers and Ahmed [11] for example, found in a study of urban youth in Botswana that being in school reduced the risk of being sexually active among female adolescents ages 13–18 but had no effect on males.

Schooling exposes youth, and especially girls, to an expanded range of life opportunities and choices as alternatives to early marriage and traditional gender roles [12]. Pursuing professional occupations and jobs in the modern sector of the economy requires higher levels of education and hence that youth remain in school at ages when marriage traditionally occurs. The opportunity cost perspective focuses on the incompatibility between meeting the time demands of attaining higher levels of schooling and early work experience and the demands of marriage and parenthood [13]. Implicit in the approach is the importance of aspirations as a motivation for staying

Table 1 Response rates for baseline household and wave 1–3 adolescent surveys, JLFSY, 2005–2010

	Household survey	Adolescent surveys		
	Wave 1 2005–2006	Wave 1 2005–2006 ages 13–17	Wave 2 2006–2007 ages 14–18	Wave 3 2009–2010 ages 17–21
Respondents	99.9%	98.9%	91.8%	72.7%
Nonrespondents		0.1%	6.2%	25.4%
Refusals	0.1%	1.0%	2.0%	1.9%
Total	100.0%	100.0%	100.0%	100.0%
Effective sample size	3700	2107	2104	2102

Effective sample size excludes subjects who were disabled or died

in school. Youth with high educational and occupational aspirations recognize that early marriage reduces the chances of school progression and ultimately the attainment of higher status occupations.

Research on adolescents in the United States has explored the impact of early career and family plans on age at marriage. Vesely et al. [14] found that youth with higher future aspirations were less likely to have had first sex, and Lauritsen [15] found that high educational aspirations were associated with lower levels of sexual activity among White youth but not among Black youth. Hockaday et al. [16] found that adolescent girls with high educational expectations and life aspirations were at a lower risk of pregnancy. Vernon et al. [17] found that adolescent girls with lower expectations about future jobs were at a higher risk of early pregnancy. Other studies found that high educational expectations among female youth were associated with postponement of childbearing [16, 18], as were higher educational and occupational aspirations [19].

Research on the influence of early educational and occupational aspirations and expectations on the initiation of sexual activity and entry into marriage provides compelling evidence that youth who develop high aspirations and future life plans tend to transition into sexual activity and marriage at older ages. However, this research is based primarily on the U.S. experience. Very little is known about the influence of early career aspirations and expectations on age at first sex and marriage in the African context, where the expansion of educational opportunities beyond the primary level is relatively new and occupational opportunities in the modern sector are more limited. In addition to the constraints on educational and job opportunities that boys face, many girls face low expectations at home and gender discrimination at school and in the labor market, all of which raise doubts about the influence of early expectations on outcomes at older ages.

Methods

Study design

Our analysis uses multiple waves of data from the Jimma Longitudinal Family Survey of Youth (JLFSY) conducted in southwestern Ethiopia [20]. The JLFSY employed a multistage stratified, cluster sample design to randomly sample households from six neighborhoods in the city of Jimma (population 120,000), three nearby market towns, and nine rural areas adjacent to the towns. The neighborhoods in the city of Jimma were randomly selected with selection probabilities proportionate to size. The market towns were purposively selected to provide variation in economic structure. In the six neighborhoods in Jimma, a street-by-street enumeration of all households was conducted to construct a sampling frame. In the three towns and rural communities, household registration lists maintained by the local authorities were used as sampling frames after a random spot check confirmed the completeness of the lists.

A baseline household survey was completed in 2005–2006 with 3695 households. Up to one boy and one girl ages 13–17 were selected from each of the sampled households for participation in multiple waves of an adolescent survey. In households with more than one eligible adolescent of the same gender, a Kish table was used to randomly select one of them. Sampled youth were approximately uniformly distributed from ages 13 to 15, with the relative percentages dropping at ages 16 and 17 as youth left the household for marriage or migration. A baseline adolescent survey was completed several months after the household survey with 2084 adolescents. Interviewers were recruited from the study area and were required to have a minimum of 12 years of completed schooling and be fluent in the two dominant local languages, Amharic and Afan Oromo, and in English. Versions of the survey questionnaires were printed in Amharic and Afan Oromo. The adolescent interviews were conducted by an interviewer of the same gender as the adolescent and in a private space inside or near the

Table 2 Variable definitions, JLFSY 2005–2010

Dependent variables (wave 3)
First sex = 1 if first sex in a given life year and 0 otherwise
First marriage = 1 if first marriage in a given life year and 0 otherwise
Independent variables
Life expectations (wave 1, age 13–17)
Career expectations: Standard normal index based on factor analysis of highest expected years of schooling and expected occupation coded according to the Standard International Occupational Prestige Scale
Expected age at first marriage: Age at which respondents expected to marry
Personal autonomy: Standard normal index based on factor analysis of responses to four questions regarding ability to make life decisions: 1. Could you decide to have a job that your parents do not approve of? 2. Could you marry a person whom your parents did not approve of? 3. Do you think you will decide who your future spouse will be? 4. If your parents chose a partner for you whom you did not want to marry, would you tell them so? High values correspond to greater influence over decisions
Gender equality: Standard normal index based on factor analysis of responses to 10 statements on women and men's roles: 1. A woman should always listen to her husband. 2. A husband should have the final say in all major family matters. 3. Marriage by abduction is acceptable. 4. There is nothing a woman can do if her husband has a mistress. 5. Female circumcision is a practice that should continue. 6. Normally a man should not have to do housework. 7. A woman could be mayor. 8. A wife should be allowed to request a divorce. 9. A women should be allowed to marry a man of her choice. 10. It is acceptable for females to buy condoms. In wave 1, the responses were agree or disagree. High values of the index correspond to more gender egalitarian attitudes
School participation
In school (time varying, waves 1, 2, and 3) = 1 if student in a given life year and 0 otherwise
Membership in youth clubs (wave 1, age 13–17) = 1 if member of a youth club and 0 otherwise
Family and community environment (wave 1, age 13–17)
Religiosity: Standard normal index based on factor analysis of responses to five questions on religious practices: 1. In the last year, on religious days in which you should attend church/mosque, how often did you go? 2. In the last year, on religious days of fasting, how often did you fast? 3. Do you or have you ever received religious instruction outside of your home, for example Koranic school or Bible classes? 4. How often do you pray? 5. How important is religion to you? High values of the index correspond to higher levels of religious observance
Parents' desired age of daughter's marriage: Average of the age at which the respondent thinks her father and her mother want her to marry
Parents' highest year of schooling: Highest year of schooling completed by father or mother
Household wealth: Standard normal index based on factor analysis of ten household measures: owns radio, television, electric stove, bicycle, motorcycle, home; has electricity, protected source of drinking water, toilet, and non-dirt floor
Female headed household = 1 if female household head and 0 otherwise

adolescent's place of residence. Second and third wave adolescent surveys were conducted in 2006–2007 and 2009–2010. The response rates for the baseline household and adolescent surveys were close to 100%, with very low refusal rates (see Tables 1, 2). In the second and third adolescent survey waves, multiple visits were made to households in an attempt to locate youth who moved away from the study area on return visits. The refusal rate rose to 2% in the second and third wave adolescent surveys, and the nonresponse rate rose from 6% in the second wave to 25% in the third wave. The overall response rates of 92% in the second wave survey and 73% in the third wave survey are quite good for a longitudinal study of adolescents. The primary reasons for lost to follow-up were that youth migrated to another place in Ethiopia (64%), migrated to another country (32%), or left to attend university (4%).

Measures

The second and third wave adolescent survey questionnaires asked youth whether they had ever had sexual intercourse and the age at which they first had intercourse. To reduce the prevalence of underreporting of premarital sexual activity the interviewers used nonverbal response cards for soliciting responses to sensitive questions about sexual knowledge, attitudes, and practices. The cards were designed to address concerns about social desirability bias and privacy and were field tested in a survey of youth in an area adjacent to the JLFSY study area [21, 22]. All three adolescent survey waves also asked marital status and age at first marriage.

The focus of our analysis is the impact of life expectations developed at younger ages on the risk of first sex and first marriage during the adolescent ages. Our measures of life expectations and the family environment

come from the first wave survey when the adolescents were ages 13–17. Our measure of career expectations is a standard normal index based on a factor analysis of highest expected year of schooling and expected occupation coded with the Standard International Occupational Prestige Scale [23].[1] The use of a composite index based on educational and occupational expectations to measure career expectations follows Rojewski and Yang [26] and evidence from prior studies of the close interrelatedness of the two concepts [27–29]. We expected high career expectations to be associated with delayed first sex among both male and female youth. Prior studies provide strong evidence of a close connection between the initiation of sexual activity and entry into marriage in Ethiopia [6, 30, 31], especially for females. In our analysis of first marriage, we used as a predictor the adolescent's expected age at first marriage. Bayer [32], in a study of U.S. young adults, found that their expected age of marriage measured at ages 17–18 was the single best predictor of their ages at marriage. We also included a measure of personal autonomy that is a standard normal index based on a factor analysis of responses to four questions regarding perceived ability to make life decisions regarding occupation and partner selection without parents' approval. High values on the index correspond to high levels of autonomy. We expect high levels of autonomy among male youth to be associated with earlier age at first sex because it is likely to correlate with less parental control. The expected effect of autonomy for females is ambiguous because less parental control could result in both more opportunities to engage in sexual activity and a greater desire to challenge traditional gender roles and pursue higher education and a career. We included a gender equality index based on a factor analysis of responses to 10 statements on women and men's roles. High values on the index correspond to more gender egalitarian attitudes. Plotnick [33] found that U.S. female youth who supported more egalitarian views of women's roles were more likely to be sexually active than female youth with more traditional views. Others have found that male-dominant gender role attitudes among male youth are associated with greater risk taking [5]. Research on U.S. female youth has found that less traditional gender attitudes are associated with delayed first birth [19]. We expect in the Ethiopian context that more egalitarian gender roles will be associated with delayed first sex among both male and female youth. Our expectations for female youth are the opposite of findings among U.S. youth because of the close relationship in Ethiopia between the timing of first sex and first marriage, and our expectation that female youth with more egalitarian attitudes will want to avoid early sexual activity if it places them at a greater risk of early marriage. Similarly, we expect that female youth with more egalitarian gender attitudes will delay first marriage.

We measured school participation with two variables: a time-varying indicator of in school status and an indicator of participation in a youth club. Youth clubs in the study area include sports, academic, cultural activities, civics, reproductive health, and vocational training. Studies of youth in the United States found that participation in after school sports was associated with later age at first sex among females [34, 35], and earlier age at first sex among males. Studies also found that participation in sports and other school-based extracurricular activities was associated with higher educational aspirations [36] and other positive developmental outcomes [37, 38]. In the Ethiopian context we expect participation in youth clubs to be associated with delayed first sex among male and female youth and delayed marriage among female youth because of the expected positive association between participation in clubs and higher educational and occupational aspirations.

To measure the early family environment, we included a standard normal religiosity index that is based on a factor analysis of five questions on religious practices, training and importance. Crockett et al. [39] in a study of U.S. youth found that higher levels of religiosity were associated with older age at first sex. They suggested that greater religious involvement reflected personal beliefs regarding sexual conduct, and that time spent in religious activities may have reduced the opportunities for youth to engage in sexual activities. We expect high levels of religiosity to be associated with delayed first sex among males but earlier first sex and first marriage among females. Because of the close connection between sexual initiation and marriage among females in Ethiopia, and the strong connection between traditional beliefs and early marriage, we expect highly religious females to transition into first sex and first marriage at earlier ages than less religious females. For males, sexual initiation is not so closely linked to marriage and therefore we expect higher levels of religiosity to be associated with delayed first sex. The baseline adolescent questionnaire asked the adolescents the age at which they believed their father and their mother wanted them to get married. We took the mean of these two responses to measure the

[1] The Standard International Occupational Prestige Scale has not been validated in contemporary Ethiopia. The last two published efforts to develop occupational prestige rankings for Ethiopia were based on small samples of primary and secondary students interviewed in 1958 by Schack [24] and university students interviewed in the late 1960s by Brown [25]. Both studies found that students ranked government and occupations requiring higher education at the top and unskilled occupations at the bottom, and Brown found that the Ethiopian rankings were highly correlated with American rankings of comparable occupations.

Table 3 Sample means for males and females by in-sample and lost to follow-up status, JLFSY 2005–2010

	Males		Females	
	In- sample	Lost to follow-up	In- sample	Lost to follow-up
First sex	0.171		0.246	
First marriage	0.008		0.113	
Life expectations (age 13–17)				
Career expectations	0.066	0.214*	0.122	− 0.043***
Expected age at marriage			25.9	26.0
Personal autonomy	0.036	0.206*	0.211	0.104*
Gender equality	− 0.036	− 0.077	0.383	0.311
School participation				
Membership in youth clubs (age 13–17)	0.600	0.633	0.574	0.534
Family and community environment (age13–17)				
Religiosity	− 0.131	− 0.242	0.108	0.176
Parents' desired age of daughter's marriage	27.5	26.8	25.0	24.6*
Parents' highest year of schooling	4.277	4.889*	5.114	4.911
Household wealth	0.225	0.292	0.406	0.353
Female headed house	0.188	0.242	0.235	0.241
City	0.680	0.680	0.718	0.740
Town	0.084	0.078	0.081	0.075
Number of observations	870	162	651	349

Significance levels for difference of means/proportions test, sample weights applied

*$P < 0.10$, **$P < 0.05$, ***$P < 0.01$

adolescents' perception of parents' desired age at marriage. We expect female youth who believed their parents wanted them to delay marriage to marry at older ages. We included parents' highest year of schooling and an index of household wealth to control for socioeconomic status, and we included an indicator variable for female headed household. Axinn and Thornton [40] found in the United States that higher values of parents' education and mothers' ideal age for children to marry were associated with older age at marriage. Multiple studies in the United States have also found that living in a single parent household was associated with lower age at first sex [39, 41–43], earlier age at first birth [19], and earlier age at marriage [44]. Finally, we included control variables for the level of urbanization in the study sites.

Models

To estimate the effects of early expectations and family environment on age at first sex and first marriage, we used discrete-time logistic hazard regression models. Because of the low prevalence of first marriage among adolescent males in the study area, we modeled the hazard for first marriage only for females. We began exposure to the risk of first sex and first marriage at age 11. We constructed a person-year data file that followed the youth from age 11 up to the age of the event or right censoring. Duration times to first sex and first marriage were right censored at the time of the wave 3 adolescent survey if the youth had not had first sex or first marriage by the time of the interview. The analysis file includes data for 870 males and 651 females who completed at least the first and third wave surveys. The vast majority of these cases also completed the second wave survey as well. At the time of the third wave survey the youth were ages 17–21. We used sample weights for generating descriptive statistics and in our regression models, and we estimated the regression models with robust standard errors that adjusted for clustering at the community level.

Descriptive statistics

Sample attrition is a common concern in longitudinal studies. Sample attrition can introduce bias into study results to the extent that subjects who are lost to follow-up are different from subjects who remain under observation. Table 3 presents the sample means for the dependent and independent variables in our analysis for the male and female youth who remained in the sample and for the lost to follow-up youth. By the time of the wave 3 survey, 17% of the in-sample males had first sexual intercourse, as had 24.6% of the in-sample female youth. Less than 1% of the in-sample male youth and 11.3% of the in-sample female youth were married by the time of the wave 3 survey. As a point of comparison, we found the percentages of 17- to 21-year-old females and

Table 4 Parameter estimates from logistic regression models predicting lost to follow-up, males and females, JLFSY 2005–2010

	Males	Females
Life expectations (age 13–17)		
Career expectations	0.169	− 0.200**
Expected age at marriage		0.028
Personal autonomy	0.118	− 0.100
Gender equality	− 0.102	− 0.087
School participation		
Membership in youth clubs (age 13–17)	0.044	− 0.031
Family and community environment (age 13–17)		
Religiosity	− 0.070	0.118
Parents' desired age of daughter's marriage		− 0.040*
Parents' highest year of schooling	0.037**	− 0.003
Household wealth	0.033	− 0.067
Female headed house	0.354	− 0.060
City	− 0.437	0.515
Town	− 0.451*	0.324
Rural (ref.)		
Number of observations	1032	1000
Pseudo R^2	0.016	0.016

Robust standard errors adjusted for clustering at the community level, sample weights applied

*$P < 0.10$, **$P < 0.05$, ***$P < 0.01$

males in urban areas of Ethiopia that had sexual intercourse and had ever been married in the 2011 Ethiopia Demographic and Health Survey [45]. Close to 23% of male youth had first sex and 2.8% had ever been married. Among females, 32% had first sex and 23.1% had ever been married. Although the two samples are not directly comparable, the figures from the DHS suggest that the JLFSY sample may be biased downward with respect to ever married females.

Among males, the lost to follow-up youth tended have slightly higher career expectations, slightly higher levels of personal autonomy, and more educated parents. The differences on these three measures are marginally significant at the 0.10 level. None of the differences on the other nine measures listed in Table 3 are statistically significant. In the case of females, the lost to follow-up youth tended to have lower career expectations, lower levels of personal autonomy, and lower parents' desired age at marriage. Only the difference in career expectations is statistically significant at the 0.01 level, whereas the other two differences are marginally significant at the 0.10 level. As was the case with males, none of the differences on the other nine measures are statistically significant. These results along with the information on reasons participants are lost to follow-up suggest that some of the males who left the study area were likely pursuing better educational and occupation opportunities, whereas the selective out-migration of females with lower career expectations suggests other processes were at work. Based on other information collected in the field, we believe the two primary reasons females left the study area were for domestic work in the capital city and international locations (mainly the Gulf states) and for marriage.

To explore the issue of selective sample attrition further, we estimated a logistic regression model using baseline sample characteristics to predict participants lost to follow-up (Table 4). The model provides an additional test of whether youth lost to follow-up were significantly different from the in-sample youth on observed characteristics that are also related to the timing of first sex and first marriage. Among males, parents' highest year of schooling is the only variable that predicted sample attrition at the 0.05 significance level. Males who were lost to follow-up tended to have parents with higher levels of education. None of the other individual or family-level variables are significant. In the case of females, career expectations is the only statistically significant variable at the 0.05 level of significance. Females with low career expectations tended to be at a higher risk of leaving the study area. Parents' desired age at marriage is marginally significant at the 0.10 level: females whose parents wanted them to marry at young ages tended to be at a higher risk of being lost to follow-up. If our hypotheses about the negative effects of career expectations and parents' desired age at marriage are correct, then these results are consistent with higher than expected sample attrition of females who were at a higher risk of early marriage.

Results

We turn now to the results from the discrete-time logistic hazard regression models predicting first sexual intercourse and first marriage. In the first sex models and the first marriage model, we tested for interactions between age (time-varying) and in school status. The interactions tested whether the predicted negative effect of being in school on the hazard of first sex and first marriage wore off with age. We found significant age and in school interactions in the first sex models but not in the first marriage model. We report in Table 5 the results from the male and female first sex models with the interaction term and the results for the first marriage model without the interaction term. Among male youth, high career expectations were associated with a significantly lower hazard of first sex. Being in school also significantly lowered the hazard, but the significant positive effects of age and the age–in school interaction indicate that the protective effect of in school status wore off as youth got

Table 5 Parameter estimates from discrete-time hazard models predicting first sexual intercourse and first marriage, JLFSY 2005–2010

	First sex males	First sex females	First marriage females
Had first sex in a prior year			2.764***
Life expectations (age 13–17)			
Career expectations	− 0.143**	− 0.363***	
Expected age at marriage			− 0.049
Personal autonomy	0.165	− 0.067	− 0.288
Gender equality	0.136	0.014	0.210
School participation			
In school (time varying)	− 5.002**	− 3.517**	− 0.681*
Membership in youth clubs (age 13–17)	0.092	0.025	0.139
Family and community environment (age13–17)			
Religiosity	− 0.001	0.036	0.157
Parents' desired age of daughter's marriage			− 0.078**
Parents' highest year of schooling	0.043***	− 0.025	− 0.033
Household wealth	− 0.002	− 0.216	0.042
Female headed house	0.610**	− 0.301	− 0.588**
City	1.639***	1.115**	− 0.581
Town	1.210**	0.790*	0.006
Rural (ref.)			
Duration dependence			
Age (time varying)	0.302***	0.276***	0.260***
Age × in school interaction	0.275**	0.196***	
Number of life years	7339	5314	5504
Number of observations	870	651	651
Pseudo R^2	0.208	0.139	0.282

Robust standard errors adjusted for clustering at the community level, sample weights applied

*$P < 0.10$, **$P < 0.05$, ***$P < 0.01$

older. Parents' highest year of schooling, female headed household, and living in an urban area were all associated with a significantly higher hazard of first sex. Parents with higher levels of education may have been more permissive than other parents with their sons and provided them with greater freedoms. We suspect male youth in female headed households tended to have less parental supervision than youth in two-parent households. Youth in urban areas also have more opportunities than youth in rural communities to avoid the supervision of parents, all of which place them at a higher risk of first sex. The basic pattern of results for female youth was very similar to that of male youth. Higher career expectations and being in school at younger ages were associated with a lower hazard of first sex, and living in an urban area was associated with a higher risk. In comparison to males, the magnitude of the effect of career expectations for females was more than twice as large. In contrast to males, parents' education and living in a female headed household had no effect on the hazard of first sex for females. This last result is consistent with the greater supervision and more restricted freedom of movement that unmarried girls experience in Ethiopia [6].

In summary, consistent with our predictions career expectations formed at younger ages influenced the timing of first sex at older ages. Not only did being in school at younger ages lower the hazard of early sexual initiation, higher educational and occupational expectations lowered the hazard as well. In addition to testing for an interaction between age and in school status, we also tested for an interaction between career expectations and age to test whether the delaying effect of high career expectations on age at first sex also wore off with time. We found no evidence of interaction effects in the male and female models. Unlike the effect of being a student, which changed from placing youth at a lower hazard of first sex to eventually a higher hazard of first sex, high career expectations were consistently protective of early sexual initiation throughout the adolescent years.

We graphed the predicted probabilities from the discrete-time logistic hazard regression models to show the relative impact of in-school status and adolescents'

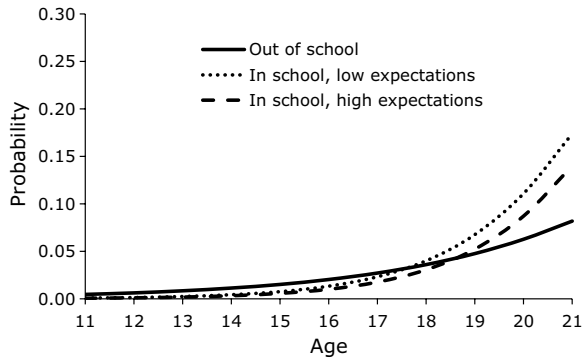

Fig. 1 Mean predicted probability of first sex, males by student status and career expectations, JLFSY 2005–2010

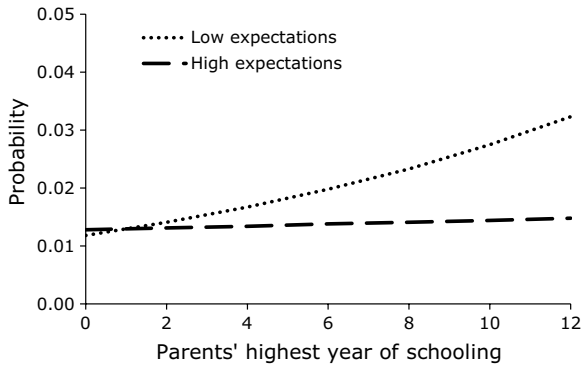

Fig. 3 Mean predicted probability of first sex, males by career expectations and parents' education, JLFSY 2005–2010

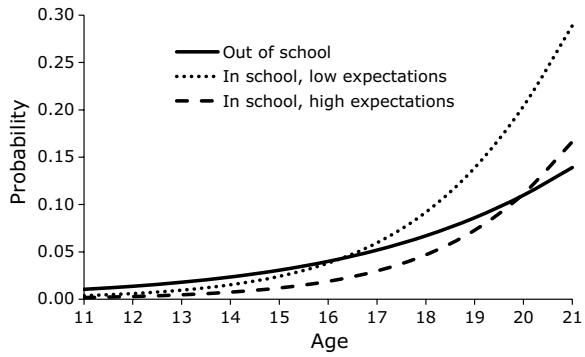

Fig. 2 Mean predicted probability of first sex, females by student status and career expectations, JLFSY 2005–2010

career expectations on the risk of fist sex. Figure 1 presents the mean age-specific probabilities of first sex for males if they are out of school and if they are in school with low career expectations or high career expectations. Low expectations have a value of − 1 (1 standard deviation below the mean) and high expectations have a value of 1 (1 standard deviation above the mean). All other covariates are as observed. The graph shows that up to around ages 17–18 males who were in school had a lower probability of first sex than males who were out of school. However, after ages 17–18, the probability of first sex for males who were still in school rapidly surpassed that of out-of-school males. Having high career expectations prolonged the protective effects of student status for males, but only modestly. In the case of females, the delaying effect of high career expectations was much larger than for males, and it extended by more than one year the age at which the probability of first sex for females in school was below that of out-of-school females (Fig. 2).

Our results provide clear evidence that high career expectations are associated with delayed first sex for adolescents in Ethiopia. These results are consistent with a large body of research from other countries that connects aspirations in early adolescence to a wide range of later life outcomes, including educational [29] and occupational attainment [27, 46], as well as the initiation of sexual experience [14]. Theory and evidence, however, also suggest that family background has potentially significant moderating effects on the influence of early life aspirations and expectations on subsequent behavior [47, 48]. Youth expectations and behavior are influenced not only by individual traits but also by family context, which provides the resources needed to realize life plans and aspirations [49]. Family cultural and financial resources play a critical role in academic achievement and can either reinforce youth aspirations and expectations or dampen them [26, 27]. In accord with our findings and the research literature, we pursued our analysis of age at first sex one step further and tested for the moderating effects of family cultural and financial capital, measured by parents' highest year of schooling and household wealth. Parents with higher levels of education understand the role and value of education in future occupational attainment and are more aware of behaviors that lead to educational success than parents with little or no school experience. They also serve as models for their children. We reestimated the first sex models for males and females with interactions between career expectations and parents' schooling and career expectations and household wealth added separately. The parents' education interaction was statistically significant in both the male and female samples, and the wealth interaction was significant only in the female sample.

Figures 3, 4 graph the mean predicted probabilities of first sex among male and female youth for low and high career expectations across the range of parents' highest year of schooling, and Fig. 5 graphs the mean

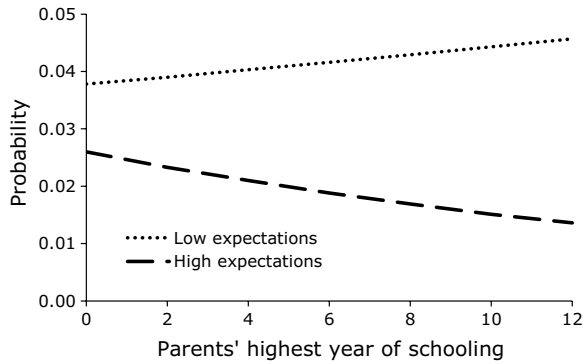

Fig. 4 Mean predicted probability of first sex, females by career expectations and parents' education, JLFSY 2005–2010

Fig. 5 Mean predicted probability of first sex, females by career expectations and household wealth, JLFSY 2005–2010

predicted probabilities of first sex among female youth by low and high career expectations for different values of the household wealth index. In the case of males, the interaction model reveals that the positive relationship between parents' schooling and the hazard of first sex only existed among youth with low career expectations. Among male youth with high career expectations, parents' education had no apparent effect. The result is still consistent with our earlier conjecture that more educated parents provide greater freedom to their sons than less educated parents do, but it suggests that either this greater freedom is only given to sons who demonstrate low educational and occupational expectations or that it is only taken advantage of by such sons. Regardless, the result from the interaction model provides clear evidence of the significant effect of high career expectations on lowering the hazard of early sexual initiation. In the case of female youth, the relative effect of career expectations also increases with increases in parents' education. However, in contrast to male youth, the delaying effect of high career expectations becomes increasingly large with increases in parents' education. Interestingly, a slight positive slope in the probability of first sex for female youth with low career expectations suggests that the leniency or reduced supervision that we observed among male youth with low career expectations and more educated parents also seems to apply to female youth with low career expectations. Figure 5 graphs the mean predicted probabilities of first sex among female youth with low and high career expectations by level of household wealth. As was the case with parents' education, the relative effect of career expectations increases with increases in household wealth. However, in contrast to parents' education, the probability of first sex declines with increases in household wealth for all levels of career expectations, but it declines the most for females with high career expectations.

We now turn to the hazard of first marriage among female youth. The final column in Table 5 presents the results from the model predicting the hazard of first marriage among female youth. Because of the very close relationship in Ethiopia between the timing of first sex and first marriage, we included in the model a time-varying indicator variable of ever had first sex lagged by one year. We also added to the model expected age at first marriage and the parents' desired age at first marriage. We did not include career expectations in the model of first marriage because it was correlated with ever had first sex and expected age at marriage. Having had first sex in a prior year increased the hazard that a female youth married by a factor of close to 16 ($e^{2.764}$). In contrast, being in school was associated with a significantly lower hazard of marriage. Unlike with age at first sex, we found no evidence that the protective effect of being a student wore off during adolescence for the risk of marriage. Contrary to our predictions, we found no evidence that expected age at marriage had any effect on the risk of marriage during adolescence. However, we did find that female youth's perception of parents' desired age at marriage did have a very significant effect. Female youth who believed their parents wanted them to marry at older ages were at a lower risk of early marriage than other female youth. We also found that female youth in female headed households were at a significantly lower risk of early marriage. This finding stands in stark contrast to first sex among male youth in similar households. One possible explanation for the delaying effect of female headship on marriage is that female household heads needed the labor and/or earnings of an adolescent daughter and therefore had an interest in delaying their marriage.

We present in Fig. 6 the mean predicted probabilities of first marriage among female youth by student status and perceived parental preferences regarding age at marriage. Being in school was associated with a lower probability

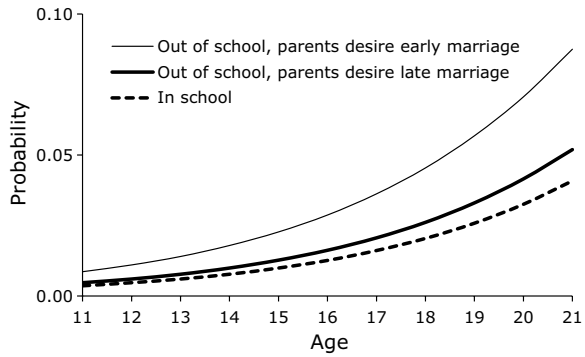

Fig. 6 Mean predicted probability of first marriage, females by student status and parents' desires, JLFSY 2005–2010

of marriage for females at all ages, not just younger ages. The graph also highlights the comparatively large effect that parents' desires for age at marriage had on the timing of daughters' marriage. Having parents who desired an older age at marriage (1 standard deviation above the mean) lowered the probability of marriage among out-of-school females close to the probability of marriage for in school youth. Having parents who desired a younger age at marriage (1 standard deviation below the mean) approximately doubled the probability of marriage compared to in school youth.

Discussion

The influence of early adolescent career aspirations and expectations on later occupational outcomes is well documented [50, 51]. Research demonstrates that adolescent aspirations and expectations are relatively stable across the adolescent years [52, 53] and that earlier aspirations and expectations are strongly predictive of aspirations and expectations at older ages [26]. In this study, we used measures of educational and occupational expectations. Aspirations are defined in the literature as what youth ideally would like to do, and expectations are what they believe they realistically will attain [54–56]. Hence, expectations come closer to what youth believe is possible. Indeed, research finds that expectations tend to be lower than aspirations [51, 57, 58] and that over time aspirations move closer to expectations [54]. The premise of our study is that educational and occupational expectations will influence the timing of first sex and marriage to the extent that youth view early sex and early marriage as obstacles to achieving their career goals. We found strong evidence that male and female youth who had high career expectations in early adolescence were at a significantly lower risk of first sex during adolescence and early adulthood than were youth with low expectations. The delaying effect of high expectations operated in addition to the protective effect of student status. However, unlike student status, which wore off by late adolescence and eventually placed youth at an even higher risk of first sex, the delaying effect of high expectations persisted across the adolescent years. Youth in the study area who developed high educational and occupational expectations at young ages recognized that entering into sexual relationships could make it more difficult for them to achieve their career goals. The potential threat that early sex poses for high educational and occupational attainment is greater for females than males in Ethiopian society, and our results are consistent with this threat. The relative effects of high career expectations were substantially larger for female compared to male youth. Female youth who had career expectations 1 standard deviation above the mean had a hazard of first sex that was 30% ($e^{-0.363}$) lower than that of females with average career expectations. Among males who had career expectations 1 standard deviation above the mean, their hazard of first sex was only 13% ($e^{-0.143}$) lower than that of males with average career expectations.

Family context clearly plays an important role in the development of adolescents' career expectations and life plans. Although we did not study these processes here, we did include measures of family resources and structure that influence adolescent opportunities to engage in early sex. In our main effects models, we found that male youth with more highly educated parents and in female headed households were at a greater risk of first sex. We interpreted both of these results as stemming from greater freedom and permissiveness and less parental supervision. Among female youth, both factors had negative effects on the risk of first sex, although neither coefficient was statistically significant, suggesting that in similar family contexts girls experienced less freedom and greater supervision than boys did. We also tested whether parents' education and household wealth mediated the effects of career expectations on the risk of first sex. We found clear evidence that, indeed, the delaying effect of high career expectations was largest among male and female youth who had highly educated parents, as well as among female youth in wealthier households.

In addition to increasing the relative influence of high career expectations on delaying the timing of first sex, parents play an instrumental role in the development of children's educational and occupational expectations. The strong positive association between parents' and children's aspirations and expectations is one of the most consistent findings in the research literature on adolescent development and achievement [27, 47, 59]. In our sample, the correlation coefficient for youth's perception of their parents' career expectations for them and their

own career expectations was 0.71 for males and 0.68 for females.

Delaying the start of sexual activity is especially important for female adolescents who want to delay marriage. The connection between first sex and first marriage is very high in Ethiopia and has remained fairly stable over recent decades [6, 60]. In our sample, unmarried female youth who had sexual intercourse were at 16 times the risk of marriage in a subsequent year than female youth who had not had first sex. The comparatively large effect of first sex on marriage provides a strong incentive for female youth with high educational and occupational expectations to delay sexual activity. Once adolescent girls in Ethiopia become sexually active, the chance that they will soon marry increases greatly. As was the case with first sex during the early and mid-adolescent years, being a student prolonged the time to first marriage. However, in contrast to the case of first sex, we found no evidence of a decline in the protective effect of student status over time. Although being in school at upper levels of education may place young women at a higher risk of first sex, they are still at a lower risk of marriage than similar women who aged out of school.

Parents communicate to children their goals and expectations. We included in our model of marriage the age at which female youth believed their parents wanted them to marry. Parents' preferred age at marriage had a larger and more significant impact on girls' age at marriage than girls' own expected age at marriage. This result is strong evidence of one of the ways that parents can influence their children's behavior, by setting expectations for the timing of key transitions. We also found that girls in female headed households were at a lower risk of early marriage. Female headed households in Ethiopia are typically more economically disadvantaged and vulnerable than male headed households. We suggested that the need of a daughter's labor and income assistance might be one explanation for this finding. It is also possible that mothers are more likely than fathers to prefer an older age at marriage for their daughters and that in female headed households, mothers have more influence on their daughter's behavior than in male headed households.

Sample attrition is a shortcoming of the JLFSY data. We found that male youth who were lost to follow-up tended to have higher career expectations than males who remained in the sample and that female youth who were lost to follow-up tended to have lower career expectations than females who remained in the sample. Given the significant positive relationship we found between age at first sex and career expectations among males, the selective attrition of males with high career expectations would bias the estimated effects of career expectations upward if sexually active males tended to leave the study area. In the case of females, the selective attrition of females with low career expectations would bias our estimated effects of career expectations on first sex and first marriage downward if the transition into sexual activity and marriage was connected to young women's movement out of the study area.

Our overall findings are consistent with findings from studies of adolescents and youth in the United States and in other countries. Our study is one of very few of African youth that uses longitudinal survey data to test the effects of early life expectations on the timing of first sex and marriage at older ages. Our results confirm that even in a development context where the expansion of public education is relatively recent and professional employment in the modern sectors of the economy is comparatively new, youth who develop life plans with high educational and occupational expectations recognize the risks that early sex and marriage place on their chances of achieving their goals. An important caveat to our findings is that decisions about the timing of first sex and first marriage are not always entirely under the control of adolescents. A survey of adolescents and young adults conducted in an area adjacent to the JLFSY study area estimated that approximately 8 percent of young people ages 13–24 who had ever had sex were raped at the time of first sex [22].

Conclusions

Our results provide confirmation that in Ethiopia keeping male and female adolescents in school is protective of early sexual initiation, but only up to late adolescence. However, instilling high educational and occupational expectations in children at young ages can have long-term positive effects on encouraging them to delay sexual activity and marriage. The potential effects of high expectations are especially large for girls. Parents play a large role in both keeping their children in school longer and encouraging them to develop career goals and life plans. Parents' goals and expectations are especially important for girls. In Ethiopia it is traditional for girls to marry during adolescence, so the age at which parents desire their daughters to marry has a significant impact on girls' age at marriage, even more so than what girls themselves want. It is important that schools communicate to parents the lasting importance of instilling and supporting high expectations with respect to school and work in their children. Of course, not all children will be nor can be in the top professional ranks, but higher aspirational goals within any occupation that keep youth in school longer and delay sexual initiation and marriage will have positive effects not only on human capital formation but on a range of other subsequent life outcomes.

Abbreviations
JLFSY: Jimma Longitudinal Family Survey of Youth; DHS: Demographic and Health Survey.

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Authors' contributions
DPL and TB designed the study and oversaw data collection. DPL and IS conducted the statistical analyses. DPL wrote the first draft of the manuscript. DPL, IS, TB, and MG read and approved the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials
The data from the JLFSY are available upon request to David_Lindstrom@brown.edu.

Declarations

Ethics approval and consent to participate
Human subjects protocols for all aspects of the JLFSY were approved by the Institutional Review Board at Brown University and the Ethical Clearance Committee of the Research and Publications Office, Jimma University. Informed consent was obtained verbally from each respondent before interviewing started at each survey wave. Verbal rather than written consent was used because of the relatively high rates of illiteracy in the study population.

Consent for publication
Not applicable.

Competing interests
The authors have no competing interests.

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Publisher's Note

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RESEARCH

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Signs of a turning tide in social norms and attitudes toward abortion in Ethiopia: Findings from a qualitative study in four regions

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Abstract

Background: Despite the 2005 expansion in abortion legal indications in Ethiopia, which provided for abortions in cases of rape, incest, or fetal impairment and other circumstances, nearly half of abortions occurred outside health facilities in 2014. The purpose of this study is to explore and understand the social barriers women face in seeking and obtaining quality safe abortion care, as a means to generate evidence that could be used to improve access to and quality of abortion services.

Methods: Thirty-two focus group discussions with both men and women were held in four different regions of Ethiopia: Addis Ababa; Amhara; Oromia; and the Southern Nations, Nationalities, and Peoples' Region. The study team recruited participants (n = 193) aged 18–55 in each region using a purposive sample with snowball recruitment techniques. We conducted discussions in Amharic or Afaan Oromo using a semi-structured guide and transcribed and translated them into English for analysis. We used deductive coding and analysis to categorize findings into emergent themes around stigma, barriers, and the changing nature of attitudes around abortion.

Results: Despite changes in abortion law, findings show that women with unwanted pregnancies and those seeking abortions are still heavily stigmatized and sanctioned in a number of communities across Ethiopia. Abortion was deemed unacceptable in most cases, though respondents were more tolerant in cases of risk to the mother's life and of rape. We saw promising indications that changes are taking place in Ethiopian society's view of abortion, and several participants indicated progress toward a more supportive environment overall for women seeking abortion care. Still, this progress may be limited by variable knowledge of abortion laws and tightly held gender-based social norms, particularly in rural areas. Most participants noted the importance of education and outreach to improve abortion attitudes and norms.

Conclusion: Policymakers should create further awareness in Ethiopia on the availability of quality abortion services in public health facilities and the indications for legal abortion. Such efforts should be based on principles of gender equality, as a means of ensuring enduring changes for women's reproductive choice throughout the country.

Keywords: Abortion, Safe abortion, Ethiopia, Barriers, Stigma, Attitudes, Pregnancy

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Plain language summary

We conducted a study to explore and understand the social barriers women face in seeking and obtaining quality safe abortion care in Ethiopia. We implemented focus group discussions with both men and women in four different regions of Ethiopia. We analyzed our findings into themes around stigma, barriers, and the changing nature of attitudes around abortion. Our results show that women seeking abortions are still heavily stigmatized. We found that abortion was deemed unacceptable in most cases. However, we also saw promising indications that changes are taking place in Ethiopian society's view of abortion, and several participants indicated progress toward a more supportive environment overall for women seeking abortion care. Still, this progress may be limited by variable knowledge of abortion laws. Most participants noted the importance of education and outreach to improve abortion attitudes and norms. We concluded that further awareness is needed in Ethiopia on the availability of quality abortion services in public health facilities and the indications for legal abortion. These efforts should consider gender equality to ensure enduring changes for women's reproductive choice throughout the country.

Background

Globally, an estimated 99 million unintended pregnancies occur each year and Ethiopia's estimated unintended pregnancy rate is notable [1]. Although data are variable according to geographical variations and study methodologies, estimates are that 13.7 to 36.5% of all Ethiopian pregnancies are unintended [2–4]. Furthermore, several studies have found that sociodemographic factors, including marital status (e.g., being formerly married, never married, or living alone), may be associated with increased likelihood of unintended pregnancies [5]. A woman's age also contributes to the likelihood of her experiencing an unintended pregnancy. In Ethiopia, national estimates are that 10% of adolescents ages 15–19 have given birth, with several notable variations. For example, adolescents in rural areas are three times more likely to have begun childbearing than their urban peers and the percentage of adolescents who have begun childbearing rises from 3% among those with more than a secondary education to 12% among those with a primary education and 28% among those with no education [6].

Unintended pregnancy arises from obstacles to family planning services, including abortion. Stigma against sexual activity among unmarried adolescents and young women remains an obstacle to Ethiopian women accessing these services [7]. Moreover, among the many barriers to safe abortion care (SAC) is abortion stigma. Stigma need not be visible for it to have a detrimental effect on decision processes, and abortion stigma is itself a "social phenomenon" that is constructed locally [8]. At the core, stigma represents an unequal access to power and resources that is reinforced through institutions and systems [8]. Stigma therefore manifests in social relationships and cultural constructs, and little is known about the particular manifestations and pathways of abortion stigma on women seeking SAC services in Ethiopia. Silence and fear of social exclusion can have a profound effect on the willingness of women to speak openly about reproductive health needs and family planning decisions [8]. Prescribed gender roles and male dominance in society underpin the stigma faced by women regarding family planning decisions [9].

In Ethiopia, negative attitudes toward unintended pregnancy, particularly for young, unmarried women, create an isolating environment because premarital sex and pregnancy are seen as shameful and inappropriate [10, 11]. Unmarried pregnant women are often socially excluded, rejected by friends and families, and must make difficult decisions to cope with the physical and psychological repercussions of her pregnancy [10, 11]. For example, it has been shown that most adolescents do not speak to their families about sexual health concerns [12], and students who become pregnant often have a solitary decision-making experience [10]. In contrast to attitudes about unintended pregnancy, attitudes about abortion in Ethiopia seem to be shifting. In recent surveys, only around half of respondents reported disagreeing with abortion legalization and having generally negative attitudes toward abortion [13, 14]; more people do agree with abortion in particular cases, such risk to health, rape, or incest. Interestingly, women with greater knowledge of the abortion law have been shown to have more favorable views about abortion [15].

In 2005, Ethiopia expanded its abortion law to allow termination in cases of rape, incest, or fetal impairment. In addition, a woman can legally terminate a pregnancy if her life or physical health is in danger, if she has a physical or mental health disability, or if she is a minor who is physically or mentally unprepared for childbirth [16]. An estimated 620,300 induced abortions were performed in Ethiopia in 2014, resulting in an annual abortion rate of 28 per 1000 women ages 15–49; of these, an estimated 47% (294,100 abortions) occurred outside of health facilities [17]. Evidence suggests that a significant number of women do not seek care for abortion-related complications [18], and

women continue to use unsafe methods to induce abortions outside of health facilities [19]. Adolescents may be particularly at risk, given their increased likelihood to access illegal services outside the health system, resulting in increased abortion-related complications [9]. As such, even in settings where abortion services are legalized, women may continue to use unsafe abortion services [9].

Despite the relative liberalization and expansion of abortion services in Ethiopia, studies have shown several barriers to accessing abortion services, including gaps in knowledge of where to obtain services, negative perceptions of the cost, concerns about privacy and confidentiality, fear of provider judgment, negative societal attitudes toward abortion, obsolete facilities, and weak referral systems [9, 20–22]. Barriers to accessing SAC services are further exacerbated by confusion about the legality of abortion and application of the law at the local level [9], the knowledge of which remains relatively low despite the law being 15 years old [23, 24].

In addition, recent quantitative evidence from Addis Ababa demonstrates several provider barriers, including their lack of understanding of specific provisions of the law [25]. However, nearly three-fourths of the providers were not comfortable working in a site where pregnancy termination was performed, and only one-fourth of participants agreed with providing legal abortion under any circumstances [21, 26]. In addition, a recent qualitative study with Ethiopian health providers revealed mixed perceptions about providing abortion services. For some, religious norms and the belief that the early fetus has a moral right to life served as a barrier toward the provision of these services. For other providers, the acknowledgment of the interests and needs of a pregnant woman supported their provision of such services. In short, providers differed in their perceptions and held different values. To the authors' knowledge, no prior studies have assessed attitudes about abortion providers among the Ethiopia population, nor included qualitative methods to address community perceptions around why providers may be unwilling to provide this service in Ethiopia.

Although the liberalization of Ethiopia's abortion law reduces policy restrictions on abortion, the inescapable hold of stigma as a social construct continues to play a role in decision making as well as access to quality SAC services. The purpose of this study is to explore the social context within which abortion occurs and to understand the current attitudes that contribute to women's accessing timely and quality abortion care in Ethiopia.

Methods

This study uses qualitative focus group discussions (FGDs) to explore people's understanding of and attitudes around abortion phenomena in their communities. This method is particularly appropriate when seeking to understand social norms and attitudes that influence behaviors of individuals within specific communities [27].

Instrument

All FGDs used a semi-structured interview guide that was translated into local dialects and back-translated for verification. The interview guide included questions on perceptions of what women do when they experience an unintended pregnancy and why they may experience unintended pregnancy, community reactions to their pregnancy, awareness of the abortion law in Ethiopia, and perceptions of women who have terminated their pregnancy.

Prior to data collection, the instrument was pretested with four respondents that were not included in the main study. After the pre-test, researchers discussed the findings and further refined the instrument.

Study setting

Ethiopia is the oldest independent country in Africa, with the second largest population after Nigeria. The country is divided into nine ethnic regional states and two administered cities. Listed in order of largest population to smallest, the regions are Oromia; Amhara; Southern Nations, Nationalities, and Peoples' (SNNP); Somali; Tigray; Afar; Benishangul Gumuz; Gambella; and Harari [28]. Oromia, Amhara, and SNNP together comprise slightly more than 80% of the total population [31]. The two city administrations are Addis Ababa and Dire Dawa, which hold 3.7 and 0.5% of the total country population, respectively. Although Ethiopia is a country with more than 80 ethnic groups, the Oromo and Amhara people together account for more than 60% of the population (34.5 and 26.9%, respectively) [28].

Data collection took place across three regions of Ethiopia: Amhara; Oromia; and Southern Nations, Nationalities, and Peoples' Region (SNNPR) and one administrative city: Addis Ababa. These areas represent a diverse mix of Ethiopians, ranging in rural–urban, economic and educational statuses. Given the qualitative nature of this formative research study, the design calls for a representative and exhaustive consideration of the individual differences across these areas. We considered urban, peri-urban, and rural settings, as

Table 1 Study participant demographics

	N (%)
Gender	
Male	97 (50.3)
Female	96 (49.7)
Age	
18–29	103 (53.4)
30 +	90 (46.6)
Location	
Urban	109 (56.5)
Rural	84 (43.5)
Total	193

well as areas where there were higher and lower rates of abortions in these areas.

Participants and recruitment

We discussed details of the study with community leaders in each region, and then data collectors collaborated with local health extension workers to identify a range of respondents. Once initial recruits were identified, a snowball sampling method was used. Participants were recruited from different zones within the region and then invited to join FGDs from other zonal areas in order to ensure privacy and confidentiality. None of the participants were known to the FGD moderators or note takers. To capture a wide range of social attitudes toward abortion, the study recruited both male and female participants and divided groups by age: a "younger" group ages 18 to 29 versus an "older" group ages 30 to 55. Groups were also segmented by the participants' gender.

Focus group discussions

Data collection took place between June and July of 2018. Eight FGDs were conducted in each region, ensuring a balanced distribution of age and gender groupings, with 32 FGDs overall. Each FGD had six participants (one had seven), and the average age of participants for the younger FGDs was 23 years and for the older FGDs was 37 years. All individuals were welcome to participate, regardless of prior knowledge or experience with abortion. In total, 193 individuals participated, of which 96 were female and 56.5% were from urban areas (Table 1).

Data collection

Teams of eight Ethiopian social scientists (four women and four men) were trained to use the FGD guides and study protocols for data management during a four-day training and served either as moderators or note takers. Female moderators conducted the FGDs with female participants. FGDs were held in community centres.

Prior to participation, researchers informed study participants of the study objectives and confidentiality measures. Verbal consent was obtained from all participants. No incentives were provided. The FGDs took around 90 min, including a 10–15 min break.

FGDs were conducted in Amharic or Afaan Oromo. Researchers made voice recordings of all FGDs, with the consent of participants, and interviewers also took notes of the content, nonverbal behavior, and setting of the interaction.

Analysis

Recordings from all interviews were transcribed verbatim in Amharic or Afaan Oromo and then translated into English. On completion, a member of the bilingual research team read and reviewed each translated English transcript, comparing it against the original Amharic or Afaan Oromo version. The team rectified any discrepancies with the translator until full agreement between the translated transcript and original Amharic or Afaan Oromo version was obtained.

Transcripts were initially coded inductively, with key words or phrases extracted verbatim from the discussion. Using the extracted codes from the initial transcript, a codebook with rules was created to ensure that all coding was consistent across the 32 FGDs. Where a new code emerged in future transcripts, it was either coded together with an existing code (if the meanings were synonymous) or a new code was created. Occasionally, a code was discarded during the second phase if it proved to be an idiosyncratic response. Ensuring that all responses were initially coded uniformly resulted in a data-driven coding manual that facilitated the later thematic analysis [29].

Based on the codes generated by the first analysis phase, we used deductive coding [30] and analysis to categorize findings into emergent themes around stigma, barriers, and the changing nature of attitudes around abortion. Researchers analyzed the frequency with which individuals reported themes, and to what extent the group mentioned these themes, for patterns. This procedure helped us clarify which themes consistently emerged across all groups and which were idiosyncratic. We then organized statements according to key themes related to unintended pregnancy and abortion.

Other data analysts conducted a further review of 60% of the transcripts. Through this comparison, the team checked to make sure members had coded the themes in a consistent manner, without creating new codes in one type of analysis and not the other. Any discrepancies were resolved through discussion with the larger team of

coders and the primary analyst until full agreement was obtained.

The lead researchers also presented the results to the Ethiopia research team upon completing the analysis, but not to community members. In addition, the team once again verified any quotes used in the results summary with the original transcripts.

Results

Our findings suggest that although abortion is stigmatized and social norms remain largely negative, some signs of a shift in attitudes toward abortion surfaced during our discussions. Several main themes emerged from the FGDs: negative attitudes toward unplanned, premarital pregnancy remain strong; attitudes about abortion are shifting to include consideration of the context in which the pregnancy took place; and the perception of abortion providers is variable. First, we will present the evidence on persistent negative attitudes around unplanned pregnancy and abortion; next, we will present our findings on how attitudes around abortion are slowly changing; finally, we will discuss some of the divided perceptions of the abortion law and abortion providers.

Norms of stigma, shame, and rejection

Prevailing negative attitudes around unplanned pregnancy

An important antecedent to abortion for many women and girls in the study communities was the stigma and social backlash of unplanned pregnancy, mainly for young, unmarried women and girls. Across the various urban and rural communities where this study took place, the resulting behaviors toward unplanned pregnancy is one of extreme rejection, judgment, and isolation. Slightly less than half of participants mentioned the society's negative opinion of unplanned pregnancy—mostly attributed to younger age (e.g., being a student and occurring before marriage); lack of awareness or use of family planning methods; or rape—and almost three-quarters mentioned either a negative opinion or subsequent life problems. No respondent mentioned that unplanned pregnancy for an unmarried woman would result in a positive societal perception (Additional file 1).

> *When a pregnancy occurs to a woman who isn't married or is a student, the community considers this to be very shameful, as well as terrifying for the woman and disappointing to the family and kin group. Female, Oromia, age 22*
>
> *[I]f the unintended pregnancy occurs out of marriage or before marriage, it will be a big problem for the girl. She will be worried as a result and shamed by her community and relatives. Male, Addis Ababa, age 21*
>
> *The society won't help her, they will only point their fingers at her. They will try to solve the puzzle of who the father might be, they will spread the gossip to every corner they can find. If she can deal with this, she will have a baby in her arms. But the society's reaction might throw her off, so she might consider abortion. Male, Hawassa, age 21*

Participants commonly expressed how this stigma included outright denunciation and ridicule of the girl by community members. Participants discussed whether she was seen as a "good girl" or a "bad girl" in the minds of community members. Many respondents confirmed that a girl would be seen as bad or could even damage a previously good reputation with an unintended pregnancy.

> *People will consider her unintended pregnancy as resulting from her behavioral problem. People will consider her as a slut. People will see her as a bad girl, as promiscuous. They will not have love for her and see her as not a good girl. Male, Bole, age 27*
>
> *If she was considered as a good girl, if she has a good behavior in the eye of the community, and if she experiences unintended pregnancy and abortion, people's opinion about her will change. They will no more consider her as a good girl. They will not see her as they used to. Female, Tirunesh, age 19*

Very often, respondents mentioned that girls would be used as cautionary tales or made examples of in the community to warn others of the perils of unintended pregnancy.

> *The people would hate her, or would dislike even to see her, and they wouldn't want to approach her. The society would mainly think that she will teach this bad thing to others, and hence they would instruct their children to stay far from her, and due to such awful connotation on her, her future life would be distorted wherein she could be unable to get a marriage partner. This is because, it is mainly assumed that she has destroyed a life. Male, Oromia, age 30*

Harsh societal reaction against unplanned pregnancies among unmarried women or girls was commonly perceived as resulting in devastating outcomes for the pregnant woman. As mentioned above, many people described life problems that would extend beyond societal pressures like rejection or isolation. Discussants frequently recalled stories of depression, poverty, stopping education, homelessness, excommunication, and even suicide among girls who had been rejected because of an unplanned pregnancy. This stigma was described as following a girl into her future, putting her prospects of marriage and social cohesion at risk.

In the case of most adolescent students, if a girl encountered unintended pregnancy and her families knew that, she could be hated and discriminated. This may cause her to flee away from home and in these situations, she may deliver her baby in the streets, may lose her education as well as her life dreams. Not only being separated from her family and relatives, even the guy who impregnated her may not want to accept her and for this reason, she may suffer a lot. Female, Oromia, age 21

Even in cases where the family may initially support the girl, community shaming would add considerable pressure on families to reject their own daughters. Many participants relayed stories of families that sent their pregnant daughters away to avoid the humiliation brought on by the unplanned pregnancy. Others mentioned that families might force the girl to hide and secretly have an abortion to preserve the family's reputation.

In my opinion it is not just about a family accepting the girl who has unintended pregnancy or not, it is mainly about what the community will feel and think about the girl. Families will not hate their daughter even though she has unintended pregnancy. But they will think about how they will be perceived if the members of the community know that the girl is pregnant. They will consider her pregnancy as a shame and disrespect. In our culture girls are expected to be married before having children. Otherwise, it is considered as disrespect. Female, Meshualekia, age 19

Persisting stigma around abortion

After participants discussed unplanned pregnancies, the discussion turned to the issue of abortion. Discussants were first asked what people in their community would think about a woman who had an abortion. Well over half of the participants responded that abortion would be considered in a negative light, with no qualifications (Additional file 1). No women in the younger age category thought that support would be given to a woman who had terminated a pregnancy. In these cases, a common perception across all participants was the belief that women and girls who abort their pregnancies were considered to be sinful, murderous, and not deserving of respect.

Several participants claimed they would not support a woman who chose to have an abortion and that such a woman would be looked down upon as compared to one who had never had an abortion. Here, as with those who had an unplanned pregnancy, women and girls may face stigma and isolation by their choice to terminate a pregnancy. Such stigma could also hinder a woman's future, particularly her "marriageability" in the eyes of her community.

No [the community] won't support [a woman who wants an abortion] at all. They even try to point fingers on her because…it is considered as she took life or committed a murder. There is a character of saying, "she took a life and who on earth is going to help or support her!?" Even there are people who don't want her to even sit beside them. Female, Amhara, age 23

I haven't seen people supporting a woman who had abortion after unintended pregnancy. In my opinion, I guess when abortion is done, a life is lost. It is difficult to ignore that. And people also accept that what is right is to be careful not to be pregnant initially. But to abort the fetus after the woman gets pregnant is unacceptable by many people. Male, Hiwot amba, age 32

The data suggest that this rejection of abortion and stigmatization of women may stem from a deeply religious culture that believes life is a sacred gift from God, whose plan must prevail over the preferences of women. So strong is this belief among some participants that they would actively encourage or pressure a woman to keep her pregnancy if she were considering abortion. For some, the sin of pregnancy termination was too great to justify abortion and would only compound the original offense of being pregnant outside of marriage.

Firstly, that is a mistake in God's eyes; it is not allowed to abort a pregnancy in our religions. In addition, that child, secondly, can also grow up to be a person of many impacts on the society. Therefore, I will advise her to change her idea of aborting her pregnancy. I will try to get her to give birth to the child. I will do that. Not just for a family member, but that is also what I will do for a neighbor or a community member. Female, Hiwot amba, age 44

I will pressure her to have the baby. To have abortion is to make a mistake twice. The first mistake is when she had the unintended pregnancy. That is also a sin in God's eyes. And in addition to have the abortion is also a mistake. It is like to stop a life. That is also a mistake and a sin. Therefore, even though she had committed the first mistake by having the unintended pregnancy, there is no need to make the second mistake. Therefore, I will not agree with her wanting to have an abortion. Male, Meshualekia, 24

Some participants, though a minority, do not believe that abortion should be allowed under any circumstances.

Even in the case of rape, for example, these individuals may see it as a duty to bear the child and not to compound the event with "murder" of the fetus.

> *Even if it is like that, I will not advise her to have an abortion. It can be unintentional or rape, but it is better for her to raise the kid. Since she is going to take a human life, I will tell her to give birth to it. Female, Amhara, age 27*

Interestingly, an oft-cited reason for not supporting abortion was that the child may grow up to be an important person in the country, like a leader or ruler. This idea cut across respondents and made it clear that for many in Ethiopia, any fetus should be treated with great respect.

> *There are people who are incapable of conceiving a child; a child is a gift from God. To abort a child—meaning to end a life—is a major sin. This child might turn out to be a very important person for the world. However, due to the couple's reason he cannot experience life at all. Male, SNNPR, age unknown*

Turning tides and mixed views on abortion

As mentioned above, most of the initial reactions to abortion were negative. However, our results show that attitudes are not as unforgiving as they first seem. Notably, for all questions regarding abortion, there were a significant number of responses exhibiting mixed views—mainly, that positions depended upon the circumstances surrounding the abortion (Additional file 2). This suggests that when prompted, most participants did not actually see abortion as a black or white issue but were willing to consider conditions under which abortion would be appropriate or even preferred. Thus, despite the presence of abortion stigma among the participants, many community members also recognized recent, positive societal shifts in perceptions around abortion.

For example, many discussants expressed support for abortion for rape survivors, but a number of those expressed the need to "verify" the rape before offering acceptance or support. Responses from discussants suggested an underlying suspicion of women who claimed rape in order to abort and that sufficient evidence of the rape must be provided in order to validate a woman's assertion and decision to abort. If such verification were provided, they felt that the woman would be supported.

> *For a girl that was raped and pregnant from the rape I believe it should be allowed. Abortion should be allowed for her. But it has to be based on reason. If there is evidence that indicates that she was raped, then she should be allowed to have the abortion. But it should not be allowed without evidence indicating that she was raped. The evidence should indicate that the girl was physically forced and raped and not just was out there having alcohol and taking drugs. Female, Tirunesh, age 19*
>
> *In such cases, the society would support her. Where there is tangible evidence particularly, for instance where she has shouted for help, the people would not sleep until those responsible for the rape were brought to justice in addition to providing her with all the necessary support. As such, there is a due emphasis from the society on such issues. Male, Oromia, age 40*

Likewise, although some participants implied that rape in the context of "bad behavior" would not be a satisfactory cause for acceptable abortion, others suggested that such a perception of so-called bad girls or good girls would determine the community's reaction: those previously seen as good by the community would not be blamed for an unintended pregnancy.

> *I think the reaction of the community will depend on the situation; it depends on the behavior of the girl and how the pregnancy happened. If the girl was considered as a good girl and as a girl that respects her parents and people in the neighborhood, then even if she has unintended pregnancy the community may not have a bad attitude towards her. But if she is a girl that falls out of line and if she used to show desires to engage in unacceptable behavior, then people will blame her and talk bad things about her. Female, Meshualekia, age 21*

Therefore, many of the views around abortion were nuanced, suggesting that societal reactions would often depend upon context. This finding was particularly clear when discussants were asked how they would react if the person who wanted the abortion was a family member. Although the majority suggested that they would still prefer for the family member to give birth or would somehow try to convince her not to have an abortion—even helping her financially if her reason behind wanting the abortion was poverty—many also agreed that this would depend upon the situation. Particularly in cases of incest, rape, or health risk, many suggested that they would support her in her decision to terminate a pregnancy.

> *My decision will depend on what a doctor will say about the pregnancy. I will also ask her why she wanted to have the abortion. If she wanted to have the abortion because of economic reasons, then I will not allow her to have the abortion. I will do everything to support her. But if it is because of health reasons, then I will agree with the abortion if it can be safely done. Male, Meshualekia, age 19*

Perception of support around abortion

As described above, societal perspectives on abortion were not simply negative, and many reactions depended upon particular qualifications (e.g., proof of rape or prior opinion of the girl within the community). This demonstrates Ethiopians' willingness to consider the circumstances under which an abortion might take place. However, these were not the only responses that indicated a shift in attitudes toward abortion, and many responses—particularly under certain conditions—were positive, even without such qualifications.

Acceptability of abortion in case of health risk or rape

Encouragingly, when asked about particular conditions—rape and risk to the mother's life—most discussants were far more supportive than about abortion more generally. For example, there were five times more supportive responses when participants were asked about abortions conducted when pregnancy was a result of rape, and eight times more supportive responses (i.e., more than three-quarters of responses) when participants were asked about abortion to save the mother's life. Additionally, although gender and age group did not result in significant differences on level of support, respondents from urban areas suggested societal support for abortion in the cases of rape or health threat much more often than did those from rural areas (Additional file 2).

Many participants recognized the difficulty that a raped woman might face in bearing and raising the child borne out of violence and would offer support to her if she made that choice.

> *A woman who performed an abortion due to rape will receive better acceptance and better treatment among the society than the others who normally perform abortion. The society will be very understanding and will try to make the girl feel much better by giving her different life advice. Even family will be very supportive throughout the process, telling her they will be there for her. Female, SNNPR, age 25*

Furthermore, discussants viewed abortion due to health risk to be out of the woman's control and recognized it as a tragic necessity rather than an act of volition. Furthermore, they commonly acknowledged that the mother's life was to be protected, even if it was at the expense of the fetus. In these situations, women would be treated with compassion and understanding rather than with the judgment or derision reserved for those who abort because of personal choice. Indeed, participants shared that women facing this type of abortion would be treated just as a woman who had given birth, with family and community members visiting her and supporting her in the post-abortion period. One discussant even shared her own experience following an abortion due to a high-risk pregnancy, reporting feeling very cared for by her community members.

> *I have gone through the same experience some years ago. I was forced to go through abortion because doctors told me that the pregnancy would be dangerous for me. They referred me to Dinberua Hospital and I had to go through the process. And everyone in the community showed me care and support. They all came and visited me. I haven't experienced any form of judgment or anything that I consider to be negative. Female, Bole, age 33*

Increase in unqualified support for abortion

Even beyond such qualified (albeit positive) responses, an emerging theme among discussants was the perceived overall increase in the number of people capable of understanding a woman's or girl's choice to abort regardless of circumstance and that many of them may even provide material or moral support. This support was given in spite of the prevailing norms against abortion and in the face of stigma and pressure from others in the society. There was also evidence from participants to suggest that in certain communities there would be no negative reaction to a woman who chooses to terminate a pregnancy. This finding was seen as an important change from previous times and was largely attributed to an increased education among communities about abortion.

> *From the general trend that prevails in neighborhood or society or the country as a whole, [abortion] is something disgusting, an act that shouldn't be thought of and that would drive a hostile reaction from the majority. However, there are a few people who think that it has already happened and who would show sympathy for her and provides support no matter what adverse attitude from others in the society could be there. Male, Oromia, age 30*
>
> *There is no negative reaction to the girl today. Today people are educated and negative thinking and attitude towards abortion are nonexistent. In the past it was a big problem. Now people have awareness about the causes for the occurrence of unintended pregnancy. Male, Hiwot amba, 40*

Variable knowledge of Ethiopian abortion law

After eliciting perspectives on abortion under various circumstances, participants were asked to recount their understanding of the legality of abortion in Ethiopia. The resulting responses revealed a muddled notion of legal indications of abortion in the country, with no notable

differences according to the age, gender, or location of the participant. Knowledge of the Ethiopian abortion law varied widely, from those who believed it was not permissible under any circumstance (approximately one-third of responses) to those who recalled that it was allowed in some cases (e.g., rape, risk to the mother's health, or incest; slightly fewer than half of responses).[1] One-quarter of discussants openly admitted to not knowing the Ethiopian abortion law at all (Additional file 3). Some participants even interpreted the question to mean legal repercussions of abortion and were adamant that a woman would be prosecuted in the event of an abortion.

> *The law in Ethiopia doesn't allow abortion. This is so because, since the aborted baby [the fetus in the womb] has a life and could be raised to become a man/woman, and for this reason, [abortion] is considered as a murder and is thus a criminal act. Female, Oromia, age 23*
> *I think there is a law about abortion because the girl might be raped forcefully, her body might not able to carry the fetus, or the pregnancy might endanger her health. Therefore, I think there might be a law allowing abortion. Male, Amhara, age 20*

Diverging views on abortion providers

Just as they held variable views on stigma against abortion, participants held conflicting opinions on the role of abortion providers. The responses to this question were evenly distributed across those who perceived them negatively, those who thought they were helping, and those who were either unsure or agreed that the societal perspective would be mixed (Additional file 3). For those who were opposed to abortion, providers were seen as an enabler of that which should not be permitted. This was particularly true of providers that offer abortion to women who were not in immediate danger. For some participants, abortion providers were seen as working actively against the will of God.

> *I personally view them as sinners. That is because they are participating in abortion and abortion is seen as stopping a life. Female, Amhara, age 37*
> *Whatever their reason [for the abortion], the community sees only whether abortion is done or not. If it is done, they believe that [the provider] is destroying the building of God. Even, they will say if this kid is born, it may help the community when it grows up and also they will say it is the wish of God for this kid to come to the world but [the provider] terminated it. Therefore, the feeling is different, and it is not a good feeling that the community have. Male, Amhara, age 26*

For others, legal abortion providers were seen as providing a helpful service, or at least just doing their job. However, participants often indicated that those who perform abortions illegally or with herbs, such as traditional healers, were condemned because such abortions can be very dangerous for the woman.

> *Abortion is done legally and illegally. Those who work legally are accepted and there is nothing against these people. But those who work illegally in the community are not accepted. People don't have a good opinion on these people. Male, Hiwot Amba, age 32*

On the other hand, a common theme to emerge from participants was the view that abortion providers offered essential services to save or protect women's lives. These discussants understood that abortion providers were supplying necessary assistance according to the laws of the country and viewed them as benefitting the community. For some, abortion providers were considered God-like (an interesting contrast to the responses above) and making an indispensable contribution to society.

> *Instead of dying due to giving birth at a young age, it is a good deed if a doctor can abort the baby to save her life. For these exceptions, they are helpful and necessary; we should be thankful. We don't know what the baby will turn out to be or what problem it will bring to the society and his mother.... If they refuse to help, she might suffer several problems to the point of ending her life. Their existence, the profession itself is necessary for the community. Female, SNNPR, 20*
> *The people have good perception and adore the health professionals that help women to have the abortion; and it is even said "waaqa biraa doktaratuu jiraa" [literally to mean that a doctor is another God]. Male, Oromia, age 30*

Discussion

Using data from 32 focus group discussions across Ethiopia, this qualitative study adds important information to our understanding of abortion attitudes and behaviors in the country. In particular, the study demonstrates the expectations and assumptions underlying abortion stigma against women in this society and

[1] As of 2005 in Ethiopia, abortion is allowed in the case of rape, incest, fetal impairment, physical danger to the woman, physical or mental impairment of the woman, or physical/mental inadequacy of a minor [Ethiopia Ministry of Health, Health Sector Development Program IV in Line with GTP, 2010/11–2014/15, Addis Ababa, Ethiopia: Federal Democratic Republic of Ethiopia, 2010].

highlights the changing nature of acceptability of abortion in Ethiopia. The study found that starting from the onset of unintended pregnancy, women in Ethiopia (particularly young and unmarried women) are highly stigmatized and isolated. Both male and female participants in all age ranges and regardless of level of rurality shared that when unmarried women experience pregnancy, they are stigmatized and often driven to depression and sometimes homelessness, poverty, or suicide because of the social backlash they receive, including rejection, isolation, and gossip. On the other hand, very few respondents mentioned of men's role in these incidents, laying the social burden of unintended pregnancy on women and female adolescents alone. This type of stigma can drive women to seek unsafe abortions and further threaten their social standing and lives [31, 32].

Although there was near-unanimous rejection of unplanned pregnancy among study discussants, the topic of abortion evinced more complex responses; although stigma was still present, many participants expressed a growing openness and acceptance of abortion. The majority of participants felt that unless the termination was due to serious reasons, such as pregnancy resulting from incest or to protect the health of the mother, the act would be considered "sinful" or "murderous" and women who chose to terminate a pregnancy would be rejected by their families and their communities. Furthermore, even in cases of rape, participants were not always supportive of women seeking abortion services. In these instances, the circumstances of the rape itself and the "quality" of the woman sometimes came into play; if the woman was perceived to have put herself in a position to be raped, there was little mercy and she was blamed for the rape. Here, the evidence suggests a bias against women who choose to live their lives outside of prescribed gender norms, which can result in denunciation of the woman and her choices [33]. In Ethiopia, young, unmarried women in particular are forced to navigate a minefield of social pressure in order to terminate a pregnancy and thus make up the majority of those seeking clandestine, unsafe abortions across the country [34, 35].

Though common themes showed negative beliefs around abortion, other emerging themes suggested that stigma around abortion in Ethiopia may be softening. Discussants reported a change in overall support, with more families or communities starting to provide emotional, financial, and practical support for abortion clients; a few participants even went so far as to disclaim any discrimination against them in their local communities, suggesting an evolution in tolerance for abortion. Furthermore, the majority of discussants suggested that through improved education and outreach efforts, communities would increase their understanding and support for women seeking abortion.

Our study also found divergent views about the role of providers that may offer abortion services. Around one-third of participants saw abortion providers in Ethiopia as healers supporting and assisting women, whereas an additional one-third saw them as sinners acting out against God. Indeed, these findings also highlight the role of stigma and how it manifests on an interpersonal level in the interaction between women seeking abortion services and providers. Provider attitudes are among the most commonly cited barriers to reproductive and sexual health services for adolescents described in the literature [8]. For example, data of providers' attitudes about abortion reveal complex underlying forces such as training, professional norms, and religious beliefs as contributors to the willingness of providers to provide abortion services [21]. This is true of not only providers but other health facility staff that may come into contact with a woman seeking to terminate an unintended pregnancy [36]. Thus, past and present interactions with providers can serve as either facilitators or barriers to abortion services.

Our results can also be situated in the context of several interventions that are underway by development partners in Ethiopia, in collaboration with the Ministry of Health, to improve access to quality safe abortion care. The context includes efforts to develop and disseminate evidence-based national standards and guidelines in 2006 [37] and a revision in 2014 to incorporate recent World Health Organizations recommendations [38]: training health professionals at all levels of the health system with a particular focus on task-shifting to midlevel providers; integrating safe abortion and post-abortion contraception into existing reproductive health services; building the capacity of Primary Health Care Units to sustain comprehensive abortion care services; and engaging with the private sector to expand its capacity to provide safe abortion care services. In addition, other nonprofit organizations support providing comprehensive post-abortion care services as well as safe induced abortion for all legal indications (as allowed by national law). Nonprofit organizations have been implementing a variety of interventions to raise awareness about abortion care issues to reach a wide range of audiences living in both urban and rural areas. As such, some of the positive shifts in attitudes among our respondents are perhaps reflective of such interventions that have aimed to improve the quality of services and information about access to safe abortion services.

This study should be viewed in light of a few limitations. First, the samples for the FGDs were purposive, with recruits being suggested by health workers and

through a snowball method of recruitment. Findings may not be representative of overall community perceptions. Next, although the nature of FGDs allowed for participants to have a natural conversation around a particular topic, there is the possibility for intra-group response bias, whereby one or two people might respond in a certain way and the remaining participants simply agree. Still, while this sort of effect is not entirely preventable, a number of people felt comfortable disagreeing with the majority opinion. Furthermore, the nature of qualitative data limits generalizability of findings beyond the specific subgroups interviewed here. However, great care was taken to recruit a diverse range of FGD participants across several regions in Ethiopia to provide as complete a picture of abortion attitudes as possible. Finally, although we made efforts to recruit participants from different regions, genders, ages, and ethnicities to better address the research objectives, the results of the analysis did not identify large differentiations according to these different segments.

Conclusion

This study reveals deeply ingrained negative and gender-biased social norms against unintended pregnancy and abortion in Ethiopia, a stigma that is particularly pronounced for young or unmarried women. These biases can affect women's reproductive choices and limit their ability to access timely and safe abortion care as they negotiate their desire to terminate pregnancy with the real and often extreme personal costs of revealing an abortion to family and community members. Nevertheless, findings suggest pockets of growth in the acceptability of abortion in Ethiopia, progress that may be scaled and cemented with appropriate educational and social behavior change campaigns. Implementors and policymakers should create further awareness in Ethiopia of the legality of abortion, the mental and physical repercussions of stigma and social rejection, and the importance of supporting women to access safe and timely abortion care. Such efforts should be based on principles of gender equality, as a means of ensuring enduring changes for women's reproductive choice across the country. By improving knowledge and attitudes around abortion across the country, Ethiopians can begin to provide an enabling environment of support and care for all women seeking abortion.

Abbreviations

FGD: Focus group discussion; SAC: Safe abortion care; SNNPR: Southern Nations Nationalities and Peoples Region.

Supplementary Information

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Additional file 1. Negative attitudes around unintended pregnancy.

Additional file 2. Turning tides and mixed views around abortion.

Additional file 3. Knowledge of abortion law and perception of abortion providers.

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Authors' contributions

GS, SEF, and KOC analyzed and interpreted the data and wrote the manuscript. All other authors, ATK, BMM, MTT and JKM assisted the data interpretation and critically reviewed the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The data that support the findings of this study are available from EngenderHealth but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are, however, available from the authors upon reasonable request and with permission of EngenderHealth.

Declarations

Ethics approval and consent to participate

For this study, ethical clearance was obtained from Ethiopian Public Health Institute (EPHI) EPHI-IRB-066-2017, and Western Institutional Review Board. Risks and benefits of the study were explained to the study participants in such a way that participating in the study was purely voluntary and will have no effect on their access to the benefits of existing or future programs. Verbal, informed consent was obtained from study participants after the data collectors described the purpose of the study.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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RESEARCH

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Agenda setting and socially contentious policies: Ethiopia's 2005 reform of its law on abortion

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Abstract

Background: In 2005, Ethiopia took a bold step in reforming its abortion law as part of the overhaul of its Penal Code. Unsafe abortion is one of the three leading causes of maternal mortality in low-income countries; however, few countries have liberalized their laws to permit safer, legal abortion.

Methods: This retrospective case study describes the actors and processes involved in Ethiopia's reform and assesses the applicability of theories of agenda setting focused on internal versus external explanations. It draws on 54 interviews conducted in 2007 and 2012 with informants from civil society organizations, health professionals, government, international nongovernmental organizations and donors, and others familiar with the reproductive health policy context in Ethiopia as well as on government data, national policies, and media reports. The analytic methodology is within-case analysis through process tracing: using causal process observations (pieces of data that provide information about context, process, or mechanism and can contribute to causal inference) and careful description and sequencing of factors in order to describe a novel political phenomenon and evaluate potential explanatory hypotheses.

Results: The analysis of key actors and policy processes indicates that the ruling party and its receptiveness to reform, the energy of civil society actors, the "open windows" offered by the vehicle of the Penal Code reform, and the momentum of reforms to improve women's status, all facilitated liberalization of law on abortion. Results suggest that agenda setting theories focusing on national actors—rather than external causes—better explain the Ethiopian case. In addition, the stronger role for government across areas of policy work (policy specification and politics, mobilization for enactment and for implementation), and the collaborative civil society and government policy relationships working toward implementation are largely internal, unlike those predicted by theories focusing on external forces behind policy adoption.

Conclusions: Ethiopia's policymaking process can inform policy reform efforts related to abortion in other sub-Saharan Africa settings.

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Plain language summary

Globally, deaths of women due to unsafe abortion remain high. However, few countries have changed their laws to allow safer, legal abortion. In 2005, Ethiopia reformed its law to permit women to obtain an abortion for a significantly greater number of reasons, and this reform has resulted in a real expansion of women's access to services.

This retrospective case study uses information from interviews with 54 people involved in Ethiopia's reform and from government and research documents to see whether explanations of the reform that focus on the roles of national actors versus on the roles of external actors and influences better explain how Ethiopia's reform took place.

This study finds that national actors and processes were most central to Ethiopia's reform. In particular, a ruling party open to reform, the work of the women's movement and of reproductive health nongovernmental organizations, the ability to take advantage of political events, and the collaborative relationship between government and nongovernmental organizations all supported reform. At the time, many major external actors were either against the reform (the U.S. government) or stayed neutral.

Findings can help those seeking to understand or plan policy reform efforts in other sub-Saharan Africa countries.

Keywords: Ethiopia, Policy reform, Agenda setting, Abortion law

Background

Much has been written on agenda setting and policy adoption processes in Western democratic contexts, but far less in low-income and less democratic political systems, or for socially contentious policies. Ethiopia's 2005 liberalization of abortion law as part of the overhaul of its Penal Code provides an opportunity to explore the theories of policy adoption that are most applicable. Globally, this type of reform remains infrequent, particularly in sub-Saharan Africa (SSA), despite a general trend of liberalization [1, 2]. Like much of SSA, Ethiopia had some of the world's most restrictive laws on abortion [3] and some of the highest maternal mortality rates, at least a third of which were due to unsafe abortion [4, 5]. Although liberalized laws on abortion are linked with reduced mortality due to unsafe abortion [6, 7], at the same time, the associated legal reform processes reliably rouse public conflict and often do not increase stakeholder support [8, 9]. Conflict appears to be an even more obvious outcome in more traditional societies [10, 11] such as Ethiopia, where over 63% of the population views abortion as "never justifiable" [12].

This paper's objective, using a retrospective case study approach and process tracing, is to describe the abortion law liberalization process in Ethiopia between 1991 and 2005 and assess the applicability of theories of agenda setting. We identify the actors and mechanisms at work, highlight features of the political environment and structure (the political opportunity structure) that facilitated or inhibited the rise of this issue to the national political agenda, and contrast the explanatory value of policy theories emphasizing national forces (agenda-setting theory) or external forces (international policy diffusion).

This study starts with the hypothesis that the key forces behind national reform of abortion law in Ethiopia are homegrown. Our contention is not that international influences are absent, but that we should look first at national factors when the policy involved is culturally sensitive and where financial or other geostrategic political pressures appear less relevant. We argue here that the key factors are at the national level, and that they include government leadership, national nongovernmental organization (NGO) contributions (particularly from women's rights NGOs and a medical professional society), a collaborative rather than a conflictual civil society-government relationship, and the opportunities offered by the Penal Code reform process and by the momentum of advocacy efforts to empower women and improve their socioeconomic status. Broad international background influences, such as foreign financing of the health sector or foreign donor policies, were present but operated in ambiguous or countervailing directions. Some smaller donors broadly supported organizations active in the sector, but Ethiopia's primary donor engaged in significant, explicit opposition to reform. Accordingly, we argue that theories of agenda setting that highlight a primary role for national actors—particularly government in shaping policy selection and politics, and national civil society organizations—map better to how Ethiopia's reform took place. The examination of politics here focuses on the deliberate activities undertaken by stakeholders to secure outcomes through government.

Abortion law liberalization is a notable outcome for both normative and theoretical reasons. At the individual level, it is a policy reform central to women's right to self-determination and agency over their bodies with the potential to prevent avoidable death and disability for women. At a societal level, policy debates over abortion often reveal deep social and political cleavages on women's roles, sexuality, and religious values [13] and in

the West are often battles by civil society actors to gain government enforcement of a particular world view [9]. Because of its personal and cultural salience, policy on abortion often sparks significant elite and mass public political engagement in affluent democratic countries [8, 14]. Finally, Ethiopia's reform stands out globally because it has resulted in real increases in women's actual access to and use of safe, legal abortion services rather than remaining an aspirational policy. Next only to South Africa, Ethiopia arguably now has one of the most progressive laws in practice in sub-Saharan Africa [15]. This inspires questions about what theories of agenda setting best explain Ethiopia's successful reform. The relative infrequency of impactful reforms such as Ethiopia's led us to select it for study.

Ethiopia is a nation of more than 100 million people located in the horn of Africa; the urban and educated are but a narrow sliver of its overwhelmingly rural population [16]. It is one of the world's poorest countries, ranking 169th of 177, with an annual per capita income of $700 [17]. Ethiopia is also a highly religious and traditional society where all religious groups (Ethiopian Orthodox Christians, Muslims, Evangelicals, and followers of traditional beliefs) are officially opposed to abortion except to save the life of the woman [18].

Ethiopia has had limited experience with democracy, elections, and NGOs. Until 1974, Ethiopia was a largely feudal monarchy, and the subsequent 17 years under the Derg regime were repressive and violent, leaving little room for the emergence of civil society or any reform of the country's laws. After coming to power in 1991, the new ruling party (Ethiopian People's Revolutionary Democratic Front, or EPRDF), internally led by members of the Tigray People's Liberation Front (TPLF), brought order, a "developmentalist" agenda, economic growth [19, 20], emergence of a free press, and a blossoming of civil society up until a deadly post-election crackdown in 2005 [21, 22]. Reform of Ethiopia's abortion law took place during this unprecedented space for political expression and civil society growth and activity. The country's current political structure consists of a federation of ethnically based regions, of which the three largest contain more than 80% of the country's population [23–25].

Ethiopia has a thin and emergent NGO sector. Only after the arrival of the current regime and the return of Western donors did the numbers of NGOs mushroom from fewer than 60 (most of them international) at the end of the 1980s to almost 2000 in 2007 [26, 27]. Only after the EPRDF took power in 1991 were the key professional societies and NGOs involved in Ethiopia's reform established and did related international NGOs arrive. Similarly, Ethiopia's educated and political elites have historically been extremely small, with a tremendous education and income chasm between them and the rest of the country [28].

Ethiopia's 1957 law only permitted abortion in case of "grave and imminent danger to the life of the woman" and required approval from two physicians [29]—an especially high bar, given the country's chronic shortages of physicians and their near total absence in rural Ethiopia where 87% of the population lives [30]. Ethiopia's reform—the law and its 2006 regulation—significantly increased women's access to abortion services. First, the permissible circumstances for terminating a pregnancy expanded to include cases in which there is rape, incest, or fetal impairment; pregnancy continuation or birth endangers the health or life of the woman or fetus; or the woman has physical or mental disabilities or is a minor (under 18) who is physically or mentally unprepared for childbirth [31]. The law also recognized women's testimony as sufficient to determine eligibility for services in cases of rape or incest. The Ministry of Health's subsequent Technical Guidance further expanded access. It permitted minors to access services without requiring documentation or parental, legal, or medical approval; authorized new categories of clinicians (midwives, nurses, health officers) to offer abortion services and mandated training; enabled service provision in public and private facilities of all levels; and required that services be provided within three working days [32, 33].

Ethiopia's reform is one of the few globally that has markedly expanded access to care. Many legal reforms languish unimplemented or poorly implemented [6]. In Ethiopia, public sector statistics show that women are accessing services, that maternal mortality due to unsafe abortion has decreased, and that increased proportions of women are adopting contraceptive methods post abortion [4, 34–36].

Candidate theoretical explanations

Broadly, two candidate sets of theoretical frameworks to describe the actors and processes are that of agenda setting, developed in the U.S. context [37, 38] and focusing exclusively on national actors, and frameworks pointing to external actors or forces such as World Polity Theory or the international diffusion of norms.

Kingdon's theory of policy adoption is a paradigmatic example of a theory focusing on national actors. It posits three interacting streams of internal processes shaping national governmental agenda setting—problems, policies and politics [38]. Within these three streams, civil society actors identify problems and specify policy solutions and governmental actors select among alternatives and make formal decisions. Actual policy adoption occurs only when policy entrepreneurs, from in or outside government, capitalize on opportune moments

("open windows") and connect a problem to a policy. They then shepherd the policy proposal through political processes. Related insights from study of sub-Saharan African policymaking point to a larger role for the state, the influence of elite groups, and a more collaborative civil society–state relationship [37, 39–41].

Alternative theoretical frameworks instead emphasizes external forces, including international diffusion of norms that fueling the converging resemblance of national policies [42, 43], with international organizations, networks of experts, and NGOs as key mechanisms for this transfer [44, 45]. Variants additionally point to more coercive mechanisms (states exerting financial coercion, violence, etc.) [46]. This study seeks to assess applicability of the first set of more internally focused theories.

Methods

Our retrospective case study of abortion law reform in Ethiopia has the goal of supporting causal inference by identifying key factors and the possible routes by which they affect the outcome of abortion law reform [47]. We draw on three main data sources: interviews; government policies, plans and evaluations, donor agency and grantee reports, and newspaper articles; and published secondary research on abortion policy adoption processes. Our primary data source is in-depth interviews conducted in 2012 (7 years post reform) with a purposive sample of 54 individuals knowledgeable about the reform of the Penal Code with respect to abortion law, who were selected using reputational and positional criteria. Interview guide questions asked about the reform sequence and chief actors, the framing of the debate, the reform roles and actions of the informant's organization, and summative questions on the factors informants saw as most central to explaining Ethiopia's 2005 reform. Ethical approval was obtained from Addis Ababa University and the University of California, Berkeley Committee for Protection of Human Subjects.

Our analytic methodology is within-case analysis using "process tracing," an approach using pieces of sequential evidence from multiple data types from within a case ("causal process observations") to identify the mechanisms or processes through which a factor affects an outcome. These causal process observations are the data or "clues" that aid in assessing the relative strength of the relationship between actors and forces and the outcome of reform [48, 49]. They emerge from interviews but also from newspaper and secondary data sources. Process tracing enables an assessment of the implications of evidence for the researchers' hypothesis of interest (and for alternative hypotheses) through use of tests of necessity and/or sufficiency.

Table 1 Interviewee background (2012 and 2007)

Government	6
Women's rights NGOs	4
Ethiopian (reproductive) health NGOs	9
Reproductive health medical professionals	10
Researchers	6
International nongovernmental organizations	12
Media	1
Donors	4
Religious leaders (Ethiopian Orthodox Church, Supreme Council of Islamic Affairs)	2

Primary affiliation only

After completing data collection and coding, we reviewed interview transcripts and notes; government, donor, and NGO documents; and press coverage in order to cross-check statements made by interviewees and to fill any gaps. Project reports and press coverage during the reform period helped more precisely date events and evaluate the accuracy of interviewee statements about the importance of their involvement or the types of reforms for which they called. We then used the data to produce a chronology of the reform process, to identify key leaders and events, and to develop propositions about which factors were most linked with the outcome of reform (Additional file 1).

Results

We conducted interviews in English in Addis Ababa, Ethiopia, in February and March 2012. We also used another investigator's 2007 Amharic-language interviews with one religious leader from the Ethiopian Orthodox Church (EOC) and one from the Supreme Council of Islamic Affairs (SCIA), conducted in Amharic and summarized in English [50]. All individuals invited agreed to be interviewed. Men were 60% of all informants, and ages ranged from mid-30 s to 70 s. All were professionals and senior figures in their institutions; all but two were currently employed and were Ethiopian nationals. Unless noted, all quotations are from Ethiopian informants (Table 1).

Interviews lasted between 20 minutes and four hours, and all but ten were recorded and transcribed verbatim. Unrecorded interviews were summarized shortly after the interview concluded. All interview transcripts or write-ups were then coded using HyperResearch software [51]. Transcripts were coded to identify actors, interests, roles, and sequence of key events.

Reform chronology

Although maternal mortality from unsafe abortion was high during the 1980s in Ethiopia, the previous regime, the Marxist Derg government, enacted no related reforms. The 1991 advent of a new political regime led by the EPRDF, a coalition of forces headed by the TPLF, brought a government receptive to reforms to improve women's status and initially opened political space for civil society to emerge and act. The swift adoption of progressive national health, population, and women's policies in 1993, and particularly the new constitution in 1995, made it clear there would be a complete overhaul of the 1957 Penal Code, with an explicit eye for expanding the "democratic rights and freedoms" of women [52].

Starting in the mid-1990s, newly founded civil society organizations began advocating for a broad set of reforms to improve women's legal status, including on abortion—most notably, the Ethiopian Women Lawyers' Association (EWLA). The Ethiopian Society of Obstetrician-Gynecologists (ESOG) involvement began in the late 1990s and focused more narrowly on reproductive health and on Penal Code provisions related to abortion and contraception. A number of other leaders from the growing community women's organizations, Ethiopian reproductive health NGOs, and health professional groups also advocated for more progressive policies on abortion. Ipas, an international NGO, played a central role. In 2003, these and other organizations joined to coordinate their work through the Advocacy Working Group (AWG), a core set of NGOs committed to liberalizing the country's laws on abortion. The AWG also voted to have the unofficial but regular participation from the head of the National Office of Population, which as a government body could not participate publicly.

Throughout this period (2001–2009), the United States, under the leadership of the Bush administration, reinstituted the Mexico City policy (known by opponents as the "Global Gag Rule") and made receipt of assistance for non-U.S. NGOs conditional on abstaining from work related in any way to abortion [53, 54].

In 2000, the Ethiopian Parliament launched overhaul of the Penal Code by requesting a draft from the executive branch and received two different versions later that year from the Ministry of Justice and the Federal Institute of Law Reform. After a full hearing on the drafts, Parliament sent sections related to women and reproductive health to three standing committees (the Women's, Social, and Legal Affairs Committees), the last charged with shepherding the sections through review and passage. NGO reform supporters were prompt to air concerns about the lack of improvement in these first drafts. EWLA publicly noted the absence of any change to the 1957 language on abortion as well as the failure to include a number of other measures to improve women's status, such as language prohibiting domestic violence and female genital cutting/mutilation [55, 56]. The AWG reached out to parliamentarians to offer technical and other background support. Parliamentarians then tasked the AWG with carrying out formal public outreach on the elements of the revised draft of the Penal Code related to women, reproductive health, and abortion and gathering public opinion. AWG members presented at hearings on the draft Penal Code in 16 cities in order to build broader understanding and support for the reforms among the public [57]. During the peak of reform activities between 2001 and 2003, EWLA, ESOG, and other leaders also presented in public forums, including on television, on the radio, and in Parliament [58, 59]. At this time, the AWG and its members were one of many groups and individuals working with parliamentarians to revise and update the Penal Code.

After the regional hearings, the full Parliament held 5 days of hearings in 2003 on all elements of the Penal Code reform related to women. AWG members helped the Legal Affairs Committee design the hearing agenda, and reform supporters provided presentations touching on abortion. Presenters were obstetricians-gynecologists (ESOG) and lawyers (EWLA) but were also sociologists and other social science researchers, and there were three commissioned research papers on abortion. At this point in early 2003, the proposed Penal Code language circulating in Parliament would have completely decriminalized abortion [57].

However, at this late stage, formal opposition surfaced. First, two small public demonstrations of anti-abortion physicians occurred in the main public space of the capital city, Meskel Square, organized by the Christian Workers Union for Health Care in Ethiopia [57, 59]. These protests were notable not for their size but for the fact that they occurred at all. Public demonstrations opposing proposed government policies in Ethiopia were rare to nonexistent in this period. Also at this time, anti-abortion print and film materials began circulating in Addis, particularly in Protestant Evangelical communities and at some religious services [60]. The most forceful opposition came in December, when the Patriarch of the Ethiopian Orthodox Church, the leader of Ethiopia's historically dominant religious group, publicly denounced abortion as a sin and stated that reform was unacceptable. He sent a press release to the capital's leading newspapers with a statement and communicated directly to the President, Prime Minister, and Parliament (House of People's Representatives) voicing opposition [61]. The Patriarch did not attack government but instead the civil society groups proposing reform. The Roman Catholic Church, a far smaller group whose members make up only about

1% of Ethiopia's population, also sent the government a communication opposing reform.

Government promptly responded to this opposition. The Legal Affairs Committee recommended that AWG members put advocacy work on hold and keep a low profile. The committee then held a hearing for the full Parliament where reform opponents presented *The Silent Scream*, a film that has been a staple of U.S. anti-abortion advocacy work [62]. For the next year, the reform dropped out of public sight. The final version of the Penal Code approved in May 2004, issued in June 2005, did not include the complete decriminalization of abortion law previously proposed. Instead, the Legal Affairs Committee, in consultation with the AWG, included a lengthy list of legal exceptions to criminalized abortion. The final legal language still permitted significantly increased access to legal abortion services, though in a less transparent manner. Reform supporters explained the law as a compromise worded conservatively to mollify opponents. Further, Parliament delegated development of technical guidelines to the Ministry of Health, who later relied on reform-minded technical experts to craft these guidelines grounded in global (World Health Organization, or WHO) evidence-based standards. These 2006 guidelines minimize hurdles and maximize women's actual access to services [32]. Table 2 provides a chronology of the overall reform and allied events.

Analysis and discussion

Roles of national and international actors and conformance with theory

Ethiopian ruling party leadership and leaders of key committees in the Parliament played central roles in reform. The government's well-known progressive and secular orientation, its track record of progressive policies both before and after coming to power in 1991, and the allied democratic breathing space it left for NGOs prior to 2005, all served as encouraging precedents for later national reform of the overall Penal Code and the abortion law. Additionally, the government's characteristic resistance to foreign pressure and its channeling of civil society contributions to meet national goals, further smoothed the path of reform [63, 64].

The ruling party's past reforms to improve women's status and its receptiveness to further reform emboldened civil society reform supporters. The party was known to be secular, had enacted several substantial policy reforms to improve the status of women, and prioritized improving women's status as a necessary step toward achieving socioeconomic development [65–67]. Interviewees saw the ruling party's long-standing political ideology and experience as predisposing it to further progressive reforms related to women and reproductive health.

> *The government has a good and strong position on promoting women's rights, starting right from the bush. There were many women soldiers involved in the fighting.—Interview 44 (Obstetrician-gynecologist)*

Reform supporters leveraged several supportive national legal precedents—most centrally, the new constitution. Ethiopia's 1995 adoption of a new constitution meant that the Penal Code would need substantial revision, setting in motion later reform processes into which even a controversial reform (such as that of abortion law) might be fit. The constitution's preamble directly calls for rectifying historical injustices and elimination of discrimination and later calls out the need to address historical injustices against women [52]. Reform supporters, particularly women's rights activists, explicitly used the constitution as a precedent in their arguments for reform.

> *The constitution is a mother to everything. The Penal Code is an answer to the constitution. The Women's Policy focuses on the right of women not to be hurt, the right of women to work, participate. All policies are intertwined. If there had been no Penal Code reform process, there would not necessarily have been any reform with respect to abortion. —Interview 36 (Researcher)*

The Ethiopian government had consistently demonstrated willingness to ignore or to counter opposition, whether from foreign donors or religious groups [19, 25, 68, 69]. For example, the Prime Minister at the time complained to the U.S. ambassador about Rep. Chris Smith's interference in Ethiopian domestic politics over abortion during the Penal Code reform [70]. The ruling party up to this point had also historically been undeterred by religious opposition, including from the Ethiopian Orthodox Church [71].[1] This ability to resist direct internal religious demands as well as U.S. pressures suggests that Ethiopian government leaders would be unlikely to be swayed by more diffuse external forces.

Further, although interviewees described instinctive government resistance to foreign pressure, they noted that international organizations could make contributions as long as they were aligned with overall national policy.

> *In the case of Ethiopia, especially the government, they don't much like interference and the pushing [from] outside. In fact, when you try to push and impose, they just go against that. So, I don't*

[1] However, the government's orientation to religion has changed under the leadership of President Abiy Ahmed, a Protestant Pentecostal.

Table 2 Timeline of Ethiopia's reform of its Penal Code with respect to abortion

Ethiopian government	EPRDF government comes to power	National policies on Population, Women, and Health issued	Enactment of Federal Constitution (Articles 25, 35 on women's rights)	Women's Affairs Standing Committee of the House holds workshop on Penal Code	•Parliamentarians direct Ministry of Justice (MOJ) to propose revisions to 1957 Penal Code •Revised Family Code goes into effect •Release of two executive branch drafts of new Penal Code with no change related to abortion	•Two draft Penal Code reform versions from MOJ & FILR (Federal Institute of Legal Reform) sent to Parliament •FILR releases amended draft Penal Code proposing decriminalization of abortion •Government—NGO AdvocacyWorking Group (AWG) convened •Regional meetings on Penal Code reform with AWG contributions	•Senior executive branch policy committee votes to decriminalize abortion •Parliament directs Legal Affairs committee to seek input from public and experts and reconcile executive branch Penal Code drafts •Weeklong workshop for full Parliament on RH and HTP issues in draft Penal Code	•"Silent Scream" screened for full Parliament •Revised Penal Code approved without debate	•New Penal Code goes into effect •National elections—crackdown on opposition	MOH Technical Guidance on Abortion issued	Enforcement begins of Civil Society Organizations Law restricting NGO advocacy

Table 2 (continued)

Ethiopian civil society		•Ethiopian Society of Obstetricians & Gynecologists (ESOG) founded •Ethiopian Midwives Association (EMwA) founded		ESOG 2nd Annual Meeting topic: unsafe abortion	Ethiopian Women Lawyers Association (EWLA) founded				ESOG 7th Annual Meeting topic: "Illegal and Unsafe Abortion"	EWLA workshops held on FGM and development of Penal Code reform recommendations	Televised symposium on unsafe abortion ESOG, WALTA Information Center	•ESOG research and reform recommendations released •ESOG President publicly calls for liberalization of the abortion law	•Anti-abortion demonstrations in Addis •EOC Patriarch condemns any liberalization of the law						
National/International				Ethiopian President opens International Conference on Population and Development (ICPD)	Kenyan ob-gyn presents to ESOG on abortion law reform				Ramp up of Packard Foundation funding for reproductive health	Ipas establishes office in Addis	Family Guidance Association of Ethiopia refuses to sign GGR, is barred from receiving US funding								
International activities and actors	International Safe Motherhood conference in nearby Nairobi			International Conference on Population and Development (ICPD) in Cairo	Fourth International Conference on Women (Beijing)					U.S. Mexico City Policy (Global Gag Rule or GGR) reinstituted, barring support to non-US NGOs in any way involved with abortion									U.S. Mexico City Policy/ GGR rescinded
	1991	1992	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**

think any push from an international organization would result in anything. But the role has to be… seen as complementary, and it has to be within the policy of the government. For example, if you take the issue of abortion or any other provision of the criminal court, if it was Ipas pushing that, then I don't think it would be [effective].—Interview 37 (Women's rights leader)

The period before the 2005 elections offered special space for NGO advocacy and collaboration with government. The growing numbers of active civil society organizations, a relatively free press, and government receptiveness to structured civil society involvement in Penal Code reform enabled those in the reproductive health field and women's rights advocates to contribute. Interviewees described the government's model of national policy change as one in which education and outreach to build public support for policy enactment were viewed as prerequisites and keys to actual policy implementation—a modus operandi dating back to its roots as an insurgency movement [65, 72].

However, NGO informants saw government receptiveness and support as a prerequisite for, but not a guarantee of, reform. They pointed to an initiating role for civil society reform supporters, who had to bring the proposed policy to government leaders and also to educate the public and generate support.

Ok, you bring it forward, the [government] is not going to cook it and finish everything and give it to you. …You need initiators to take it up to the top of the ladder, to make sure it'll be blessed by them. It's progressive, they have been for it, and they were for it and they encouraged the movement to take its course, they facilitated everything, took it up to the Parliament and had it passed through. —Interview 33 (Obstetrician-gynecologist)

Interviewees understood NGO public advocacy as central to initiating and to keeping reform efforts on the radar screen and described civil society as a key source of policy options and ideas.

The catalyzing role is still the role of civil society organizations. The government has a political commitment, but they also have different priorities. They have priorities to focus on, and sometimes they are not even sure of how to combine, and what is the right policy and what is the right sequence…. So there comes [a role for], especially, research-based, knowledge-based organizations. There are lots of gaps even now in the law. —Interview 37 (Women's rights leader)

Consistent with Kingdon, NGOs were the source of many of the policy ideas that expanded access to services [38]. For example, after the 2004 anti-abortion opposition surfaced, the AWG helped supply language that the Parliamentary Committee used to replace decriminalization in the final version of the Penal Code.

Starting in the mid-1990s, several civil society organizations began advocating for a broad set of reforms to improve women's legal status, most notably, the EWLA. Founded in 1995. EWLA pursued a comprehensive agenda to improve women's socioeconomic status and situated abortion law reform among this broader set of needed reforms, seeing them all as inescapably linked. To equip itself to contribute to Penal Code reform, EWLA documented Ethiopian women's adverse cultural and legal status and analyzed applicable Ethiopian and international laws [55, 73, 74]. In 2000, it presented recommendations to federal and regional authorities on criminalization of domestic violence, liberalization of the abortion law, and the repeal of legal amnesty to abductors and rapists who marry their victims. EWLA representatives spoke publicly about "women's right to life," the injustice of maternal mortality due to unsafe abortion, and the need to revise and liberalize the law on abortion [55, 75].

A striking feature of EWLA's advocacy, and that of other groups involved in the AWG, was the often close and amicable connections between civil society and government leaders. An emblematic example occurred during a television interview, when EWLA's leader posed a question to the Prime Minister about abortion: "Would you support the amendment of the Criminal Law [Penal Code] in terms of relaxing the provision of the law and making it more flexible to benefit more women?" In his response, the Prime Minister not only signaled his tacit support for reform but also his expectation that those outside government should mobilize and demonstrate public support for reform.

Ethiopian obstetricians–gynecologists (ob–gyns) and their professional association (ESOG) were the next most visible nongovernmental group active on reform of the Penal Code law on abortion. Because ob-gyns are well-educated, more affluent, and generally male, they bring special social capital to public debates [76, 77]. They are also regularly called on to contribute to government reproductive health policy development, program design, and training. ESOG was founded in 1992 with an explicit mission to address Ethiopia's elevated maternal mortality. Ob-gyns and ESOG were central to identifying maternal mortality due to unsafe abortion as a problem requiring policy attention; they framed the need for reform as one of public health [78]. Even before ESOG's founding, individual ob-gyns produced much of the core research

on the topic; brought evidence of the scope of maternal mortality, including that due to unsafe abortion, to the Ministry of Health; and urged policy action [5]. ESOG leadership later also made a series of public calls for reforming national abortion policy.

However, ESOG and other reproductive health groups were active at a cost. By working on reforming Ethiopia's law on abortion during the 2001–2009 period, despite the U.S. government Mexico City policy (the Global Gag Rule), ESOG leaders and other national reproductive health groups knew that they were forgoing U.S. government support [78]. Several NGO leaders contributed to reform as individuals acting in their personal capacity, while other NGOs decided outright to forgo funding. The Family Guidance Association of Ethiopia and Marie Stopes International, Ethiopia (MSIE) decided to provide safe, legal abortions and forfeit U.S. assistance. Ethiopia is notable for being one of the very few countries where this occurred [79, 80].

Ethiopia's reform is conspicuous for the absence of formal active intervention to oppose reform from either domestic or international sources until quite late in the process. Most studies, whether they be of abortion policy specifically [81] or of morality policy more generally [9, 82–88], emphasize the role of religiously motivated opposition to abortion law reform. However, there was limited public expression of local anti-abortion opposition (a 2003 doctors' demonstration with support from U.S. anti-abortion groups, then statements from the Ethiopian Orthodox Church). While this opposition did trigger a delay and wording change in the Penal Code language, it did not alter the actual direction and consequences of the reform [62, 89].

International norms, actors, and influences

Ethiopia's heavy reliance on foreign assistance to finance government spending (particularly for the health sector), the in-country presence of donors and the host of international NGOs they support, and Western tertiary education of many in Ethiopia's leadership, all suggest the need to examine international influences on national policymaking. However, the ambivalent nature of international norms related to abortion, along with U.S. government anti-abortion policies aimed at deterring reform, suggest that external support did not weigh heavily in enabling Ethiopia's reform.

If it existed, international consensus among countries, international organizations and NGOs about abortion and abortion law might well influence country-level policy deliberations. However, endless U.S. partisan brawls, growing European Union conflicts [82], and the recurrent and increasing conflict between supporters and opponents of sexual and reproductive rights in United Nations (UN) venues, coupled with traditional UN system reluctance to push legal change on member states [90, 91], show that international consensus on abortion policy (let alone liberalization of abortion laws) has been weak to absent. Although there may be limited agreement that abortion should be legally available for a narrow set of conditions (e.g., rape, incest, threat to the life of the woman), individuals and groups operating at national and international levels actively contest even many of these grounds [91–93].

At the same time, two factors support the idea that there is an emergent international norm of support for liberalized abortion laws. Pivotal international conferences focusing on reproductive health, such as the 1994 International Conference on Population and Development where Ethiopians played a key role, have endorsed a focus on the needs and rights of individual women. Further, UN and other international meetings and statements have increasingly endorsed the idea that abortion services should be available where legal [94]. However, Catholic and international evangelical Christian organizations are increasingly active in countering these norms in global meetings and national settings.

International agencies have had strong incentives to stay on the sidelines of efforts to reform national law on abortion. Although several (the United Nations Population Fund [UNFPA], WHO) have been players in the development of the reproductive health field globally [95], they have a base level reluctance to push member states to undertake legal reforms generally, particularly regarding sensitive topics such as abortion [92, 96]. They have also sought to avoid political and financial repercussions from the United States under Republican administrations. For example, the United States has repeatedly withheld funding due to alleged UNFPA support for abortion services [90, 91, 97, 98].

Bilateral donors have either given limited support to or, in the case of the United States, have actively opposed abortion law reform. Up through Ethiopia's 2005 reform, few bilateral donors directly supported services related to abortion, with limited exceptions from the Netherlands, Sweden and Norway. Their funding tended to be for women's rights more generally or for post-abortion care [99–101]. Because of either their own opposition to reform or their recognition of recipient country autonomy and the sensitivity of the issue, up until recently, donor countries have typically not promoted liberalization of abortion laws, even indirectly. U.S. foundations supporting organizations in Ethiopia are prohibited by U.S. law from funding work to influence legislation [102], although several have given support to national and international organizations working on post-abortion care training and delivery and to public education and

advocacy related to reproductive health services (including abortion).

In fact, U.S. government policy (the Mexico City policy/Global Gag Rule) in place during the Penal Code reform explicitly aimed to discourage abortion law liberalization. U.S. opposition was significant, due both to the amount of U.S. support to Ethiopia and to how it was channeled. U.S. foreign assistance to Ethiopia, particularly for the health and reproductive health sectors, dwarfs that of other donors [103, 104], and almost 80% of U.S. health assistance is channeled through NGOs, both international and Ethiopian [70]. Thus, NGOs had a powerful incentive to avoid participating in reform efforts and jeopardizing their U.S. funding.

However, U.S. government opposition to reform had multiple and countervailing effects. Although formal U.S. policy was intended to discourage legal reform, U.S. historical support for the reproductive health sector had arguably strengthened the presence of potential reform advocates in Ethiopia. Further, supporting abortion law reform became a way to stand up against a powerful country seeking to push others into following its policy advice in a culturally sensitive topic area. The overt U.S. government opposition to reform also made it harder for Ethiopian reform opponents to discredit supporters as foreign inspired and Western.

During this period in Ethiopia, a few international NGOs focused on provision of abortion services or related national-level advocacy, with work primarily on training and service delivery [91]—primarily Marie Stopes International Ethiopia, headquartered in the United Kingdom, and Ipas from the United States. MSIE provided comprehensive reproductive health services including abortion in Ethiopia but did not engage in advocacy in order to avoid jeopardizing its service delivery work. Pathfinder International, a U.S. NGO, was supportive of legally expanding access to safe abortion but, as the main cooperating agency for the United States Agency for International Development in Ethiopia, did not participate due to the Mexico City policy.

Of the NGOs, Ipas was the most engaged and played a special boundary-spanning role. Although an international organization, Ipas hired a local director experienced in aligning organizational with national objectives, and added training, work on contraception, and increased engagement with policy. During reform, Ipas supported policy-related research, backstopped the Advocacy Working Group, and shared relevant resources and experience from other settings. Table 3 summarizes the valence or direction of actors and other forces influencing reform.

The political opportunity structure and mood

Consistent with Kingdon, national reform supporters capitalized on at least two key opportunities (open windows) that heightened the chances of reform [38]. First, the Penal Code reform provided both a vehicle to include a liberalized law on abortion as well as space for civil society activism. Second, the momentum of a larger movement to improve women's status provided added impetus for abortion law reform.

First, the overhaul of the country's Penal Code was key to the liberalization of abortion law. The violence and instability of the previous Derg regime had prevented Penal Code reform for 17 years. After 1991, the adoption of the new constitution made it clear that the entire Penal Code would have to be updated, and thus there was opportunity available for reform of the law on abortion.

> *The country was in a process of aligning the Penal Code with the new constitution. There was a whole number of issues included in the reform, including harmful traditional practices, sexual violence, abortion.... It was an opportunity that was used wisely. —Interview 22 (obstetrician-gynecologist)*

Reformers concluded that it would be far easier to include reform within the overall legal reform process initiated by government rather than to single out abortion law for scrutiny. This less visible approach helped avoid rousing active opposition from traditional leaders, leaders at the regional levels, some members of Parliament (some of whom were EOC priests), and even the elite public [105].

Further, the Penal Code process opened up room for civil society contributions. The Ethiopian government had the expectation that NGOs and individuals would contribute their expertise to updating the country's Penal Code. One informant commented that reform supporters had the "feeling that there is an opening, that if we push we're not going to be punished" (*Interview 38*, international NGO leader).

Second, the momentum behind reforms to improve women's overall status also facilitated reform on abortion law. EWLA, allies, and government were committed to improving women's socioeconomic well-being and legal status and began work as soon as the government came to power in 1991. EWLA pursued a broad agenda of reforms, of which abortion law liberalization was one [55, 106].

> *So, the rape issue, the violence issue, the (harmful) traditional practices.... Abortion could be like for many a minor issue, for many. But if you see the whole issue of violence against women, especially abduction, rape, all of these..., most people could*

Table 3 National and external factors supporting or countering reform

	National	External
Actors		
Supportive government (ideology, precedents) disposed to resist external interference	Supporting	
Active women's rights movement	Supporting	
Mission-driven medical profession	Supporting	
Ethiopian Orthodox Church and evangelical opposition	Countering	
International NGO supporting reform		Supporting
Absence of global consensus on abortion law liberalization		Ambiguous
U.S. government opposition to reform (Mexico City policy)		Countering
Political opportunity structure		
"Open window": opportunity of Penal Code reform (allied historical moment of democratization)	Supporting	
"Open window": successful momentum behind a broad agenda for improving women's status and well-being	Supporting	
Pent-up popular expectation of policy and legal reform after overthrow of the Derg regime ("mood")	Supporting	
Religiously conservative population	Countering	
Strategies		
Abortion law reform as part of a package of reforms to improve women's status	Supporting	
Frame used: maternal mortality prevention/public health promotion—"women's right to life"	Supporting	
Material conditions		
High maternal mortality due to unsafe abortion and related research base	Supporting	

agree. Mostly. Abortion, not as much—but still, if you have the broader issues and include them within, you don't have to bring up every issue and try to get consensus.—Interview 6 (International NGO leader)

EWLA saw an intrinsic logic and also a strategic advantage to addressing abortion law reform within a larger package of reforms redressing historical and cultural wrongs to women.

Respondents also emphasized how what Kingdon describes as the political mood was favorable for policy reform. In 1991, Ethiopia left behind the grim rule of the Derg regime: the massacres of the Red Terror, political instability, famine, and war. A more open and optimistic spirit prevailed, along with expectations of progressive reform. Educated Ethiopians recognized that existing laws were long overdue for reform. Women's advocates felt that reform was not only possible but was also promoted by the government. This spirit of possibility accompanied the country's moment of democratic openness prior to 2005.

Given Ethiopia's cultural conservatism, (re)framing the issue of abortion was seen as key to successful reform [75]. ESOG members were central to publicly framing abortion law reform as a critical public health response to the country's extraordinarily high rates of maternal mortality. AWG members saw it as more effective to discuss reform as a way to reduce high maternal mortality and thus reach more conservative people.

It was never about rights in Ethiopia. It was about preventable deaths and that women are not only dying, but also suffering. That women and families have been going through illicit abortion. …I mean, most hospital beds were occupied by septic abortions and women were dying right and left like flies. —Interview 26 (physician, NGO)

Women's rights activists were equally thoughtful about choosing the most effective communications strategy for Ethiopia's socially conservative context. They also did not frame access to abortion as a matter of rights, but instead talked about women dying ("women's right to life") and public health measures to make it harder to deny the necessity of reform.

Especially in traditional countries like Ethiopia where no aspects of women's rights can be taken for granted, approaching the right to abortion from the public health perspective of preventing deaths and injuries from unsafe abortion, rather than from a rights-based perspective, may appeal to a broader constituency. [75] —(EWLA Executive Director)

Table 3 summarizes the valence or direction of the influence of factors linked with reform. This research has limitations, primarily recall and social desirability bias, as does all retrospective research. A series of interviewing strategies helped manage social desirability bias: knowing the topic area, interviewing a wide variety of informants, asking about the roles of other actors, asking informants

to critique their own assessments, saving questions about impact for a later stage, and knowing the likely direction of informants' biases [107–109]. Further, the social stigma associated with abortion may have decreased likelihood of subjects making exaggerated claims about their contributions to reform, as may interviewees' awareness that a range of actors involved in reform were being interviewed. Recall bias is likely less of an issue because the reform was recent, and most interview participants were deeply involved with it. Cross-checks with other interviewees and newspaper reports also enabled us to assess the bias in interviewees' statements.

Conclusion

This analysis has sought both to identify key actors and processes present during Ethiopia's enactment of a socially contentious policy (abortion law liberalization) and also to assess the applicability of theories of policy adoption from affluent democratic contexts. It identified national actors and processes as those most prominent in Ethiopia's 2005 Penal Code reform. Most notably, reproductive health and women's rights NGOs, the then ruling party and its receptiveness to reform, and the "open windows" offered by the vehicle of the Penal Code reform and the momentum of reforms to improve women's status all facilitated Ethiopia's liberalization of its law on abortion. The final reform, despite compromise in the face of last-minute religious objections, was still broad enough to successfully enable women's access to services and advance rights. International actors and forces operated either in opposition to reform or in indirectly supportive ways.

Ethiopia's civil society identified, framed, and elevated reform as the response to the problem of maternal mortality due to unsafe abortion. Framing the reform as a strategy to address maternal mortality was considered more productive than a strategy of explicit support for women's rights. Taking advantage of a democratic opening during the time of Penal Code reform, Ethiopian reproductive health and women's rights groups suggested policy alternatives (approaches to liberalizing the law on abortion) for government consideration. Civil society leaders and experts productively capitalized on the opportunity of the Penal Code reform, and government actors readily made use of their contributions.

This Ethiopian case also shows both the existence and utility of a more collaborative relationship between civil society and government than would be predicted by theorists. Senior government leadership welcomed including an even more progressive version (decriminalization) of the reform than was initially proposed by civil society in its overall project of updating the entire Penal Code. Leaders saw the move as in keeping with their historical commitments and policies to improve women's socioeconomic status. This collaborative partnership between government and civil society would later prove helpful in developing the regulations to implement the new law.

The government's understanding of women's well-being as a prerequisite to national development, and of the need for access to safe, legal abortion in order to prevent maternal mortality, were central to its support for reform. Those seeking to enact similar policy reforms in SSA could profitably explore using these frames in their settings. Reformers in Colombia and Uruguay have used public health framing. Nonetheless, the apparent effectiveness of public health arguments does not mean rights-based arguments should be ignored, particularly as maternal mortality related to unsafe abortion declines.

The social and cultural sensitivity of abortion, its rootedness in individuals' core values, and the absence of a strong international consensus on abortion policy all argue for starting with national level agenda setting processes and factors. Theories focused on extranational forces behind policy change can also miss how such efforts can backfire, as seen in the reactions of the Ethiopian government and NGOs to U.S. policy attempts (Mexico City policy/Global Gag Rule) to forestall abortion law reform. International (U.S.) pressure may even strengthen the hand of reformers by inoculating them against charges of being "too Western." Supporters of abortion law reform elsewhere may be able to gain legitimacy by pointing to U.S. government and U.S. religious organizations' interventions opposing abortion law reform. A final argument for the primacy of national actors and forces in Ethiopia's reform that merits further investigation looks outside the country: other countries exposed to the same sets of international actors and influences related to abortion have not enacted the notable reform that Ethiopia did.

Abbreviations

AWG: Advocacy Working Group; EOC: Ethiopian Orthodox Church; EPRDF: Ethiopian People's Revolutionary Democratic Front; ESOG: Ethiopian Society of Obstetrician-Gynecologists; EWLA: Ethiopian Women Lawyers' Association; MSIE: Marie Stopes International Ethiopia; SCIA: Supreme Council of Islamic Affairs; SSA: Sub-Saharan Africa; TPLF: Tigray People's Liberation Front; UN: United Nations; UNFPA: United Nations Population Fund; U.S.: United States of America; WHO: World Health Organization.

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Additional file 1. Interview guide.

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Availability of data and materials
To protect study participants' anonymity, and to adhere to the requirements of our Institutional Review Board, the transcripts generated and analyzed during the current study are not publicly available. However, they can be discussed with the corresponding author on reasonable request.

Declarations

Competing interests
The second author led one of the organizations supporting the reform (Ipas Ethiopia), but began collaboration on writing after all data was collected. The first author worked with the Packard Foundation, but left several years before embarking on this research.

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Publisher's Note

Reproductive Health

RESEARCH

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If fear of infertility restricts contraception use, what do we know about this fear? An examination in rural Ethiopia

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Abstract

Background: Ethiopia has made great progress toward reducing unmet need for family planning and increasing contraception use over the last decade. However, almost one-quarter of women still have an unmet need. The primary reason for non-use is "method-related health concerns" and, within this broad category, the belief that using contraception will cause infertility is common. This belief extends beyond Ethiopia to low-, middle-, and high-income countries across the world. The objective of this paper is to examine associations with the belief that contraception use causes infertility and to subsequently suggest potential strategies to address this misperception.

Methods: We collected data from women of reproductive age (between 15 and 49 years old) in 115 rural districts of Ethiopia (n = 706). Our main outcome variable was the belief that contraception causes infertility. We analyzed data, both individual-level factors and interpersonal factors, using nested logistic regression models.

Results: Almost half of women in our sample (48.2%) believed that contraceptive use causes infertility. In the final model that included factors from both levels, self-efficacy to use contraception (AOR = 0.81, $p < 0.05$), visiting a health center and speaking to a provider about family planning in the last 12 months (AOR = 0.78, $p < 0.05$), and husband support of contraception (AOR = 0.77, $p < 0.01$) were associated with a reduction in the odds of believing that contraception causes infertility. The belief that infertility will result in abandonment from one's husband (AOR = 3.06, $p < 0.001$) was associated with an increase in the odds of holding the belief that contraception causes infertility. A home visit in the last 12 months from a health worker who discussed family planning was not associated with the belief that contraceptive use causes infertility.

Conclusions: Given that this belief is both salient and positively associated with other fears such as abandonment from one's husband, it is critical for family planning programs to address it. Communication campaigns or interventions that address this misperception among couples may diminish this belief, thereby increasing contraception use and reducing unmet need in rural Ethiopia.

Plain language summary

Qualitative research in sub-Saharan Africa has shown that women's belief that contraception use causes infertility is a barrier to contraception use. In this paper, we examine different factors related to this belief and suggest strategies to address this misperception. We surveyed 706 married women from 115 rural districts of Ethiopia. We found

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that women who believed that infertility would result in abandonment from one's husband had three times higher odds of believing that contraception causes infertility. We also found that some factors associated with a decreased odds in holding this belief included self-efficacy to use contraception, visiting a health center and speaking to a provider about family planning, and husband support of family contraception. A home visit from a health extension worker who discussed family planning was *not* associated with holding this belief. Our findings suggest some ways to address this misconception. Clearly, women's own self-efficacy, or believing that they can use family planning, is an important piece to any intervention. Given that husbands' support of contraception is associated with reduced odds of holding the belief that contraception causes infertility, including them in intervention efforts is also a logical step. Finally, a home visit from a health extension worker was not associated with reduced odds of holding this belief. Including information that contraception does not cause infertility and discussing the real causes of infertility as part of their education strategy may help debunk this myth and thereby reduce unmet need in rural Ethiopia.

Background

The 2019 Ethiopian Demographic and Health Survey showed that, in the prior 15 years, married women in Ethiopia almost tripled their use of modern contraception [1]. Increased adoption of modern contraceptives can delay the onset of childbearing, space births, and limit completed family size. In turn, a resulting decline in fertility may lead to economic improvements, better health outcomes for women and children, and improved gender equality [2]. Therefore, reducing unmet need for modern contraceptives remains a top priority for organizations working in global health and international development [3, 4]. Some of the factors attributed to Ethiopia's rapid increase in family planning use include growing political will, substantial external funding, nongovernmental and public–private partnerships, and the implementation of a large health extension worker program [5, 6].

Despite this progress, 22% of married women in Ethiopia still have an unmet need for family planning [7]. Although knowledge of contraceptive methods is almost universal and access barriers are declining, demand-side barriers persist [8]. The most recent full demographic health survey shows that 18% of Ethiopian women reported that they stopped using contraception due to "method-related health concerns." However, the measure does not ask about *which* specific concerns women have [7].

Common contraception-related health concerns include the belief that contraception may cause cancer, change menstrual bleeding, promote weight gain, and result in infertility [9–11]. The belief that using contraception causes infertility has been reported both qualitatively and quantitatively as one of the primary reasons for not using long-acting contraception in Northern Ethiopia [12]. Gebremariam and Addissie [12] found that more than one-quarter (26.2%) of participants perceived that contraceptive methods could "harm the womb."

This belief is not unique to Ethiopia. A 2020 scoping review of fear of infertility in Africa found 15 qualitative studies that cited the belief that contraception causes infertility [13]. Specific studies cited the belief that contraception can cause structural damage to a woman's reproductive organs. This belief also reaches beyond Africa. Studies in the United States [14, 15], Guatemala [16], Turkey [9], Bangladesh [17, 18], and Vietnam [19] reported that this fear is a barrier to contraception use. A systematic review of barriers to contraception use among young people in low to middle income countries reported that the belief that contraception use would cause infertility was the most cited reason for non-use [20]. And in our recent research in rural Kenya, we found that holding this belief was associated with reduced odds of using contraception. Furthermore, if a man or woman's social network holds this belief, there is an even greater reduction in the odds of using contraception [21]. Although the belief around contraception and infertility is salient and pervasive, it is surprising that, to our knowledge, no peer-reviewed studies have examined factors associated with this fear itself. Our study provides initial ideas. The objective of this paper is to identify multilevel factors associated with the belief that contraception use causes infertility and to inform approaches to address this barrier.

Conceptual model

To address the multilevel factors that may affect this belief among women who are not using contraception, we use factors at two levels of the socio-ecological model to frame our work [22]. Individual-level beliefs about infertility that influence contraceptive use may diffuse within communities through interpersonal communication [23]. Prior research shows that contraceptive use is associated with factors at multiple levels, including those at the individual level (e.g., education and attitudes); interpersonal level (e.g., husband's support for family planning); structural level (e.g., interaction with

the frontline health worker system); and socio-normative level (e.g., collective norms, which is the prevalence of an attitude, belief, or behavior within a group) [24–28]. We chose to use nested models to examine which variables are associated with this belief at two different levels of the socio-ecological continuum. Examining these different levels separately and then altogether allows us to document how the associations change as we introduce higher level variables into the model (see Fig. 1).

Methods

Study setting

Ethiopia is in the horn of Africa, composed of nine regions with about 95 million people. This study was conducted in 115 woredas (districts) in the four most populous regions of Ethiopia: Amhara; Oromia; Southern Nations, Nationalities, and People's (SNNP); and Tigray, where John Snow Inc Research & Training Institute (JSI) was implementing the Last Ten Kilometers Project funded by the Bill & Melinda Gates Foundation. The intervention area covered about 19% of the population in Ethiopia [29]. The Last Ten Kilometers (L10K) aimed to contribute towards the achievement of the post Millennium Development Goals related to maternal and child health in Ethiopia through enhanced interactions among households, communities, and the Health Extension Program [29].

The primary health care system of rural Ethiopia comprises a district hospital and three to four health centers, each with five satellite health posts. The health posts have two female health extension workers (HEWs), who are a part of Ethiopia's flagship Health Extension Program, each serving a community (kebele) of about 5000 people with basic community-based health services including family planning.

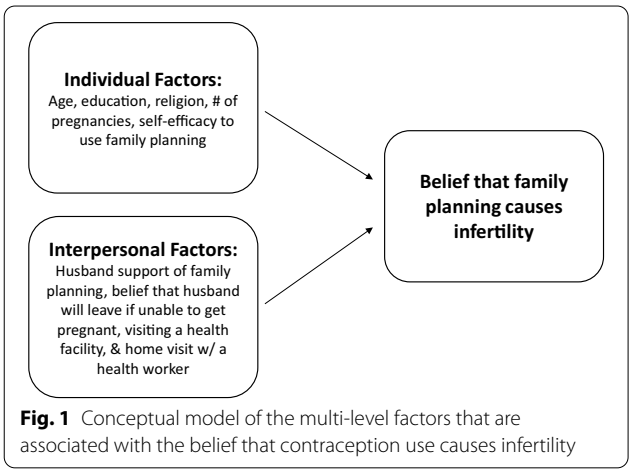

Fig. 1 Conceptual model of the multi-level factors that are associated with the belief that contraception use causes infertility

Study design and participants

We conducted a cross-sectional survey of women of reproductive age (15–49 years) in early 2016 representing the L10K intervention area. Study participants were married women not using any family planning method during the survey. We obtained ethical clearance from Amhara, Oromia, SNNP, and Tigray Regional Health Bureaus and from JSI.

Sampling

The sample size for women of reproductive age was based on L10K program evaluation needs. We implemented a two-stage cluster sampling design to obtain the required sample. At the first stage, we randomly selected 301 kebeles/communities with the probability proportional to their population sizes. At the second stage, we selected households. To do so, we subdivided a kebele into three equal segments; from each segment, the quota was to interview four women of reproductive age. We randomly selected the first household from each segment. Every fifth household was visited and all women of reproductive age in the visited household were interviewed until the quota for each segment was fulfilled.

The study team translated a structured questionnaire into the three major local languages (Amharic, Oromifa, and Tigrigna). Survey data were collected by the field teams using smart phones. Verbal consents from respondents were sought and documented by interviewers prior to interviewing. If a respondent was younger than 18 years old, consent was sought from her husband or guardian. Because many respondents were not able to read or write, written consents were not obtained. If the respondent agreed to be interviewed upon listening to the consent statement, the interviewer electronically marked the questionnaire as consent given and only then continued with the interview.

Inclusion criteria

For this paper, we analyzed data from women (n = 706) who answered a question about the belief that contraception may affect their future fertility. This question was only asked of women who were not using family planning, which represents approximately 19% of the total sample. See the L10K final report for a more detailed account of data collection methods [30].

Measurement

Our individual level variables included age, education, number of prior pregnancies, religion, and self-efficacy to use family planning. Self-efficacy was measured as the response to one question that asked for level of agreement on a four-point Likert scale: "I am confident I can

use family planning methods and avoid pregnancy until I want to get pregnant."

We also included interpersonal variables such as husband support of family planning (measured on dichotomous scale "yes" or "no"), and belief that the respondent's husband will leave her if she were infertile (measured on a four-point Likert scale from "strongly agree" to "strongly disagree"). Responses to these questions were recoded so that higher values indicated stronger perceptions of husband support and stronger belief that infertility would cause husbands to leave. The question about whether a woman's husband would leave if she was infertile was only asked of women who were not using family planning. Additionally, we included any interaction with a health worker in the last 12 months as an interpersonal-level variable. We measured interaction with a health worker with the following question: "In the last 12 months, were you visited by a community health worker who talked to you about family planning?" coded with a dichotomous "yes" or "no" response. Finally, we included a variable about visiting a health facility in the last 12 months when the provider spoke about family planning: "If yes (you visited a health facility for yourself in the last 12 months), did any staff speak to you about family planning methods?" was coded with a dichotomous "yes" or "no" response.

We assessed our outcome variable, the belief that using family planning will affect fertility, with one question measured on a four-point scale from "strongly agree" to "strongly disagree": "If I begin using a family planning method, I'm afraid I won't be able to get pregnant after that—even when I want to." Responses were dichotomized such that those who indicated that they "agree" or "strongly agree" with this belief were given a score of 1, and those that indicated they "disagree" or "strongly disagree" were given a score of 0. This question was only asked among women who were not using family planning. Given that this is our main outcome variable and some of our independent variables were also only asked among non-users, we only included women who were not using family planning in our sample.

Statistical analysis

We conducted our analyses in four steps. First, we calculated descriptive statistics. We then performed bivariate Pearson's Zero-Order correlations and multivariable logistic regressions analyses to identify factors associated with the belief that contraception use causes infertility. We show nested models to demonstrate how each level is differentially associated with this belief. The first model contained individual-level factors, after which we added interpersonal factors. All variables were standardized before being entered into the nested models. We used STATA version 14 to conduct all analyses.

Results

Description of the sample included in our study is shown in Table 1. Participants' average age was 30 years, (59.6%) could not read/had no schooling, 29% completed primary school, and (14.3%) continued after primary school. Less than (1%)of the sample had no prior pregnancies, (24.9%) had one or two pregnancies, 34.6% had three or four, and (39.8%) had five or more. Only (5%) of the sample was not married (n = 207), so we did not include unmarried women in the model. Almost the entire sample, (92.3%), reported that they felt confident they could use family planning methods and avoid pregnancy until they wanted to get pregnant. Almost one-quarter of the women, (24.6%), had been visited by a health worker in the last 12 months who talked to them about family planning. Almost one-third, 31.3%, had visited a health center in the last 12 months where the provider spoke to them about family planning. Almost (40%) reported that if they were unable to get pregnant, they would be afraid that their husband would leave them. Most women, (84.1%), reported that their husbands supported family planning. Almost half (48.2%) of women reported that they believe that using family planning will affect fertility.

Table 2 shows the zero-order correlations that indicate that fear of infertility was significantly associated with self-efficacy to use family planning ($r = -0.14$, $p < 0.001$), husband support of family planning ($r = -0.17$, $p < 0.001$), and fear that husband will leave if one is infertile ($r = 0.47$, $p < 0.001$).

Logistic regressions (Table 3) showed that in the *individual*-level model, only self-efficacy to use family planning (AOR = 0.74, $p < 0.001$, 95% CI [0.63–0.87]) was associated with a reduced odds in believing that contraception affects fertility. The more confidence women reported in using contraception, the less likely they were to hold the belief that it causes infertility.

We then added four *interpersonal*-level variables: receiving a visit from a health worker who spoke about family planning in the last 12 months, visiting a health center where the provider spoke about family planning, husband support of family planning, and fear that husband will leave for reasons of infertility. This model showed that self-efficacy was still associated with reduced odds of holding the belief that contraception causes infertility (adjusted odds ratio (AOR) = 0.81, $p < 0.05$, 95% confidence interval (CI) [0.68–0.98]).

Table 1 Description of the sample (married women ages 15–49 years) in Ethiopia (n = 706)

	M (SD)
Age	29.7 (6.44)
	n (%)
School	
None	421 (59.6)
Completed primary	184 (29.0)
Higher than primary	101 (14.3)
Religion	
Orthodox	488 (69.1)
Muslim	136 (19.2)
Protestant	81 (11.4)
Number of pregnancies	
Zero	5 (0.71)
One or two	176 (24.9)
Three or four	244 (34.6)
Five or more	281 (39.8)
Has self-efficacy to use family planning methods	667 (92.3)
Visited by health worker in the last 12 months who spoke to them about family planning	174 (24.6)
Visited a health facility in the last 12 months and spoke about family planning	221 (31.3)
Husband supports contraceptive use	589 (84.1)
If infertile, afraid husband will leave them	282 (39.9)
Believes contraceptive use causes infertility	340 (48.2)

Table 2 Zero-order Pearson correlations

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1 Belief CU causes infertility	1.00									
2 Age	− 0.03	1.00								
3 Education	− 0.01	− 0.30***	1.00							
4 Religion	0.05	0.01	− 0.04	1.00						
5. Number of pregnancies	0.00	0.75***	− 0.35***	0.12**	1.00					
6 Self efficacy	− 0.14***	− 0.07	0.16***	0.02	− 0.13***	1.00				
7 Health worker home visit	− 0.04	− 0.05	0.02*	− 0.05	− 0.02	0.07	1.00			
8 Health facility visit	− 0.04	− 0.09*	0.10**	− 0.02	− 0.07	0.05	0.37***	1.00		
9 Husband supports CU	− 0.17***	− 0.07	0.05	− 0.05	− 0.03	0.16***	0.11**	0.12**	1.00	
10 Husband leave if infertile	0.47***	− 0.03	− 0.04	− 0.03	− 0.00	− 0.13***	− 0.00	0.13***	− 0.12*	1.00

CU contraceptive use

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Also, husband support of family planning (AOR = 0.77, $p < 0.01$, 95% CI [0.65–0.93]) and visiting a health worker who spoke about family planning (AOR = 0.78, $p < 0.05$, 95% CI [0.65–0.95]) were also associated with reduced odds of holding this belief. On the other hand, the fear that your husband will leave if you are infertile was associated with an increased odds in this belief (AOR = 3.06, $p < 0.001$, 95% CI [2.52–3.72]).

Discussion

In this study, we found that self-efficacy to use family planning, husband support of family planning, visiting a health center in the last 12 months, and belief that a husband will leave if unable to get pregnant are significantly associated with the odds of holding the belief that modern contraception impacts fertility. We also found that a visit from a health worker in the last 12 months who discussed family planning was *not* significantly associated

Table 3 Multivariable associations with the belief that contraceptive use will cause infertility in married Ethiopian women who are not using contraception, from logistic regression equations

Ethiopian Women ages 15–49 years	***(N* = 700)**			
	Individual	**95% CI**	**Interpersonal**	**95% CI**
Age	0.98	[0.94–1.01]	0.97	[0.93–1.01]
Education	1.00	[0.85–1.18]	1.08	[0.89–1.30]
Religion	1.11	[0.96–1.30]	1.19	[1.00–1.43]
Number of pregnancies	1.03	[0.93–1.14]	1.04	[0.92–1.18]
Self-efficacy contraceptive use	0.74***	[0.63–0.87]	0.81*	[0.68–0.98]
Health worker home visit in last 12 months and spoke about CU	1.01			[0.84–1.22]
Health facility visit in the last 12 months and spoke about CU			0.78*	[0.65–0.95]
Husband supports contraceptive use			0.77**	[0.65–0.93]
Husband will leave if infertile			3.06***	[2.52–3.72]
(Pseudo r-squared)	(0.02**)		(0.20***)	

Odds ratios are from logistic regression equations, when all main-effects have been entered. *CU* contraceptive use. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

with the belief. To our knowledge, this is the first study to quantitatively examine factors associated with this belief.

Although the belief that contraception use causes infertility has been documented in many parts of the world, to our knowledge, past communication programs in sub-Saharan Africa have rarely directly addressed it [31–33], despite calls to do so [11, 13, 34, 35]. Hence, we know relatively little about what types of interventions are able to allay the fear that contraception use can make one infertile.

Even though fear of infertility is an individual-level phenomenon, it is interesting that individual-level variables in our model yielded a small pseudo r-squared. Only when interpersonal factors were added to the model did the pseudo r-squared increase. Although interpretation of the pseudo r-squared must be made with caution, this finding may indicate that this individual-level fear is grounded in higher-level factors. In our recent work in rural Kenya, we similarly found that higher level factors had a greater effect than individual factors. Specifically, we found that one's social network beliefs that contraception use causes infertility affected individual contraception use even more than one's own beliefs. Within this study, at the interpersonal level, fear about husbands' reactions was significantly associated with fear of infertility. This association paints a rather grim picture: women who were afraid of becoming infertile had two reasons to be fearful—that their husbands would leave them and that taking modern contraceptives would further exacerbate the situation. Looking at it from another perspective, our findings seem to suggest that, for many women, use of modern contraceptives was associated with two negative outcomes—that one would become infertile and that, as a result, one's husband would leave. Other studies in sub-Saharan Africa have also reported that women fear that their husband will leave them if they are infertile [11, 36]. Tilson and Larsen [37] examined national Ethiopian data and found that having a child within the first marriage was significantly associated with a reduced risk of divorce [37]. Clearly, this fear is not limited to our study and not unfounded.

We also found that a home visit from a health worker who discussed family planning was *not* associated with the belief that modern contraception results in infertility. This finding suggests that debunking this misperception was perhaps not a part of the HEW curriculum. Including this in their annual training, continued education, and training curriculum may change misperceptions. Furthermore, as health workers often come from the communities they serve, some health workers may believe it themselves. Educating them about the seriousness and prevalence of this misinformation may be a logical step for future interventions. However, it is important to note that this variable was measured as a dichotomous indicator, in which any interaction with a health worker in the past 12 months was recorded. It may be the case that the frequency of interactions with a health worker (and not just *whether* one had an interaction) can influence the belief that family planning can cause infertility. Unfortunately, we did not measure frequency of interaction.

However, we did find that visiting a health center where the provider spoke about family planning was associated with a reduced odds of holding the belief that modern contraception results in infertility. This finding implies differences in the type of information that women may be receiving from a health center visit as opposed to an HEW home visit. Indeed, HEWs' curriculum, education, training, and so on varies from that of a health facility provider. HEWs may require more training and

adjustments to their curriculum to be able to address this misperception.

The belief that infertility will result in abandonment from one's husband was associated with an increased odds of holding the belief that modern contraception results in infertility. Demand-side family planning efforts thus need creative ways to include men in the conversation. Studies show that gender inequities and gender roles significantly affect contraception use [38]. Additionally, informing couples that infertility can be a result of both male and female factors may alleviate the burden on women [39]. Future interventions may also consider working with newly married couples to enable open discussion about family planning within the home and to improve individual self-efficacy to use family planning methods. Furthermore, a communication campaign for couples could acknowledge that using contraceptives and becoming a mother are not mutually exclusive, perhaps by role modeling mothers (or couples) who have previously used family planning methods.

Of course, we have a real concern that addressing this belief could exacerbate it even more. This fear may be one reason that interventions have largely ignored it despite a plethora of research reporting this barrier. To ensure that interventions are tailored to the community and effective, qualitative research, including human-centered design and monitoring with real-time intervention tweaks, may be an effective approach. A 2015 review provides several useful recommendations. For example, it may not be enough to simply discredit a myth without also replacing the myth with an alternative explanation [40, 41]. Thus, rather than merely stating that modern contraceptives do not cause infertility, interventions may wish to include information about the real causes of infertility. Bedsider.org, a United States–based organization, does just that in its communications [42].

In addition to intervening to address this misperception, we need to better understand the belief itself. Future research should examine the best way to measure the belief that modern contraception results in infertility. In our sample, almost half the women held this belief. However, we do not know if these beliefs refer to permanent infertility or delayed infertility. If the beliefs are around delayed infertility, how long after stopping contraception do women believe fertility will return? Prior studies have measured infertility in the following ways:

- "Contraceptives can harm a woman's womb." [12]
- "Combined oral contraception pills cause infertility." [9]
- "Using medical methods of family planning can cause women to become infertile." [43]
- "If I begin using a family planning method, I'm afraid I won't be able to get pregnant after that—even when I want to." [30]

Given the disparate measures, it is critical to improve how we measure this belief and then to use a consistent measure to compare across contexts and populations. To our knowledge, we know of no fertility measure that includes a time stamp. Another important aspect to understand is how this belief differs by method of contraception. Prior qualitative studies have shown that some methods are more linked to this belief than others [11, 13, 34]. Furthermore, prior studies only include women. It is important to understand how pervasive this belief is among men and between generations (e.g., mothers and mothers-in-law).

We must also acknowledge that real infertility exists. Infertility estimates in Sub-Saharan Africa range from 2 to 31% depending on location, population, and measurement method [44, 45]. This may explain the prevalence of the belief that contraceptive use can lead to infertility. When a couple has difficulty conceiving or is married for several years before conceiving, the entire community may notice. On the other hand, infertility may be confused with simply taking the normal time to conceive or even a couple's desire to wait to conceive. Regardless, infertility needs to be addressed. In rural areas in sub-Saharan Africa, infertility can have devastating consequences for a woman. Research in sub-Saharan Africa [36, 46, 47] suggests that infertility remains a source of economic and social devastation for those who experience it, with such women being at risk of their husband leaving them or taking a second wife and prevented from attaining the status of full womanhood. Therefore, expecting women to use contraception—when they believe that it could result in infertility and potentially a host of negative ramifications—without addressing their misperception brings up ethical questions for interventionists working to simply increase contraception use. A more person-centered approach to family planning that considers each women's lived experiences is necessary to truly reduce unmet need.

Limitations

One limitation of this study is that the question about the belief that contraception use causes infertility was only asked of women who were not using contraception. It is likely that this belief also exists among women who are using contraception, who perhaps believe the benefits of preventing unintended pregnancy outweigh the potential costs of affecting fertility in the future. Additionally, because our sample only includes married women, almost all of them have at least one child. Women

without any children likely hold this fear as well because they have not yet conceived and, thus, have not been able to demonstrate that they are fertile. Past research in rural Ethiopia has shown extreme pressure on newly married couples to conceive soon after marriage, sometimes in part to prove their fertility [48].

One of the reasons that individual factors may have accounted for so little variance is that we did not have measures of personal infertility/subfecundity or family infertility. Future studies of this belief should include personal experience with infertility and family experience with infertility. However, within our dataset, one of the responses to "reason for not using contraception" was subfecund/infecund, and only 10 of 706 women, or less than 2% of the sample, reported that they were subfecund/infecund.

Another limitation is that our measure of the belief that contraception affects fertility does not include any mention of the time it may take to get pregnant. There may be differences in women believing that contraception delays conception versus making it impossible altogether. Future research should examine these nuances because they are two separate beliefs: contraception delays fertility versus causes one to be infertile altogether.

Additionally, our measure does not include beliefs about different contraceptive methods. Beliefs may differ between methods (e.g., intrauterine devices versus injectables). Beyond not using contraception altogether or discontinuation, the fear that contraception causes infertility may affect switching methods to a method that is deemed to have less of an effect on future fertility. Future research should examine how beliefs differ among methods and time frames. Additionally, the study sampling involved clustering, but because we did not include any variables at the village or cluster level, we did not account for clustering in our analysis. The intraclass correlation (ICC) in our final sample for the outcome investigated here (fear of infertility) was 0.096, corresponding to a design effect of 1.60. Although there is debate in the literature about the magnitude of ICC effects, an ICC below 0.10 is generally considered to have small-to-medium effects [49]. Further, our design effect is below 2, indicating that the analysis includes enough women from each woreda to minimize biases due to clustering effects [50]. Finally, the cross-sectional nature of the study limits our conclusions to associations and not causal linkages. Future studies may want to design an intervention that addresses women's concerns around contraceptive use including this belief and then evaluate which factors affect this belief over time and which strategies are most effective to address this misperception.

Conclusions

In closing, policy and behavior-change program designers must understand and mitigate the impact that the fear of infertility has on a woman's desire to use contraception. By successfully reducing the prevalence of the belief that contraceptives cause infertility, interventions could reach the last 22% of women in Ethiopia who still have an unmet need for contraception.

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Authors' contributions
DE was involved in data collection and project direction for the L10K project; ES and HY conducted the analysis; RR provided input on how to conduct the analysis; ES led the manuscript writing; and RR, HY, and DE were major contributors in writing the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials
The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author. You can also find all tools and reports from the study here: http://l10k.jsi.com/index.htm.

Declarations

Ethics approval and consent to participate
Ethical clearance was obtained from Amhara, Oromia, SNNP, and Tigray Regional Health Bureaus and from John Snow Inc (JSI). Verbal consent from all respondents was obtained and documented by interviewers prior to interviewing. If a respondent was younger than 18 years old, consent was obtained from her husband, parent, or legal guardian. Because the majority of respondents were not able to read or write, written consents were not obtained. If the respondent agreed to be interviewed upon listening to the consent statement, the interviewer electronically marked the questionnaire as consent given and only then continued with the interview.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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Publisher's Note

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RESEARCH

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Building sustainable and scalable peer-based programming: promising approaches from TESFA in Ethiopia

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Abstract

Background: Girls in Ethiopia's Amhara region experience high rates of child marriage and are less able to negotiate sex or use family planning. Seeking to improve their lives, CARE's TESFA programme delivered reproductive health and financial savings curricula to married girls via reflective dialogues in peer-based solidarity groups. From 2010 to 2013, 5,000 adolescent girls participated via three intervention arms: sexual and reproductive health, economic empowerment, and a combination of both. At end-line, participants reported improvements across health and empowerment outcomes. Four years post-TESFA, 88% of groups reported meeting without continued assistance from CARE. Some original participants had created new groups based on the TESFA model, and some girls not recruited for TESFA spontaneously replicated it to create their own groups. However, questions remained about what had contributed to this organic sustainment and scale-up of groups.

Methods: This 2018 study investigated factors affecting sustainability and scale-up of peer solidarity groups through a systematic mapping of TESFA groups across five *woredas* (districts) and interviews with key stakeholders. Data were collected from 39 focus groups with active and dissolved Girl Groups, Social Analysis and Action groups, and girls' husbands and from 29 in-depth interviews with group facilitators and community health workers across three districts. Data were coded and analyzed per grounded theory principles.

Results: Changes in reproductive health knowledge and specific behaviours, such as contraceptive use and institutional delivery, were maintained 5 years after the intervention ended. Group connectedness, spousal support, integration of holistic community platforms, and opportunities for financial independence were found to be important for group sustainability. Observed changes in TESFA girls' confidence to negotiate and assert their rights, hopes of improved mobility, and the promise of economic opportunity commonly inspired spontaneous replication of groups. Recommendations for future peer-based programmes include creating environments of solidarity and holistically engaging intervention communities.

Conclusion: By increasing knowledge of and access to reproductive health services, TESFA mitigates some of the harmful effects of child marriage. The maintenance and organic replication of groups suggest that TESFA provides a successful, scalable and sustainable tested model for reproductive health program delivery through peer-based solidarity groups.

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Keywords: Adolescent sexual and reproductive health, Peer education, Social norms, Child marriage, Sustainability, Scale

Plain Language Summary

In Ethiopia, married girls are a particularly vulnerable adolescent population because of the many health risks associated with early marriage. Peer-based approaches are a common strategy to improve sexual and reproductive health knowledge and behaviours for marginalized groups. Critiques of these approaches are that they lack sustainability without ongoing investment and have no lasting impact on health behaviours. CARE's TESFA programme, a peer-based approach with married adolescent girls in South Gondar, was found to be effective in creating long-term behavior change related to uptake of family planning and rates of institutional delivery. Some 88% of groups who received the TESFA curriculum were still meeting 4 years after the programme had concluded. Some participants even created groups of their own, scaling TESFA beyond the original audience, suggesting a potential approach to wider scale-up. To explore lessons learned around scale and sustainability, this study interviewed TESFA participants and stakeholders.

Improvements in behaviours related to contraceptive use, institutional delivery, and girls' agency in reproductive decision-making were sustained over time regardless of group status. Factors that affected the sustainability and scale-up of groups included solidarity among group members, support from husbands and community members, ongoing savings and loan structures, flexibility of group processes, and availability of relevant curriculum topics. Through an analysis of these findings, this paper discusses recommendations for sustainable and scalable peer-based programme design via existing Ethiopian community structures. Using TESFA principles as a model, practitioners could design and implement scalable and sustainable peer-based programming for adolescents sexual and reproductive health.

Background

Despite gains made towards reducing child and early marriage in Ethiopia, recent data shows that over 40 percent of women aged 20–24 years are married before the legal age of 18 [1]. In the Amhara region of Ethiopia, the median age of a girl at marriage is 15.7 years [1]. Early marriage can increase physical, physiological, and emotional risks of adolescents, especially for girls [2–4]. Once married, adolescent girls often experience solitary and routine lives with their husbands and mothers-in-law maintaining much of the decision-making power. Especially in rural areas, child brides typically drop out of school, are isolated to domestic tasks, and have increased risk of intimate partner violence [5]. Married adolescent girls often experience health complications due to early pregnancy and childbearing, limited reproductive health knowledge and access to health services, and a low ability to negotiate sex or use of family planning [6, 7]. Together these conditions and community norms create an environment of intense vulnerability for married adolescent girls.

To meet the unique needs of married adolescent girls in Ethiopia, CARE created TESFA (Towards Economic and Sexual/Reproductive Health Outcomes for Adolescent Girls). TESFA, meaning 'hope' in Amharic, was one of a few global efforts focused solely on married girls and how best to support their transition to adulthood. It sought to mitigate the harmful effects of child marriage by creating opportunities for girls to acquire reproductive health knowledge and engage in economic activity through peer-based solidarity groups. *Equb*, informal savings and credit schemes for indigenous communities, have long existed in Ethiopia but traditionally exclude married adolescent girls [8]. Building on CARE's Village Savings and Loan Association (VSLA) model, TESFA organized girls into "Girls Groups" (GG) who received customized sexual and reproductive health (SRH) curriculum, economic empowerment (EE) curriculum, and life skills and communication training. Relative to *equb*, TESFA's VSLA is more structured with consensus-based rules and implementation regulations for loan and social fund components. It uniquely catered to girls' needs by promoting solidarity and enabling groups to become self-supporting. Girls Groups were led by trained and supported peer facilitators, not educators but learners themselves, who used participatory tools to encourage dialogue, reflection, critical thinking, and active learning among group members. TESFA groups afforded girls a safe place to meet and build a supportive network with other married adolescents. Recognizing that girls' lives cannot be affected without changing societal norms, TESFA also engaged village elders, religious leaders, community health workers, mothers-in-law, and girls' husbands into "Social Analysis and Action (SAA) groups". Through reflective dialogues in support

of adolescent girls' access to information and services, SAA groups sought to address the social barriers faced by married girls and create enabling environments for positive health and economic outcomes through a gender-transformative approach and process [9].

Launched in 2010, TESFA was initially implemented in two *woredas* (districts) in the South Gondar zone of the Amhara region [10]. (Additional file 2: Figure S1 depicts the timeline of CARE's TESFA program). From 2010 to 2013, 5,000 married girls aged 10–19 years participated in TESFA, divided into three intervention arms: one focused on SRH, one on EE, and one combined SRH and EE curriculum. Although peer-facilitated programmes have been deemed effective in empowering otherwise hard-to-reach populations to increase their knowledge, there is limited evidence of their impact on behavior change. Four systematic reviews of peer education programmes across different countries concluded that the interventions had an equivocal impact on adolescent SRH behaviours [11–14]. TESFA's end-line evaluation in 2013 found economic, health and social improvements in participants' lives [15]. Participants reported gains in communication between girls and their husbands, decreased levels of gender-based violence, improved mental health among participating girls, increased investment in productive economic assets, and increased social capital. The evaluation found increases in participants' knowledge and uptake of family planning, knowledge of antenatal care, knowledge of sexually transmitted diseases, understanding of fertility, household decision-making, and general mobility [15]. Michielsen et al. posit that integrating peer education into holistic interventions and employing peer educators to sensitize and refer participants to experts/services could result in increased effectiveness [16]. TESFA's design accounted for both these components—married adolescent girls participated in peer-facilitated dialogues with visits from and referrals to health workers, while their husbands, mothers-in-law, and community members simultaneously participated in discussion groups intended to influence norms at the community level. Per the evaluation findings, TESFA was effective in mitigating some of the harmful effects of child marriage by increasing knowledge and use of reproductive health services.

Still, TESFA's sustainability and scaling potential were unknown. To explore this, the Addis Continental Institute of Public Health (ACIPH) conducted an ex-post evaluation in Farta district in 2017, 4 years after TESFA's implementation period had ended [17]. Some 88% of surveyed groups were found to still be active and using the SRH and EE curricula. There was also auto-replication i.e. individuals who had not originally participated had joined TESFA groups and new groups inspired by and based on the original TESFA model had been developed [17]. For the latter, findings revealed two types of new groups—those started by original participants, and those started by girls not originally recruited for TESFA who had spontaneously replicated the model to create their own groups [17]. These findings were unexpected. Peer-based approaches like TESFA are a universal strategy for improving knowledge and behaviours in marginalized populations, and a common critique is that they lack sustainability without ongoing investment [11, 18]. Not only had Girls Groups self-sustained 4 years post program close-out but they had spread through replication, disseminating the programme approaches and outcomes beyond TESFA's original intervention areas. To understand what contributed to this organic sustainment and scale-up of TESFA, CARE and ACIPH conducted an investigative research study in 2018. This paper shares those results and outlines recommendations for sustainable and scalable adolescent sexual and reproductive health peer-based programme design.

Methods

Study design

This investigative research study was designed to assess the facilitators and barriers of sustainability of peer-facilitated groups, and the implications these have for scale-up. This study included a systematic mapping of the status of TESFA groups across five *kebeles* (villages), and a qualitative investigation with programme participants of the conditions required for success, sustainability and scale-up of Girls Groups. Based on earlier evaluation findings suggesting participants who underwent the combined SRH and EE curriculum experienced the greatest overall benefits, this study only included villages that implemented the combined programming arm.

Setting, sampling and recruitment

This study was conducted in May 2018 in five villages in the Lay Gayint district within the South Gondar zone in the Amhara region. The villages (Mekuwabia, Zuramba, Addis Amba, Yedero and Guna) were selected because they were part of the combined programming arm, within the TESFA implementation area, and at a close-enough distance to facilitate travel back and forth. Mapping of groups was carried out in all five villages, pre-testing of data tools was done in Yedero, and data collection was conducted in Mekuwabia, Zuramba and Addis Amba.

To determine the status of each original TESFA and new group, CARE staff met with community gatekeepers and group facilitators in each village. Groups were categorized as dissolved (an original TESFA group that had not met for six months prior to the study), active

(an original TESFA group still meeting on a regular basis), or auto-replicated (a group of married girls that used a TESFA-like savings model or identified TESFA as inspiration for their group's creation). Mapping results were used to ensure representation across all participant groups and informed the choice of the three villages. CARE staff then traveled to the relevant villages to inform the community about the call for participants and employed purposive sampling techniques to recruit girls, girls' husbands, girls' mothers-in-law, religious leaders, and health workers for participation.

Data collection

Data were collected by research assistants (RAs) through semi-structured focus group discussions and in-depth interviews, field notes and daily summaries. CARE and ACIPH staff developed focus group discussion and in-depth interview tools in English, and then translated them to Amharic. During the RA training and field pretesting, all the tools were refined for colloquial and everyday Amharic language (See Additional file 1 for some of the data collection tools).

This study gathered data from 320 participants through 39 focus group discussions and 29 in-depth interviews. For participant characteristics, see Table 1.

Each focus group had a facilitator and a note taker. Each interview had a sole facilitator. Girls Groups and husband groups were led by a female and male facilitator, respectively. Interviews and focus groups were held in enclosed/private spaces within villages. All sessions were audio recorded. RAs translated the content into English during verbatim transcription. At the end of each field day, the full research team convened to debrief and ensure consistency of data collection methodology.

Data analysis

Using grounded theory principles, transcripts were repeatedly and carefully reviewed to inductively develop a coding structure. The first round of review explored participants' general perceptions of the TESFA model and potential areas for improvement. Based on that reading and the study's objectives, an initial set of codes was developed and then honed through further data review. The next round of transcript review focused on descriptions of individual characteristics or conditions related to maintaining, dissolving, or replicating a group. Subsequent line-by-line coding focused on identifying facilitators and barriers for each of those group types, and potential pathways to scale. All coding was done in OpenCode 4.2, a software tool designed for coding qualitative data. Following an iterative coding and memo process, two of the authors jointly developed a codebook which was then validated by a third author. Once the full data set was coded, data were further sorted by broader themes that had emerged.

Ethical considerations

ACIPH's Institutional Review Board approved this investigative research study (ACIPH/IRB/006/2018). Care was taken during study design to ensure participant confidentiality, safety, and comfort. Support letters were sought from relevant government offices. Study participation was entirely voluntary, and participants were free to opt out of specific questions or withdraw from the study at any time. All participants engaged in informed verbal

Table 1 Number and characteristics of focus group discussion (FGD) and in-depth interview (IDI) participants

Target Group	Group Status	Number of FGDs	Number of IDIs	Gender Distribution	
				Female	Male
TESFA Girls Group	Dissolved	3		12	
	Active	9		36	
Non-TESFA Girls Group	Auto-replicated	3		27	
TESFA SAA Group	Dissolved	3		16	14
	Active	6		39	26
Non-TESFA SAA Group	Auto-replicated	3		24	7
Girls Group facilitators			12	12	
SAA facilitators			11	5	6
Husbands of TESFA Girls Group members		6			38
Health workers			6	5	1
Development agents		6		14	33
Total		39	29	195	125

consent. No personal identifiers such as names and titles were recorded.

Results

Study results are organized into the following broad sections: health and social impacts, and factors impacting sustainability and scale.

Health and social impacts

Participants reported continued improvements in SRH knowledge, uptake of family planning, and healthy pregnancy practices. Across all villages, health workers reported sustained increases in three behavioural areas since TESFA's inception: contraceptive use, girls' agency in reproductive decision-making, and rates of institutional delivery.

> *"Before, parents wouldn't take a girl to the health center due to habit of prolonged labor at home. Now they do. Now we also limit to 2-3 children."—Health worker*

For some SRH behaviours, health workers reported high initial adoption post-TESFA but slowed maintenance of positive behaviour change over time. These included child-spacing, and antenatal and postnatal care visits. Girls Group participants shared that TESFA's SRH curriculum and life skills training were critical in increasing their awareness of SRH practices and their confidence to assert their reproductive rights. Participants reported improved couples' communication on SRH matters such as sexual consent and use of contraception. At a community level, most participants discussed increased support and acceptance of family planning and health service access. Contraceptive decision-making was repeatedly cited as a long-term sustained shift in the community.

> *"Earlier if their husbands said no, the girls would not use contraception. After a long process, there is less male influence. The girls decide themselves."—Health worker*

Most husbands were initially uncomfortable with their wives' involvement in TESFA and described how prior to TESFA, it was normal and expected that a husband alone decides when to have sex and how many children to have. The majority said their opinions began to change following their participation in SRH sessions within their SAA groups, and continued to because of ongoing community dialogues.

> *"I didn't want to lose my power. A man is supposed to be the head of the family. But I've seen that I should know more about my health and talk to my wife about how many children I want."—Husband, SAA participant*

Other SAA participants noted that, although sometimes challenging, having mixed-gender groups facilitated the sharing of different perspectives and encouraged them to shift SRH behaviours and norms to find common ground. An area where this appears to have unequivocally been achieved across TESFA villages is decreased community acceptance of child and early marriage. GG participants repeatedly discussed their intentions to "save" their younger sisters and future daughters from early marriage.

> *"We are teaching our younger sisters not to face our fate. I will let my daughter choose when to get married. I prefer she gets married after the age of 20 but this will be only her decision, not mine or anybody else's."—GG participant, age 22*

Participants from every target group shared stories of instances where community members had advocated for or acted towards delaying marriage of young girls. There was widespread hope among participants that by practicing and spreading the TESFA lessons to younger girls and community members, these outcomes would be sustained. Many SAA participants described continuing to take actions to reduce incidences of early marriage out of a sense of responsibility towards TESFA and the community. When asked whether TESFA's curriculum had specifically contributed to this, GG and SAA participants said learning about the short-term risks and long-term physiological impacts of adolescent pregnancy influenced their views on early marriage and childbearing.

Factors impacting sustainability and scale

Connection and mobility: Connectedness with similar-aged girls was the most influential element for group maintenance and the greatest impetus for group replication. Participants repeatedly cited the importance of feelings of solidarity and sisterhood to their continued engagement with their groups and TESFA in general.

> *"I appreciate our closeness. Our group is special because it has love. Because we love each other, we miss each other until we meet again."—GG participant, age 17*

Freedom of movement granted by participation in a Girls Group was identified as impactful to group sustainability. Participants discussed how the TESFA model afforded them mobility and greater independence and shifted community norms on girls' freedom to leave their homes unattended.

> *"There is a saying: women go to the kitchen and men go out. We were hidden. After TESFA, I feel freer. I can go out. I can speak up. I can live."—GG partici-*

pant, age 19

When asked how these feelings of connectedness and freedom relate to group sustainability, participants described hopes of continued programming that not only ensured their ability to connect and move freely but also institutionalized these norms for future generations of girls in their communities. SAA participants also described experiencing renewed connections with each other and the community in the form of feelings of responsibility and ownership over supporting the girls and creating social change.

Economic opportunity: Every participant named TESFA's EE curriculum as a crucial component for long-term group sustainability. For auto-replicated groups, observing the impacts of TESFA girls' saving practices was the second most cited reason to scale TESFA into their own communities. Participants labelled TESFA's structure and girl-specific savings and income generation practices as revolutionary to their lives.

> *"It changed everything. There was a power imbalance. I had nothing so I had no say with my husband. Now I own resources and can plan for emergencies. I sell cattle and know the prices. There is open discussion about money"—GG participant, age 18*

Because SRH and EE curriculum delivery had ended 5 years earlier, original groups continued to meet primarily on the grounds of savings. Girls Groups that remained active often mentioned motivations related to economic independence and were typically found to have followed the VSLA approach more robustly than groups that dissolved. In Zuramba, some participants reported using TESFA's economic lessons to join the Amhara Credit and Savings Institute to access credits and maintain a formal savings process. Those that didn't join *equb* structures post-TESFA said that without CARE's presence, support from SAA groups was important to sustaining a savings culture and a social environment that normalized group continuity.

> *"We told husbands it was good for [GG] to keep meeting. They could make money for their families; that's better for their children"—Village elder, SAA participant*

This observed importance of economic opportunity to group sustainability and scale appeared to also extend to dissenters. Husbands who opposed their wives' continued participation in TESFA groups post-CARE's implementation often considered groups pointless without a microfinance component from which their families could benefit.

Household relationships: Girls and their husbands commonly discussed improvements in their relationships, communication, and joint decision-making following participation in TESFA. Participants reported increased support for girls' engagement in the community, increased equity in home-making, and a sharing of responsibilities. Some of the husbands shared that while they were initially hesitant to accept it, they now appreciate what TESFA has achieved.

> *"I thought I would lose something if my wife was earning and talking to others. But we are a better couple now. She is happy and we have more money. Maybe there is more we can do together."—Husband, SAA participant*

Girls reported their confidence to take active roles in household matters and negotiate responsibility was bolstered by their continued participation in groups because they received encouragement from group members. Auto-replicated GG participants cited a desire to have happier household environments and be better self-advocates with their family as a reason for creating their groups. Relationship improvements were also widely reported between girls and their mothers-in-law by participants of original and auto-replicated groups.

> *"My husband's mother was very controlling. After TESFA, I have an easier relationship with my daughter in law"—Mother-in-law, SAA participant*

Another way in which participants connected their improved domestic situations to their interest in sustaining and scaling groups was a belief that continued participation in programming would affect further positive change.

Curriculum content: Because TESFA's original SRH and EE curricula were designed for a defined implementation period of 4 years, they didn't include additional content to account for continuation of groups beyond that time. Participants reported experiencing boredom with and fading interest in repeated discussions of the same curriculum topics after several years.

> *"We didn't know what else to talk about. We had already gone through [the curriculum] many times. It was always the same."—GG participant, age 21*

Participants repeatedly identified a need for refreshed or new curriculum on non-savings related topics to ensure continuation and long-term sustainability of programme outcomes. A specific example of a topic that participants cited was business and entrepreneurship training. Some hypothesized that extension of the curriculum would supplement their savings structure to support group maintenance and encourage continued

community support. Groups that sustained eventually ran out of discussion topics and gradually shifted their primary focus towards the savings component. Despite wanting to continue meeting, the lack of new curriculum content resulted in dissolved groups feeling like they didn't have much reason to once they had shared out all their savings. Without the TESFA curriculum to work with, auto-replicated groups sometimes developed their own TESFA-like conversation topics but reported finding it even tougher to sustain beyond that without the savings aspect. Some participants noted that they were looking to their group facilitators for leadership, but facilitators were not always well-suited to sustain groups.

> *"First I was managing by revisiting old topics. I asked the health worker to talk to our group, but after that, I didn't have other ideas."—GG facilitator, age 23*

SAA participants also acutely felt the effects of a lack of new discussion content, and instead oriented themselves around action plans to support girls in their communities. This included spreading awareness of the detriments of early marriage and benefits of family planning.

Support from husbands: Some dissolved GG participants reported that their greatest barrier to sustaining their groups was a lack of continued support from their husbands and families.

> *"Our facilitator left because her husband was offensive to the group saying continuing was a waste of her time, even after four years"—GG participant, age 19*

Without an institutional presence or the promise of economic gain, some husbands did not believe that other benefits of group involvement warranted continued participation from their wives. Even if they had experienced improvements in their household relationships, participants discussed how their freedom of choice and movement changed once CARE's follow-up had ended. Participants also discussed how the conclusion of SAA groups, which included husbands, at the end of TESFA, made it difficult for their husbands and family to understand why the Girls Groups would continue to meet.

> *"[TESFA] was over. There's no need to meet anymore."—Husband, SAA participant*

Some dissolved GG and SAA participants suggested that their husbands' negative perceptions of the continuation of groups may stem from concerns around not knowing what girls would be discussing with their peers. Although there was initial acceptance of girl-only groups, this changed once Girls Groups were unaccompanied by simultaneous SAA groups. To address this withdrawal of husbands' support, participants suggested the creation of a long-term accountability mechanism by implementers or the local government. Participants shared that a continued external presence, even at a low frequency or remotely, positively influences the community's social investment in their girls, and would alleviate fears that norms would return to the status quo after programmes end.

Adaptations to groups: The TESFA model afforded groups some flexibility in making adaptations to the programme design. While some adaptations were perceived as helpful, such as monthly meeting frequency and flexible loan repayment schedules, participants reported certain adaptations that their group had adopted as significant barriers to maintaining their commitment to their group. These included financial penalties for various "offences", such as lateness and missed meetings.

> *"My group ended because for different wrong doings they would impose penalties that felt like an extra burden."—GG participant, age 20*

Participants shared that groups with stronger dynamics i.e., connectedness and friendship, were generally more likely to adapt in ways that were beneficial and rewarding to all the group members.

Discussion

This study highlights the components necessary for the success, sustainability, and scalability of a peer-based approach for adolescent sexual and reproductive health. In investigating the effectiveness, sustainment, and spontaneous replication of TESFA's peer-based solidarity groups 5 years post programme close-out, the study team identified three encouraging findings. First, positive changes in behaviours promoted and supported by the programme had been maintained. Second, original groups remained active through the peer-based reflective dialogue and savings model established during the programme. Third, individuals spread and created new groups modeled on the programme in response to demand from peers in nearby communities. Each of these had occurred without outside investment.

Across participants of the original TESFA Girls Groups, this study found sustained improvements in girls' inclusion and agency in reproductive decision-making, use of contraception, and institutional delivery. Changes in other measured SRH behaviours, such as child spacing, faded with time. These persisted changes in behaviour have implications for existing critiques in the literature of the effectiveness and sustainability of peer-based approaches to adolescent sexual and reproductive health (ASRH). Five systematic reviews of peer-led sexual health education between 2008 and 2020 have found varying evidence of effectiveness in promoting

behaviour change [11–14, 19]. Despite seeing improvements in SRH knowledge in their meta-analysis of 13 programmes, Kim et al. surmised that peer-led education does not result in improved SRH outcomes among adolescents [11]. In their review of 15 peer-led interventions, Sun et al. concluded that the evidence for effectiveness in behaviour change is lacking [12]. However, a review and meta-analysis of 60 peer-led HIV prevention education programs by He et al found evidence for effectiveness and determined peer education to be useful for long-term impact on behaviour change [19]. TESFA's effectiveness for long-term behaviour change is supported by the results of this investigative research. It is worth noting that most of the literature on effectiveness of peer programmes are focused on peer-led education, but TESFA employed a model of peer-facilitated reflective dialogues intended to promote solidarity between group members. Study results showing the strong influence of group closeness and connectedness to sustainment and scale-up of TESFA groups suggest that the social environments within peer groups are important considerations for long-term change. Group environments generated by peer-led teaching versus peer-based talking may have varying consequences on programme effectiveness and outcomes. Though outside the scope of this research, this distinction between education and dialogue and the subsequent impacts on programme effectiveness for long-term behaviour change are worth exploring in the future.

Although TESFA was primarily designed to mitigate the effects of child marriage on adolescent girls, this study found considerable evidence that TESFA contributed to decreased community acceptance and adoption of early and child marriage. Five years post-TESFA, girls and community members had maintained supportive attitudes and actions towards delayed marriage. In considering the implications of these findings on programmes aimed at reducing child marriage, the authors developed a hypothesis relating to social capital theory [20]. Girls Groups provided married girls with recognition, acceptance and visibility in their homes and communities that they are unable to achieve individually. This social capital earned through group participation and economic activity accumulates over time into a "ban", that girls then draw from to engage in what could be deemed socially risky behaviors, such as delaying marriage. TESFA's effectiveness at changing and sustaining improvements to community perceptions and practices of child marriage spotlights the need for programmes to embed gender-transformative processes in community-oriented platforms. Reviews of the characteristics of interventions effective in reducing harmful SRH practices determined that sustained outcomes require creating platforms, such as ongoing dialogues, that encourage a community to critically examine and shift its traditions [21, 22]. Although TESFA is an adolescent-focused programme, its consideration of the community's role and use of community members' power in its design was crucial to its success. Because of SAA members' active engagement and actions in the programme, behavioural changes enacted by married girls were perceived positively despite not reflecting traditional expectations. The meaningful participation and active role that TESFA afforded community members through SAA groups, as primary links to and supporters of Girls' Groups, created a sense of responsibility, ownership, and recognition by girls' families, wider community, and local government. Per the findings that spousal support was essential to girls' autonomy, peer-based ASRH programmes need to further engage husbands to better ensure sustainability of outcomes post-implementation. In their assessments of peer education programmes, Michielsen et al. and Chandra-Mouli et al. suggest integrating peer education into holistic interventions for increased effectiveness [16, 18]. Having a cadre of committed adults with the awareness and skills to promote social norms allowing for girls' choice, voice, and mobility, was a critical factor in sustaining programme impact and facilitating the effectiveness of Girls Groups. As Cislaghi et al suggest is a necessary condition for scale, this diffusion of programming to influential persons within girls' communities paved the way for organic scale-up of the TESFA model [23]. This study's findings on the sustained impacts of TESFA on child marriage through an inclusive dialogue approach lend further support to the need for effective platforms for holistic community engagement.

One strategy for creating or integrating holistic interventions with community platforms is to leverage existing community structures [24]. TESFA's savings and loan component was familiar to the community because of Ethiopia's traditions of *equb* [8]. Ethiopia has a long history of informal savings institutions where members make contributions to a joint fund that they can borrow against for personal or business ventures [8]. Although women commonly participate in *equb*, they tend to be past adolescence. An exploration of the characteristics of *equb* members in rural and urban areas of Ethiopia showed that heads of household typically participate and that the average age of female participants is 24 years [25]. TESFA extended the opportunity to partake in a savings structure to married adolescent girls, a population typically excluded from *equb*. By then delivering SRH curriculum within these girls-only savings groups, and simultaneously providing programming to others in the community via SAA groups, TESFA created a platform that leveraged existing Ethiopian structures to deliver an integrated and holistic intervention. Kirstos' study of

equb participation on Ethiopian women's lives suggests that structures would be more effective if coupled with support services [26]. This study validates that with its findings that while savings structures fueled a continued purpose for peer groups to come together, the solidarity within and supportiveness of group rules towards members influenced their motivations to sustain.

Considerations for sustainable and scalable peer-based programme design

The factors that impacted the sustainability and scalability of TESFA's peer-based solidarity groups in the 5 years since the programme ended are summarized in Additional file 2: Figure S2.

After analyzing these factors, the authors recommend the following considerations for implementers designing peer-based programmes to ensure sustainability and scalability:

- Environment of solidarity: Intragroup dynamics are central to the success, scale-up, and sustainability of TESFA's peer-based design. Creating safe spaces to enable girls' solidarity and share their ideas encourages adoption of new behaviours and motivates them to sustain changes.
- Holistic community intervention: Community support enables girls to engage in positive SRH behaviours and sustain and scale their groups. Support from husbands is particularly essential for married girls' mobility, participation, and agency.
- Culturally relevant curriculum: Availability of ample curriculum/dialogue topics is vital for sustainability and scale. When developing curriculum, including people with lived experience and contextual knowledge increases programme relevance. TESFA was heavily informed by Ethiopian female health workers, some of whom had experienced early marriage and were familiar with the local context and needs.
- Shared facilitation responsibility: Group facilitators' commitment and leadership are key to sustainment and scale-up. Where facilitators were unable to continue in their roles, dependence on a few trained facilitators compromised group sustainability and active engagement of other members. Future peer-based approaches might consider utilizing a rotating facilitator model [27].
- Transitional economic opportunity: Although TESFA's VSLA was pivotal for group sustainability, it lacked a longer-term accountability mechanism. Facilitating groups' transition from small-scale savings and loans processes to accessing *equb* or other financial services is important to consider.
- Inclusive group procedures: Flexible processes that can be adjusted to suit members' needs including meeting schedules, norms, and bylaws, contribute to group ownership and longevity.

Limitations

Because the TESFA programme was not originally designed with a sustainability intention, the recommendations shared in this paper are based on an evaluation of the conditions that contributed to an organic scale-up and sustainment of the programme. This study's exploration of the determinants of sustainability and scalability of peer-based ASRH programmes is limited in that it assessed outcomes for a particular programme over a finite period. Although TESFA was successful in achieving some level of sustainability and scale, it is unknown whether that will last beyond 5 years post-implementation without additional outside investment. As a result, study findings may be limited in their applicability for sustaining programmes for longer than 5 years. In addition, this paper attempts to present participants' objective reflections about the TESFA programme. However, congruent with norms in Ethiopian culture, dissenting opinions were generally uncommon within focus groups. Study teams attempted to correct for this by establishing group agreements before discussions to create open and unbiased group environments. A final limitation is that this study did not collect data on or consider the impacts of girls aging out of participation in TESFA during the post-implementation period.

Conclusion

With a growing global population of adolescents, designing effective interventions for their unique needs will be central to ensuring their sexual and reproductive health rights. Married adolescent girls are particularly susceptible to sexual and reproductive risk because of early marriage and demand special attention in adolescent programming. TESFA's methodology is effective in improving the lives of married adolescent girls and mitigating some of the harmful effects of child marriage. Outcomes related to girls' solidarity and mobility, contraceptive use, and institutional delivery were sustained over time. The observed organic replication and scale-up of the TESFA model by adolescents beyond its intended beneficiaries reflects the model's ability to address the distinct needs of adolescents and its potential to scale widely across Ethiopia. With its demonstrated ability to improve the lives of married girls, TESFA provides a tested model for successful, scalable, and sustainable adolescent reproductive

health programme delivery through peer-based solidarity groups.

Abbreviations
ACIPH: Addis Continental Institute of Public Health; ASRH: Adolescent sexual and reproductive health; EE: Economic empowerment; FGDs: Focus group discussions; GG: Girls Group; HIV: Human immunodeficiency virus; IDIs: In-depth interviews; RAs: Research assistants; SAA: Social analysis and action; SRH: Sexual and reproductive health; TESFA: Towards Economic and Sexual/reproductive Health Outcomes for Adolescent Girls; VSLA: Village Savings and Loan Associations.

Supplementary Information

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Additional file 1. FGD and IDI Guides. Two sample focus group discussion guides and one in-depth interview guide used with Girls Groups and community members.

Additional file 2: Figs. S1, S2. Illustrating a timeline of TESFA activities and summarizing the facilitators and barriers for scale and sustainability.

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Authors' contributions
All authors have made significant contributions to the TESFA programme and this manuscript and accept responsibility for its content. PC oversaw data collection procedures and contributed to the conceptualization, preparation and editing of the manuscript. FTW, RD, and JE supported with detailed review. DT and HG coordinated the data collection and the local research group, analyzed the data, and identified recommendations. FTW supervised the study, and FTW and JE provided thought leadership on study directions, effectiveness and relevance. All authors read and approved the final manuscript.

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Availability of data and materials
The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
This evaluation study was approved by the Addis Continental Institute of Public Health's Institutional Review Board (Reference number: ACIPH/IRB/006/2018). All participants engaged in informed verbal consent. To protect the confidentiality of participants, personal identifiers such as names and titles were not recorded.

Consent for publication
Not applicable.

Competing interests
The authors declare that they have no competing interests.

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Publisher's Note

Reproductive Health

RESEARCH

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The U.S. Global Gag Rule in Ethiopia: a foreign policy challenging domestic sexual and reproductive health and rights gains

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Abstract

Background: Ethiopia's government and civil society have driven crosscutting initiatives in the last 15 years to improve sexual and reproductive health outcomes, including passing a 2005 abortion law that facilitated reduced rates of maternal death due to unsafe abortion. However, both the government and nongovernmental organizations have relied on external funding for sexual and reproductive health and rights, particularly from the U.S. government, which has been Ethiopia's largest global health donor. This article explores how the implementation and expansion of the 2017–2021 U.S. foreign policy "Protecting Life in Global Health Assistance," also known as the Global Gag Rule—which attached itself to a nongovernmental organization's funding—impacted sexual and reproductive health and rights, including safe abortion care, in Ethiopia.

Methods: This article is based on research conducted by PAI staff in Ethiopia in 2018 with follow-up in 2019. PAI held in-depth semistructured interviews with representatives of 30 organizations in Ethiopia's capital, Addis Ababa. Among these groups were U.S.-based and non-U.S. nongovernmental organizations, including community-based organizations, non-U.S. government donors, and Ethiopian government officials.

Results: Nongovernmental organizations have been essential to sexual and reproductive health service provision and advocacy in Ethiopia. Because of the sector's reliance on U.S. global health assistance, these organizations; their activities; and, consequently, the wider health system were negatively impacted by the Global Gag Rule. Certain vulnerable groups, particularly adolescents and youth, have traditionally relied on the private sector for sexual and reproductive health services. PAI's research demonstrates that U.S. policy disrupted activities and service delivery, threatened the closure of private clinics, stalled mobile outreach, and impacted safe abortion training of health personnel. Additionally, the Global Gag Rule dismantled partnerships, affected non-U.S. government donors' investments, and caused confusion that limited activities permissible under the policy.

Conclusions: The Trump administration's Global Gag Rule forced non-U.S. organizations to choose between providing comprehensive care or losing U.S. global health assistance, ultimately impacting populations in need of services. Ethiopia provides a clear example of how the Global Gag Rule can threaten a country's domestic health agenda by targeting nongovernmental organizations that are vital to health service delivery and safe abortion care.

Keywords: Ethiopia, Global Gag Rule, Sexual and reproductive health, Abortion, Foreign policy, Family planning, Maternal mortality, United States, Trump

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Plain language summary

In 2005, Ethiopia's government, health advocates, and service providers secured a more liberal abortion law that has been instrumental in reducing maternal deaths due to unsafe abortion. However, these fragile gains are vulnerable because the in-country sexual and reproductive health sector has relied heavily on external funding. The U.S. government has been an important development partner to Ethiopia for global health and, in particular, reproductive health and family planning. As a result, the Global Gag Rule, reimposed and expanded by the Trump administration in 2017, impacted sexual and reproductive health and rights in Ethiopia. U.S. agencies and departments attached this policy to U.S. global health assistance for nongovernmental organizations that were critical partners in service delivery and advocacy. In a country like Ethiopia with a progressive environment for sexual and reproductive health, including safe abortion care, it remains important to examine the impacts of the Global Gag Rule, despite being rescinded in January 2021 by the Biden administration, as the policy has still not yet been permanently repealed and could be reinstated by future administrations.

PAI's research sought to document the impacts of the expanded Global Gag Rule on sexual and reproductive health in Ethiopia, with a focus on safe abortion care. Study participants reported that nongovernmental organizations serving rural populations, adolescents and youth, sex workers, and people living with HIV/AIDS were impacted by the loss of U.S. government funding due to noncompliance with the policy. Organizations that chose to comply with the policy were forced to stop critical activities like training on safe abortion care. Outcomes also included self-censorship out of fear of the policy and dismantled partnerships between compliant and noncompliant organizations.

Background

The Ethiopian government has driven crosscutting initiatives to improve access to sexual and reproductive health and rights (SRHR) information, education, and services for its population of 102 million people. In the last 15 years, this course of action included passing a progressive abortion law in 2005 and adding subsequent implementation guidelines that allow for pregnancy termination under certain circumstances [1]. In addition to its legality in cases of life endangerment, rape, or incest, abortion is legal if the pregnant person—owing to physical or mental reasons, including being a minor—is unprepared to raise a child [1]. Evidence suggests that maternal mortality, historically high in Ethiopia and particularly associated with unsafe abortion, declined with increased uptake in family planning and improved access to legal, comprehensive abortion care [2].

In this environment, demand for family planning steadily increased since the early 2000s. Modern contraceptive use among married Ethiopian women climbed from 6% in 2000 to 35% in 2016 [3]. According to the Federal Ministry of Health, this success was due to increased access to facilities, improved contraceptive supply chain management, and the decentralization of family planning services through community health extension workers, as well as support from partnerships with nongovernmental organizations (NGOs) [4]. Currently, contraception is free throughout the country, and the Federal Ministry of Health provides contraceptive supplies to the private sector. As of 2019 data, contraceptive uptake was trending positively toward the national goal of increasing contraceptive prevalence among 15- to 19-year-old women to 40% and 20- to 24-year-old women to 43% by 2020 [5]. The government further committed to reducing the unmet need for those two age groups to 10% overall [5]. As part of its efforts to increase contraceptive uptake among key populations, including the 50% under age 20, the government prioritized initiatives targeting the unmet need of adolescents; in its national guidelines on family planning services, Ethiopia's government recognized the unique sexual and reproductive health (SRH) challenges of young people and developed an adolescent and youth strategy specific to reproductive health [6, 7].

Despite this progress, ensuring the continuity of reproductive health supplies provision and distribution to the last mile continue to pose challenges for Ethiopia's government. Fertility rates remain high and contraceptive use varies significantly across the country, with 10% more women in urban settings using a modern contraceptive method than those living in rural areas [8, 9]. Among rural populations, which comprise 80% of the country, contraceptive uptake and demand generation are limited [10]. To complement the work of the public sector, the government has depended upon the private sector and local and international NGOs to deliver a range of SRH services and contraceptives [6]. These organizations also have provided training for public health workers, including midwives; supported contraceptive supply chain management; and coordinated on SRHR policy development and implementation. Though most people access contraceptives through government facilities, an estimated 20% use the private sector and 40% of pregnant people still prefer to seek safe abortion care through private facilities [2, 11]. Although safe abortion

care is accessible for many people in the country—53% of induced abortions in 2014 were performed in public and private health facilities—unsafe abortions continue [12]. It is estimated that 40% of abortions performed outside of health facilities result in serious complications [12].

As Ethiopia was making sexual and reproductive health gains, President Trump reinstated the Mexico City Policy in January 2017. Formally renamed as "Protecting Life in Global Health Assistance," the policy is known by its critics as the Global Gag Rule (GGR). The Trump administration extensively expanded the GGR beyond versions of the policy, under past Republican presidents, that only applied to family planning and reproductive health (FP/RH) assistance. With the Trump administration, U.S. agencies and departments attached the GGR to all U.S. global health assistance, impacting funding for FP/RH as well as maternal and child health, HIV/AIDS prevention and treatment, malaria, nutrition, and even certain water and sanitation programs, among others. The GGR effectively prohibited non-U.S. NGOs that received U.S. global health assistance from using their private, non-U.S. funds to provide comprehensive, safe abortion services for reasons other than life endangerment, rape, or incest; to offer information or referrals for abortions; or to advocate for the legalization of safe abortion services beyond the exceptions for life endangerment, rape, or incest. While the GGR was rescinded by executive order by the Biden administration in January 2021, the policy has still not yet been permanently repealed and could be reinstated by future administrations.

The Trump administration's GGR extended further than preexisting legal restrictions on the use of U.S. government funds for safe abortion care—specifically the Helms Amendment, which has been in place since 1973—to limit what an organization can do with its private, non-U.S. government funding [13]. Following the GGR's initial expansion to all U.S. global health assistance under the Trump administration in 2017, a new interpretation of the existing language implementing the policy was released in March 2019 by then-U.S. Secretary of State Mike Pompeo. The subsequent interpretation effectively prohibited a GGR-compliant non-U.S. NGO from using its non-U.S. government assistance to support any kind of health or development work of a non-U.S. partner that received no U.S. government global health assistance if that partner separately engaged in abortion-related work with its own funding [14]. This meant that, in practice, for an organization that received U.S. global health assistance, the GGR effectively attached to all its separate funding—beyond global health activities—from any of its other non-U.S. donors.

The Federal Ministry of Health and NGOs in Ethiopia have been vulnerable to these changes in U.S. foreign policy because of their reliance on external donor funding for SRH activities and supplies. The U.S. government has been the single largest global health donor to Ethiopia, with nearly USD 250 million obligated in fiscal year 2017 [15]. After the United Kingdom—which allocated GBP 90 million over four years to Ethiopia in 2017—the United States was the second-largest donor for family planning specifically, followed by the Netherlands, the United Nations Population Fund, and other key bilateral donors and foundations [16, 17].

U.S. global health assistance flows from multiple U.S. government sources, including the U.S. Agency for International Development (USAID), the U.S. Centers for Disease Control and Prevention (CDC), and the U.S. Department of State, among others. In partnership with the government and civil society in Ethiopia, USAID has had a key role in improving SRH outcomes, ensuring access and availability of modern contraceptives, and increasing access to high-quality family planning services [18]. In 2017, USAID obligated USD 125 million for FP/RH, HIV/AIDS prevention and care, and maternal and child health programs in Ethiopia [15]. More than 77% of that funding went to 10 not-for-profit NGO prime recipients that have significant networks of partner organizations in-country, some with as many as 20 subrecipients on a given grant [15, 19]. These organizational figures were not comprehensive of all U.S. global health assistance to Ethiopia; they excluded funds from agencies like the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and the CDC. The CDC and PEPFAR have different reporting periods from USAID as well as additional numbers of prime recipients and subrecipients. All prime recipients and subrecipients of U.S. global health assistance must comply with language in their grant agreements, which have unique implications for SRHR due to the flux in U.S. administrations and their policies, such as the GGR.

PAI documented the impacts of previous iterations of the GGR on SRHR globally, with an emphasis on contraceptive supplies and maternal deaths due to unsafe abortion [20–22]. With the Trump administration's extensive expansions of the GGR, PAI renewed its fact-finding documentation between 2018 and 2019 to understand preliminary effects of the then-new policy across different countries receiving U.S. global health assistance, including Ethiopia. This documentation coincided with peer-reviewed research and gray literature on the impact of previous iterations of the GGR on SRH services and overall health outcomes [23]. Several quantitative studies that focused on the Bush administration's implementation of the GGR found associations between the policy and a reduction in modern contraceptive use as well as an increase in abortions in sub-Saharan Africa and

Latin America and the Caribbean [24–26]. Under both the 2001–2009 Bush GGR and the multiple 2017–2021 Trump expansions, research documented reductions in service delivery and availability impacting not just FP/RH but also maternal and child health, HIV/AIDS, and tuberculosis, among other areas of global health [27–29]. Beyond substantiating direct service delivery impacts, research on the GGR also documented what activists call the "chilling effect" of the policy, encompassing both an over-implementation of the GGR in activities and programs as well as self-censorship with advocacy and in-country partnerships [28, 30, 31].

In the case of Ethiopia, when the GGR was in effect and limited to U.S. FP/RH funding during the Bush administration, PAI documented severe financial damage to certain NGOs due to noncompliance with the policy as well as the loss of USAID-donated contraceptives, which then worsened Ethiopia's supply shortage [32]. With the Trump administration's expansion of the policy to all U.S. global health assistance, many more organizations in Ethiopia receiving U.S. funding had to follow its restrictions, even if their projects were supported by non-U.S. government donors [33]. Based on PAI's research from 2018 to 2019, this article examines the extent to which the early roll out of the expanded GGR under the Trump administration disrupted NGO activities and progress in comprehensive sexual and reproductive health, including safe abortion care, in Ethiopia.

Methods

This article is based on an exploratory case study documenting the impacts of the Trump administration's 2017 expanded GGR on SRHR in Ethiopia conducted by two PAI staff members [34]. Research was executed through semistructured interviews with NGO and community-based organization (CBO) directors and program managers, FP/RH or global health focal points from bilateral donor governments, and other donor agencies as well as relevant representatives from the Federal Ministry of Health and local health administration from 30 organizations in Addis Ababa, Ethiopia. Interviews were conducted in February 2018 with follow-up in December 2019. Because of a national state of emergency declared in Ethiopia at the time of research in 2018, PAI staff were not able to travel outside of Addis Ababa and the follow-up trip limited additional interviews.

PAI purposively selected the organizations to reflect a range of exposure to the GGR and included U.S. and non-U.S. NGOs providing SRH services or engaging in SRHR advocacy—both direct prime recipients and subrecipients of U.S. global health assistance. Not all participants interviewed during the initial visit in February 2018 were interviewed in the December 2019 follow-up, though there was significant overlap among the prominent NGOs implementing U.S. global health assistance programs. NGOs receiving U.S. global health assistance were selected from the U.S. government's foreign assistance open data platform [15]. Additional interviewees were identified through a search of SRHR actors operating in Ethiopia; at the February 2018 First Annual Scientific Reproductive Heath Conference in Addis Ababa; and through snowball sampling to connect with subrecipients, particularly CBOs [4].

Study participants were from U.S.-based and non-U.S. NGOs, including those that chose to comply with the GGR and those that did not. The U.S.-based NGOs provided information on their subrecipients—those that chose to comply with the GGR—and, where needed, the methods U.S. NGOs used to enforce GGR compliance with these subrecipient partners. Non-U.S. NGO participants represented organizations that were prime recipients of U.S. global health assistance, subrecipients, or both. Table 1 provides a breakdown of the types of organizations represented in interviews by category. For confidentiality, identifying information has been omitted, including an organization's decision regarding compliance with the GGR. Not all organizations contacted by PAI agreed to be interviewed, including non-U.S. NGOs and CBOs complying with the policy as prime recipients and subrecipients of U.S. global health assistance. Some of those who declined to participate clearly stated their belief that speaking about the GGR was perceived to be impermissible under the policy's restrictions.

The study interviews were designed to determine participants' exposure to the GGR and the resulting impacts as well as how the policy might have wider implications for Ethiopia's health system. PAI developed a semistructured interview guide in English for each of the following participant categories: U.S.-based NGOs, non-U.S. prime NGOs or subrecipients, and government and non-U.S. government donors. Questions for NGOs were organized based on whether they received U.S. funding, whether they were complying with the GGR, and how the decision to comply would affect their organizational activities and beneficiaries. Questions were also designed to inform PAI's understanding of the context of U.S. funding and other donor funding for SRHR in Ethiopia—an understanding critical for gauging the policy's impact on

Table 1 Organizational representation by type

Bilateral donor governments and other donor agencies	6
Directorates within the Federal Ministry of Health	2
Non-U.S. NGOs (including other international NGOs as well as Ethiopian NGOs and CBOs)	10
U.S.-based NGOs	12

non-U.S. government donors. For interviews with officials and members of the Ethiopian government, additional questions focused on the role of civil society in service provision, the implications of losing U.S. funds for members of civil society, and participants' observed impacts of the GGR. This methodological approach was particularly useful in identifying evidence of the varied impacts of the policy on the Ethiopian health system.

All interviews lasted between 60 and 90 minutes and were conducted in English. With all stakeholders, the purpose of the interview and the way the information would be used were discussed along with the interview's voluntary and confidential nature. All names of individuals and organizations were withheld unless consent was given to provide identifying information. As part of the interviews, technical assistance was provided on the GGR in the form of an explanation of the expanded policy under the Trump administration, followed by a discussion on how it differed from prior iterations of the policy. The technical assistance was followed by a discussion, distribution of resources for participants to better understand the policy, and an opportunity to have questions answered. In all interviews, PAI staff stressed the importance of a clear understanding of the expanded GGR and the need, especially for NGO recipients of U.S. global health funding, to seek clarification from their funding source—the U.S. government or the prime recipient. Detailed interview notes were coded manually and analyzed by type of organization with descriptive codes to cover key themes. To supplement interview data, PAI staff consulted gray literature in the form of organizational and government reports, program evaluations, and other documents.

Results

Impact on SRH services and safe abortion care

Study participants from across the different types of organizations interviewed revealed negative effects of the policy on SRH program activities, service delivery, and safe abortion care. The two largest SRH service delivery NGOs in Ethiopia, Marie Stopes Ethiopia and the Family Guidance Association of Ethiopia (FGAE), are non-U.S. organizations that chose to not comply with the GGR. The resulting loss of U.S. funding for these organizations threatened the closure of clinics, and several participants—including government and donor representatives as well as the organizations themselves—reported delayed or stalled outreach for rural populations that were unable to receive their contraceptive methods of choice.

FGAE, an International Planned Parenthood Federation member association, has worked in Ethiopia for more than a half century providing SRH services and contraceptives through its 47 clinics and support to 350 other health facilities [35]. In response to FGAE's decision to not comply with the GGR, the CDC withdrew a five-year grant awarded in 2017 that would have averaged USD 2 million per year [4]. According to participants, if not for short-term replacement funding from the government of the Netherlands, the forfeiture of CDC funds would have resulted in the closure of 10 confidential, sex worker–friendly clinics and compromised 21 additional clinics where the CDC partially supported integrated HIV/AIDS services. Without these clinics, more than 15,000 female sex workers and almost 790,000 women, men, and young people were at risk of losing access to lifesaving care. As a result of its noncompliance, FGAE was obligated to return some U.S. assets and equipment received over the last seven years of U.S. government support. It also lost CDC training on planned antiretroviral therapies for its HIV/AIDS work. Additionally, because of the GGR, a U.S.-based prime recipient of U.S. global health assistance ruptured its partnership with FGAE, resulting in the loss of in-kind contraceptives valued at USD 800,000 and trainings for FGAE staff on cervical cancer screenings. FGAE reported having to allocate funds from each of its other programs and having to negotiate to buy more contraceptives cheaply from other sources to cover the contraceptive loss. The Federal Ministry of Health stepped in to support FGAE, though at the expense of other health priority areas, like refugee support and nutrition for communities displaced by drought and conflict [4].

In 2018, after deciding to not comply with the GGR, Marie Stopes Ethiopia closed out its USAID program that complemented the contraceptive method mix and choice available in the public sector. Before the closure, the organization's 13 mobile outreach teams had provided contraceptive options to underserved, rural populations [36]. As one participant explained:

> *Hard-to-reach areas require double or triple effort. You may need to drive 100 kilometers to reach one woman, but she has the right to family planning.—U.S.-based NGO representative, 2018*

With the loss of USAID funds, Marie Stopes Ethiopia's provision of permanent contraceptive methods—specifically, vasectomies and tubal ligations—ended. In one district, a local health office that had worked with Marie Stopes Ethiopia described the impact of this loss on counseling and services: community members continued to request permanent methods, but there was no available provider. Through a combination of domestic funding and support from the United Kingdom, eight Marie Stopes Ethiopia mobile teams continued to operate, though they redeployed and no longer offered

permanent, surgical contraceptive methods because those methods are more time consuming and complex to provide.

> *If MSI wasn't here it would be very tough, especially to reduce maternal mortality. Mothers now use family planning. And mothers would die if MSI were not here. There would be more unwanted pregnancies.—Government representative, 2019*

These GGR impacts on Ethiopia's largest SRH service delivery NGOs restricted access for vulnerable populations, specifically, young people and sex workers. Multiple participants, including from the Federal Ministry of Health, acknowledged that certain groups prefer to seek out services in the private and NGO sectors over the public sector to ensure privacy and avoid perceived stigma.

> *Private providers are the key for service delivery to vulnerable populations, including youth and sex workers who rely on them for integrated services, including HIV/AIDS prevention and treatment, family planning, and in some cases, safe abortion care.—U.S.-based NGO representative, 2018*

This reliance on private providers for safe abortion care was identified to be particularly significant for adolescents and youth.

> *When we talk about abortion, it is about the spectrum of care and the client's rights. Young people go to MSI and FGAE for privacy. They don't want to queue with their aunts for the public health facilities. Abortion is still stigmatized. [Public] providers still don't want to provide it.—Non-U.S. NGO representative, 2018*

Two youth-focused CBOs shared that their decision to not comply with the GGR was because of the need to continue providing safe abortion care information and education to young people.

> *It's about knowing the need, and it's a major need for youth as part of sexual and reproductive health.—U.S. NGO representative, 2018*

In addition to describing these direct losses for noncompliant NGOs, study participants reported that the GGR created regional disparities in comprehensive SRH service availability. Large U.S.-based NGOs that were prime recipients of U.S. global health assistance had extensive reach in Ethiopia and worked in different regions with a variety of subrecipients. For example, a five-year project led by a U.S.-based NGO with non-U.S. NGO subrecipients supported public health facilities in 75% of the country, or 500 of its 800 districts. A non-U.S. NGO subrecipient on that project worked with nearly half of the 12,500 midwives throughout Ethiopia. As a result of compliance with the GGR, the NGO no longer offered trainings to midwives on safe abortion care—despite the fact that the GGR was not attached to bilateral funding for the Ethiopian government and midwives are government workers. Four other study participants from both compliant and noncompliant U.S.-based and non-U.S. NGOs expressed concerns that, given this organization's reach throughout the country, the GGR's effects on its safe abortion care trainings would impact postpartum care and safe abortion care services in Ethiopia more broadly.

> *For maternal and child health services and adolescent and youth health services, the nearest provision of service is midwives, and this [the GGR] creates gaps in services.—Non-U.S. NGO representative, 2019*

Two U.S. organizations that continued to work on comprehensive abortion care attempted to address the safe abortion care gap in the U.S.-funded districts but reported lacking the necessary funding to accomplish this in all locations.

> *Comprehensive abortion care in those areas is the biggest gap in public health facilities.—Non-U.S. NGO representative, 2019*

Impact on partnerships

The interaction of the GGR, including the loss of service providers who declined to comply with the policy, and Ethiopia's liberalized abortion law created a complex environment for SRHR NGOs and their donors. Study participants from U.S.-based NGOs, non-U.S. NGOs, and CBOs as well as government and donor agencies all mentioned that the GGR was negatively impacting partnerships and their ability to advance SRHR projects. In some cases, prime U.S.-based and non-U.S. NGOs receiving U.S. global health assistance had to sever relationships with long-standing non-U.S. NGO partners that declined to comply with the policy.

> *The effect of the GGR is beyond its financial and material implications. It's about disrupting partnerships, disrupting integrated services, efforts to promote leveraging, efforts to coordinate resources among partners.—Non-U.S. NGO representative, 2018*

Three CBO representatives that participated in the study reported choosing to not comply with the GGR in order to continue working on safe abortion care—foregoing funded partnerships with compliant prime U.S. and

non-U.S. organizations. This rupture in partnerships undermined the quality of comprehensive care delivered by compliant organizations that were no longer able to work with noncompliant CBOs. Non-U.S. NGOs and local CBOs offer skills and technical capacity to reach rural, adolescent and youth, and marginalized populations. One prime organization that was compliant with the GGR had to dissolve partnerships in 2018 with several non-U.S. NGO partners that chose to not comply with the GGR, including FGAE. The compliant organization recognized that the subsequent reorganizing of the intended project due to the GGR affected its quality and efficacy.

> *FGAE is more networked. They've been around for years. Working with them you know what you're doing is sustainable. They work all across the country and others [organizations] don't. FGAE also does demand creation and people go to them for different services, so they're highly visible.—Multilateral agency representative, 2018*

Although several non-U.S. government donors committed to support NGOs that experienced funding losses because of the GGR, the policy also directly impacted their investments and ability to partner with U.S.-funded NGOs. For example, a Dutch-funded project of USD 9 million over four years for comprehensive abortion care was delayed because the lead organization complied with the GGR and could no longer complete the work. After this role was transferred to another NGO partner, the project was severely disrupted, including its delivery of family planning and safe abortion care services. In the case of the United Kingdom, the Department for International Development dedicated GBP 90 million over four years for work in Ethiopia with the Federal Ministry of Health to provide modern contraceptive methods. The primary NGO partner complied with the GGR and, to adhere to its restrictions, stopped working with other non-U.S. NGOs on the project. There was also an attempt to isolate safe abortion care, segregating those services from the other project activities, which caused the program to halt for nine months. Ultimately, the policy impacted the ability of non-U.S. donors to invest long term in key, GGR compliant non-U.S. NGOs and local CBOs, affecting sustainability of activities and the non-U.S. NGOs themselves.

> *Local organizations that have signed the Global Gag Rule cannot do referrals [for abortion]. They cannot get other donor funding. We cannot work with the local organizations, and it forces us to work with the internationals [NGOs]. Local ownership and capacity building are lost. If there are another five years of this, we lose grassroots family planning. It's not just the money, it's the technical support, the help with other donors.—Non-U.S. donor representative, 2019*

Impact of over-implementation and self-censorship

Participant responses during the study suggested that the GGR was being over-implemented in Ethiopia, particularly through enforcement by large U.S.-based organizations on their non-U.S. NGO subrecipients. At least three U.S.-based, compliant prime organizations that received the majority of their funds from the U.S. government expressed concerns about how the GGR would negatively impact Ethiopia's progress with reducing maternal mortality due to unsafe abortion. These NGOs specifically cited fear of the policy's effect on post-abortion care, despite its permissibility under the GGR. This form of over-implementation of the policy's restrictions is often referred to as its "chilling effect."

> *The chilling [effect] is beyond the funding loss and loss of partnerships. There is fear around abortion. When we talk with health managers, they don't want to talk about abortion. Before they were integrating safe abortion care into their services. The chilling effect is fear from organizations. If they [do not] talk or communicate about abortion, [or build] the capacity of the government with health extension leads or lower-level cadres, the whole progress may collapse in the long run.—Non-U.S. NGO representative, 2018*

In addition to describing halting permissible activities, study participants reported over-implementation in the form of self-censorship. The refusal of certain compliant NGOs to attend SRH coalition meetings and participate in PAI's study, in addition to their direct comments, indicated a fear of violating the GGR by merely discussing it. In April 2017, one month before the language implementing the policy was released, a group of organizations that had already chosen noncompliance formed a task force in Addis Ababa to conduct a rapid assessment of how the GGR might impact the health sector. Given that many organizations and professionals had experienced the Bush administration's more limited GGR on FP/RH, the task force sought to anticipate NGO reactions to the Trump administration's expansion of the policy to all U.S. global health assistance. The GGR task force found that even early on, organizations were not comfortable discussing the policy or issues related to abortion and were reluctant to provide information about their activities. During the course of PAI's subsequent research in 2018 and 2019, two non-U.S. NGOs—a prime U.S. global health assistance recipient and a

subrecipient—were still unwilling to discuss the GGR out of fear of noncompliance.

Fear of discussing the GGR appeared to be linked to poor communication around the policy's restrictions and resulting confusion about responsibility for its implementation. At the time of the GGR task force in 2017, the group found that its survey respondents did not have adequate knowledge of the GGR and had not received any communication from either the U.S. government or grant administrators. In February 2018, nearly a year after the April 2017 task force survey, questions from interviewees suggested that confusion and a lack of understanding around the GGR remained, apparent among both non-U.S. organizations and U.S.-based prime recipients. Both PAI and members of the GGR task force provided technical assistance during and after the period of the study. Although U.S. government agencies and prime partners are responsible for policy enforcement, one U.S. organization had not communicated the GGR to its two non-U.S. NGO subrecipients. With the March 2019 interpretation of the policy, there was an added burden on GGR-compliant non-U.S. NGOs, which were required to conduct due diligence on subrecipients of any financial support they provide—regardless of source of funding or activity to be funded. It remained unclear within the Ethiopian SRHR community as to whether certain non-U.S. NGOs, particularly those that would not speak to either PAI or members of the GGR task force, were receiving U.S. funding and if they knew whether they had to comply with the GGR.

Discussion

Results of the study indicate that the GGR disrupted the health system in Ethiopia by targeting qualified non-U.S. organizations working across the country on safe abortion care. The policy undermined service provision, particularly for adolescents and youth; training on safe abortion care; and partnerships between NGOs and non-U.S. donors. Negative impacts extended well beyond non-U.S. NGOs that chose to not comply with the policy, affecting compliant organizations as well as non-U.S. donors and the public sector. Among these various stakeholders, the GGR disrupted their ability to effectively partner on both funded and non-funded activities. These effects run counter to the explicit SRH policies and goals of the Ethiopian government—including reducing maternal mortality and improving safe abortion care—as well as the U.S. government's own historical role in improving SRH outcomes in Ethiopia.

Study participants from non-U.S. donors as well as noncompliant and compliant NGOs described how the GGR deprived the most qualified, trusted SRH providers of U.S. funding opportunities to deliver comprehensive services, including safe abortion care, to young people, marginalized groups, and rural populations. Additionally, unlike under the Bush administration—as evidenced by the NGO task force to document the effects of the GGR—organizations were raising awareness of the policy to minimize its over-implementation and counter its harmful impacts. However, at the time of writing, the policy continued to be a source of confusion and fear to the detriment of both compliant and noncompliant NGOs. Regardless of an NGO's decision to comply, the policy hampered its ability to form effective partnerships—even those without financial dynamics, such as trainings—that advance equitable, nationwide, and comprehensive SRH service delivery beyond safe abortion care.

Findings reveal that mitigating the impact of a policy like the GGR on Ethiopia's SRHR goals would require coordination among the Ethiopian government, civil society actors, and non-U.S. government donors. Although the Federal Ministry of Health was committed to meeting its FP/RH commitments and indicated support for organizations losing funds because of the GGR, the demand for family planning is immense and the government's resources are limited. To reinforce this position from the Ethiopian government, some non-U.S. government donors stepped in to fill the gaps for organizations that lost U.S. global health assistance. However, as study participants acknowledged, these non-U.S. donor programs do not reach the same beneficiaries, nor do their funding amounts measure up to the larger U.S. global health assistance opportunities. Because donors have different priorities, objectives, and capacities, one dollar from a non-U.S. government donor is not equivalent to a dollar from a U.S. agency like USAID. Considering this vulnerable environment and the critical role NGOs play in SRH service delivery, advocacy, and technical assistance to the public sector, compliance with the GGR as well as reductions in global health funding for the most qualified, trusted providers that are noncompliant negatively impact the Ethiopian health system—and, ultimately, the health and lives of women, girls, and their communities.

This research on the GGR in Ethiopia was initiated early in the policy's implementation, meaning a critical limitation was that several non-U.S. NGOs were continuing to close out their U.S. government programs, in the process of finding stopgap funding from non-U.S. government donors, and still determining how compliance or noncompliance would affect their work. As a result, quantifiable loss for activities and beneficiaries was unknown and could have been difficult to determine because of a range of factors, including timing and replacement funding. Additionally, a state of emergency declared in Ethiopia in February 2018 limited the travel

capacity of PAI staff to document GGR impacts outside the capital of Addis Ababa. The confusion and fear around the policy also meant that certain organizations receiving U.S. global health assistance were unwilling to be interviewed and, consequently, the impact of the GGR on their activities was unidentified. With the March 2019 financial interpretation of the policy, there may have been additional effects that should be captured as non-U.S. NGOs and non-U.S. government donors subsequently adapted to those changes.

In other countries with progressive liberalized abortion laws where there has been documentation on the effects of the GGR, such as Nepal, the policy has interacted in similar ways, impacting NGO operations—both compliant and noncompliant—and has varied depending on existing national abortion legislation, as well as efforts to liberalize or decriminalize abortion. It is critical to continue documenting the policy's impact in Ethiopia and globally to understand how SRH impacts may be felt by populations and at the beneficiary level beyond the Trump administration. While the Biden administration rescinded the policy in January 2021, it has not been permanently repealed and could be reinstated.

Conclusions

This research found that the GGR disrupts SRH service delivery in Ethiopia, with specific implications for safe abortion care, beyond the effects of the policy under previous U.S. administrations. The Trump administration's expanded GGR fragmented programs, planned activities, and partnerships and forced realignment of government and donor priorities and funding allocations. The policy reached into an organization's non-U.S. funding and disrupted the priorities and investments of other bilateral and foundation donors, as well as the government of Ethiopia. NGOs are vital for service delivery and can be the only providers for geographically harder-to-reach populations such as rural communities. They are trusted by key populations—such as adolescents and youth, sex workers, and people living with HIV/AIDS—that rely on the private sector for privacy given continued stigma associated with abortion and SRHR broadly. These NGOs depend on funding from donors, like the U.S. government, to provide not only funds but also training and technical support for their programs and partners. Compliance with the policy has implications across the different regions of the country and, as a result, the services available to the population.

Considering the country's vulnerable SRH funding environment, the reduction in U.S. global health assistance for qualified, trusted NGO providers who refuse to comply with the GGR negatively impacted the Ethiopian health system and potentially the health and lives of women, girls, and community members. As the implementation of one U.S. foreign policy does not occur in a vacuum, GGR impacts were compounded by low domestic resource mobilization for SRH and the uncertainty of continued stopgap funding from non-U.S. government donors. Considering the Ethiopian government's strong commitments to SRHR, as well as support from other non-U.S. government donors, there is hope that the harmful effects of the GGR will have been partially mitigated—though questions remain at what cost and whether future reinstatement of the policy will be avoided.

Abbreviations

CBO: Community-based organization; CDC: U.S. Centers for Disease Control and Prevention; FGAE: Family Guidance Association of Ethiopia; FP/RH: Family planning and reproductive health; GGR: Global Gag Rule; NGO: Nongovernmental organization; PEPFAR: U.S. President's Emergency Plan for AIDS Relief; SRH: Sexual and reproductive health; SRHR: Sexual and reproductive health and rights; USAID: U.S. Agency for International Development.

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Authors' contributions

JMV conceived the paper, carried out the in-country research and analysis, and drafted the manuscript. The author read and approved the final manuscript.

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Availability of data and materials

The data that support the findings in this study are available from the corresponding author [JMV] on reasonable request.

Declarations

Ethics approval and consent to participate

PAI obtained participant consent to engage in interviews after detailed information was provided about the study objectives and no sensitive data was taken from participants.

Consent to publication

Not applicable.

Competing interests

The author declares that they have no competing interests.

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Publisher's Note

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Determinants of intention to use family planning methods in the four emerging regions of Ethiopia: an ideation score based assessment

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Abstract

Background: Ideation refers to the ideas and views that people hold; it has been identified as an important explanation for differences in contraceptive use within and across countries. This study aimed to identify ideational factors that influence intention to use family planning (FP) methods among women of reproductive age (WRA) in the four emerging regions of Ethiopia.

Methods: A quantitative cross-sectional survey of 2891 WRA was carried out in the four emerging regions of Ethiopia. A multistage, stratified systematic random sampling technique was employed to select the study participants. Data were collected by trained enumerators, using tablets equipped with Open Data Kit. To assess the impact of ideation on intention to use FP, the research team used 41 items distributed across five broad ideational factors: contraception awareness, self-efficacy, rejection of myth and rumor, intra-family discussion and family support. Confirmatory factor analysis was employed to test the fit of these items into the five ideational factors. A multiple binary logistic regression analysis was employed to assess the combined effect of these ideational factors with different sociodemographic variables on intention to use contraceptive methods. In all the statistical analysis, a p-value < 0.05 was considered statistically significant.

Results: Different proportions of women in the four regions intended to use contraceptives in the future: 74.9% in Benishangul-Gumuz, 50.1% in Gambela, 21.8% in Afar, and 20.1% in Somali. The proportion of women who intended to use contraceptives varied with ideation scores. The multiple binary logistic regression revealed that self-efficacy was an important ideational factor of intention to use contraception in all four regions. Rejection of myth and rumor was also an important factor in all regions except in Somali. Contraception awareness and family support were significant predictors of intention to use contraception in the Afar region only. Intra-family discussion was not found significant in any region.

Conclusions: Regional/district health offices should focus on increasing self-efficacy for FP use. Demystifying rumors would contribute to improved intention to use FP among women in Afar, Benishangul-Gumuz, and Gambela regions. Raising contraception awareness and encouraging family support would improve intention to use FP in Afar region.

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Plain English summary

Contraceptive use shows sizeable differences within and across Ethiopia, and the situation is worsening in the country's emerging regions (Afar, Benishangul-Gumuz, Gambela, and Somali). Little or no progress in expanding access to family planning (FP) services in these emerging regions has been observed over the past years. Reasons for the disparity and the psychosocial factors expected to affect uptake of contraceptives are not clearly identified in Ethiopia's emerging regions.

In this study, we explored intention to use family planning in the future and the impact of ideation on this intention among 2891 women of reproductive age in the four emerging regions of Ethiopia. Ideation is the concept that people's actions are influenced strongly by their beliefs, ideas, and feelings ("ideational factors") and provides a framework to understand behaviors, including contraceptive behavior. This study indicates that women's intention to use FP in the future increases with increases in their ideational factors: contraception awareness, self-efficacy, rejection of myth and rumor, intra-family discussion and family support. Findings from this study should inspire health officials to focus on the psychosocial factors to close the disparity and improve contraceptive utilization.

Keywords: Ideation, Confirmatory factor analysis, Family planning, Ethiopia

Background

Ethiopia has recorded significant progress in improving its population's access to family planning (FP). According to the Ethiopian demographic health surveys (EDHS), contraceptive prevalence rate (CPR) has increased from 8% in 2000 to 36% in 2016, a fivefold increase [1–4]. At the same time, unmet need, meaning the proportion of fecund women who are not using contraception but who wish to postpone their next birth or stop childbearing altogether, decreased from 37% in the 2000 EDHS to 22% in 2016 [1–4]. Knowledge about FP methods is near universal, with 98.3% of women surveyed able to identify at least one modern contraceptive method [4]. The country has also massively expanded health care facilities and the Federal Ministry of Health (FMoH) estimated that 90% of the population had access to health care in 2011 [5]. The most recent service provision survey estimated that 87% of health facilities (excluding health posts) offered modern family planning methods [6].

Ethiopia set ambitious targets for the year 2020 to increase the CPR to 55%, reduce the total fertility rate from 4.1 in 2018 to 3, and decrease the unmet need for FP to 10% [7]. Despite overall progress in decreasing in the unmet need for FP, there is substantial inequality in FP access across population groups due to socioeconomic, education and place of residence factors [7]. There are also sizeable cross-regional differences in contraceptive use, and little or no progress in expanding access to FP services in the four emerging regions (Afar, Benishangul-Gumuz, Gambela, and Somali) has been observed over the past years [1–4]. Afar and Somali in particular lag behind national contraceptive prevalence with rates of modern contraceptive use of 12% and 1%, respectively. Contraceptive prevalence in Benishangul-Gumuz (28%) and Gambela (35%) is closer to the national average [4]. Reasons for the disparity and psychosocial factors that expect to affecting uptake of contraceptives are not clearly identified in Ethiopia's emerging regions.

Globally, factors beyond access to family planning and health services have been shown to affect rates of contraceptive use. These factors may include socioeconomic and cultural determinants, household factors such as partner's attitude and support, and individual determinants including knowledge and attitudes toward FP.

Ideation provides a lens through which these individual level factors may be explored. Ideation is the concept that people's actions are influenced strongly by their beliefs, ideas, and feelings ("ideational factors"); it provides a framework to understand behaviors, including contraceptive behavior [8]. Some studies have posited ideational change to be a key factor in the second demographic transition in Europe [9, 10] and in recent fertility declines in some less industrialized countries [11]. Ideation models have been used among demographers and public health experts to better understand how the individual psychosocial factors may influence family planning use and contraceptive uptake [8, 12–15]. The ideation model conceptualizes and structures the psychosocial factors of behavior, thus enabling a greater understanding of the multiple factors that determine family planning behaviors.

This study used Kincaid's modified version of ideation model, which links individual ideation with behavior, and the Ideation Model of Strategic Communication with Behavioral Change [16]. This model comprises three domains: cognitive, emotional, and elements of social interactions. The cognitive dimension includes the following psychosocial concepts: attitudes, knowledge, perceived risk, subjective norms, and self-image. The emotional domain includes preferences and self-efficacy. Finally, the social elements of ideation include social

support; social influence; interpersonal communication (e.g., spousal communication); and personal advocacy [16–18].

In this paper, using a modified ideation model, we aimed to identify ideational factors that influence intention to use FP methods among married and unmarried women of reproductive age (WRA) in the four emerging regions of Ethiopia.

Methods

Study design, setting, and population

A quantitative, cross-sectional survey was conducted among women age 15–49 years living in the four emerging regions of Ethiopia. Benishangul-Gumuz and Gambela are found in the western part of the country, and Afar and Somali are located in the eastern part of the country. These emerging regions are known for having lower population density, less developed infrastructure, and lower coverage of most health services relative to other parts of the country. Afar and Somali regions have a predominantly pastoralist population. These regions have the lowest FP uptake and a declining trend of FP use over the past 20 years [1–4]. Although Benishangul-Gumuz and Gambela have contraceptive use rates that are closer to the national average, little information is known about how these rates differ across urban and rural areas. The study was conducted over a period of five months (December 2017 to April 2018).

Sample size determination and sampling

The sample size for this survey was estimated separately for each of the four emerging regions, to ensure reliable information from each region, considering their unique sociocultural characteristics. The sample sizes in each region were determined by considering intention to use FP as key outcome indicator. Samples sizes totaled 683 for Afar, 805 for Benishangul-Gumuz, 678 for Somali, and 753 for Gambela.

Once we determined the sample sizes, a multistage random sampling technique was employed to select study participants. For the first stage, we listed all districts for each region and used probability proportional to their size to randomly select 20% of the districts for inclusion in the survey. At the second stage, the survey team used the register of the households in the selected districts from the district administration and stratified the households by rural/urban location. Household samples were proportionally allocated according to strata size and selected using systematic random sampling technique. For each randomly selected household, all eligible women were approached; if there was more than one eligible woman, one was randomly selected using a lottery method.

Study instruments and data collection

We developed a semi structured questionnaire, using questions from the EDHS and other survey tools. To meet the additional objectives of the assessment ideation score on the intention to use FP methods, we convened a panel of experts (the authors plus other professionals in the area of reproductive health), asking them to focus on questions that would assist in determining the ideation score. The study variables include intention to use FP, age, educational status, marital status, place of residence (rural versus urban), occupation, religion, family income, prior use of contraceptive, partner's education, current number of children, attending religious service, and media exposure (radio and television). We also included questions on ideational factors (contraception awareness, self-efficacy, rejection of myth and rumor, intra-family discussion and family support), pre-coded with binary or 5-point likert scale responses. Because we included both married and nonmarried women, intention to use a modern contraception broadly defined as intent to use any modern contraceptive at any point in the future.

Trained enumerators collected the data using tablets programmed with Open Data Kit, an open-source application, on FP indicators from households. The original questionnaire was developed in English and then translated into the local languages (Afar, Amharic, Oromiffa, Gambela, and Somali) and back translated to English to check for consistency. The software and tablets allowed for automatic uploads to a centralized data storage system. When instantaneous data submission was not possible (owing to poor connectivity), data were saved and uploaded once internet connectivity was reestablished.

Data analysis

We analyzed the data using Statistical Package for the Social Sciences (SPSS) version 20. For each region, we calculated descriptive measures that characterize the study population and estimated the prevalence of intention to use FP for each region (Table 1).

Additionally, we used the 41 ideation-measuring questions to explore the effect of personal ideation on intention to use contraceptives. For the 41 ideation measures, we converted all responses to binary form (0, 1) to generate an ideation score using a simple additive index to determine each participant women score out of a total of 41 points. In the conversion process, favorable responses/attitudes/perceptions were given 1 and the less favorable ones, including neutrals, were given 0. We further grouped these 41 items into five ideational factors based on combination of interrelated ideation measuring variables through checking their reliability and interconsistencies using confirmatory factor analysis (CFA),

Table 1 Summary of the sociodemographic variables

Background characteristics	Study region				
	Afar (n = 643)	Benishangul-Gumuz (n = 794)	Gambela (n = 752)	Somali (n = 702)	Total (n = 2891)
Residence					
Urban	175 (27.2)	142 (17.9)	224 (29.8)	215 (30.6)	756 (26.2)
Rural	468 (72.8)	652 (82.1)	528 (70.2)	487 (69.4)	2135 (73.8)
Education					
No education	504 (78.4)	305 (38.4)	219 (29.1)	497 (70.8)	1525 (52.7)
Primary	107 (16.6)	318 (40.1)	279 (37.1)	95 (13.5)	799 (27.6)
Secondary	17 (2.6)	93 (11.7)	178 (23.7)	72 (10.3)	360 (12.5)
Above secondary	15 (2.3)	78 (9.8)	76 (10.1)	38 (5.4)	207 (7.2)
Average age, in years (SD)	27.2 (6.66)	27.5 (8.17)	25.04 (7.24)	27.16 (7.30)	26.85 (7.50)
Partner's education					
No education	414 (64.4)	207 (26.1)	170 (22.6)	359 (51.1)	1150 (39.8)
Primary	77 (12)	238 (30)	113 (15)	36 (5.1)	464 (16.1)
Secondary	27 (4.2)	97 (12.2)	125 (16.6)	57 (8.1)	306 (10.6)
Above secondary	28 (4.4)	94 (11.8)	181 (24.1)	53 (7.5)	356 (12.3)
Not applicable	97 (15.1)	158 (19.9)	163 (21.7)	197 (28.1)	615 (21.3)
Marital status					
Never married	142 (22.1)	102 (12.8)	140 (18.6)	148 (21.1)	532 (18.4)
Married/cohabited	478 (74.3)	636 (80.1)	591 (78.6)	506 (72.1)	2211 (76.5)
Divorced//widowed	23 (3.6)	56 (7.1)	21 (2.8)	48 (6.8)	148 (5.1)
Exposure to radio or TV					
Yes	253 (39.3)	322 (40.6)	152 (20.2)	250 (35.6)	977 (33.8)
No	390 (60.7)	472 (59.4)	600 (79.8)	452 (64.4)	1914 (66.2)
Family income					
Lowest	154 (24.0)	159 (20.0)	156 (20.7)	227 (32.3)	696 (24.1)
Second	109 (17.0)	194 (24.4)	148 (19.7)	110 (15.7)	561 (19.4)
Middle	137 (21.3)	185 (23.3)	198 (26.3)	98 (14.0)	618 (21.4)
Fourth	122 (19.0)	101 (12.7)	112 (14.9)	138 (19.7)	473 (16.4)
Higher	121 (18.8)	155 (19.5)	138 (18.4)	129 (18.4)	543 (18.8)
Religion					
Muslim	622 (96.7)	387 (48.7)	26 (3.5)	678 (96.6)	1713 (59.3)
Protestant	2 (0.3)	106 (13.4)	598 (79.5)	2 (0.3)	708 (24.5)
Orthodox	19 (3)	276 (34.8)	80 (10.6)	21 (3)	396 (13.7)
Catholic	0 (0)	5 (0.6)	14 (1.9)	1 (.1)	20 (0.7)
Other	0 (0)	20 (2.5)	34 (4.5)	0 (0)	54 (1.9)
Attend religious services					
At least once a day	323 (50.2)	93 (11.7)	240 (31.9)	104 (14.8)	760 (26.3)
At least once a week	167 (25.9)	557 (70.2)	443 (58.9)	385 (54.8)	1552 (53.7)
At least once a month	59 (9.2)	30 (3.8)	55 (7.3)	111 (15.8)	255 (8.8)
Never/few times a year	94 (14.6)	114 (14.4)	14 (1.9)	102 (14.5)	324 (11.2)
Employment status					
Housewife	450 (70.2)	324 (41.0)	393 (52.6)	478 (68.8)	1645 (51.9)
Pastoralist	153 (23.9)	8 (1.0)	3 (0.4)	39 (5.6)	203 (6.4)
Farmer	12 (1.9)	320 (40.5)	52 (7.0)	12 (1.7)	396 (12.5)
Student	36 (5.6)	112 (14.2)	281 (37.6)	74 (10.6)	503 (15.9)
House maid	0 (0.0)	4 (0.5)	4 (0.5)	5 (0.7)	13 (0.4)
Private business	28 (4.4)	55 (7.0)	48 (6.4)	56 (8.1)	187 (5.9)
Employed	30 (4.7)	51 (6.5)	82 (11)	36 (5.1)	199 (6.3))
Daily laborer	2 (0.3)	2 (0.3)	7 (0.9)	11 (1.6)	22 (0.7)
Prior contraceptive use					

Table 1 (continued)

Background characteristics	Study region				
	Afar (n = 643)	Benishangul-Gumuz (n = 794)	Gambela (n = 752)	Somali (n = 702)	Total (n = 2891)
Yes	109 (16.9)	517 (65.1)	272 (36.2)	111 (15.8)	1009 (34.9)
No	534 (83.1)	277 (34.9)	480 (63.8)	591 (84.2)	1882 (65.1)
Intend to use					
contraceptives	140 (21.8)	595 (74.9)	377 (50.1)	141 (20.1)	1253 (43.3)
Yes	503 (78.2)	199 (25.1)	375 (49.9)	561 (79.9)	1638 (56.7)
No					

according to Babalola [19] and using SPSS's Analysis of a Moment Structures version 20.

The five ideation factors were contraception awareness (composed of 12 ideation items), self-efficacy (7 items), rejection of myth and rumor (10 items) intra-family discussion (6 items), and family support (6 items). Contraception awareness and rejection of myth and rumor fall under the cognitive domain; self-efficacy belongs to the emotional domain; and intra-family discussion and family support are under the social domain of the ideation model we employed.

The overall acceptance of the structured hypothesis was decided using goodness-of-fit measures, reliability measures, and estimates of the standardized factor loadings. Reliability (Cronbach's alpha, α) was used to assess the degree to which the items capturing the same factor of interest are homogeneous. Alpha values of 0.70 or greater indicated adequate internal consistency. Standardized factor loading values (λ) were used to decide whether items are reflective of or a best indicator of the respective factors. A standardized loadings value of 0.60 or greater for reflective items was considered acceptable.

Upon completion of the CFA, we conducted a simple binary logistic regression analysis to select potential candidate factors; factors with p-value ≤ 0.25 were considered for the multiple binary logistic regressions. Finally, we conducted a multiple logistic regression to assess the effect of different demographic and ideational factors variables on the intent to use contraceptives. Factors with a p-value of < 0.05 were considered statistically significant. All the analyses, including the CFA, were conducted independently for each region.

Ethical considerations

Ethical clearance was obtained from the institutional review board of Saint Paul's Hospital Millennium Medical College (SPHMMC) on July 9, 2016, with a reference number P.M/23/29/2016. Individual verbal informed consent was obtained before proceeding to the data collection. All information obtained from the individual subjects was kept confidential. Coding and aggregate reporting were used to eliminate respondents' identification and ensure anonymity.

Results

Sociodemographic characteristics of study participants

A total of 2891 WRA participated across the four emerging regions of Ethiopia (see Table 1). Participants from Gambela were slightly younger (25 years old) on average than those from Afar, Benishangul-Gumuz, and Somali, who averaged around 27 years old. The majority of the participants in all four regions reside in rural areas and were married or cohabitating. A greater proportion of women from Afar and Somali regions had no formal education (more than two-thirds of the participants, compared with less than 40% in Benishangul-Gumuz and Gambela) and did not work outside of the house. Almost all participants in Afar and Somali region were Muslim, the majority in Gambela were Protestant, and Benishangul-Gumuz had the religious greatest heterogeneity.

Among the study participants, Afar and Somali had low rates of previous contraceptive use (between 15.8% and 16.9%). Slightly more than one-third of women from Gambela and 65% of women from Benishangul-Gumuz reported previously using a modern contraceptive method.

Ideation score versus intent to use contraceptives in the four emerging regions

The proportion of women intending to use contraceptives is higher (74.9%) in Benishangul-Gumuz, whereas it is comparable in Afar and Somali (21.8% and 20.1%, respectively; Table 1). The ideation score of these 41 items has a low mean (standard deviation). In all study regions, the proportion of women intending to use contraceptives in the future increases when their ideation score increases (Fig. 1).

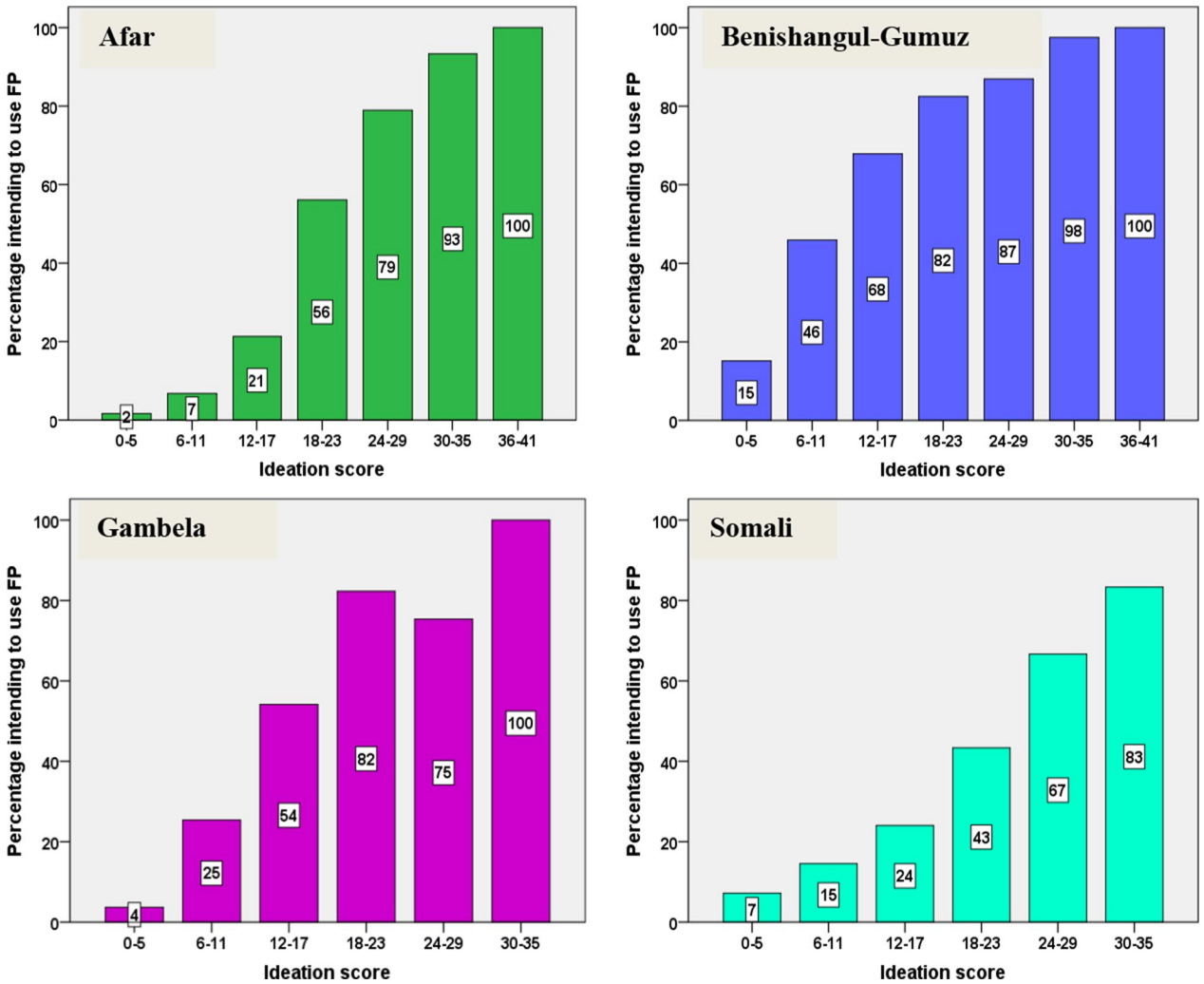

Fig. 1 Percentage of women intending to use FP by ideation score, by region. ideation score is calculated out of 41 (representing the 41 ideation items) for each women; the maximum score in Afar, Benishangul-Gumuz, Gambela, and Somali is 37, 41, 34, and 35 respectively. Percentage intending to use FP represents the percentage of women in specific ideation score category intending to use FP relative to the total number of women in that specific ideation score category

Confirmatory factor analysis

Based on the results of CFA, the hypothesized five-ideation factor CFA model fits the sample data reasonably. Even though all factor loadings are significant ($p<0.05$), some of the items have low (<0.60) standardized loadings (represented by "-" in Table 2) on factors, suggesting that they are unreliable indicator of their respective factors (Table 2). Therefore, for each region, the five ideational factors were generated using items with standardized factor loadings values of ≥ 0.60 in that particular region.

Multiple binary logistic regressions: association of different demographic and ideational factors with the intent to use contraceptives

Results of the multiple binary logistic regression for potential candidates selected using the binary logistic regression is presented for each region in Table 3.

Afar region

The demographic factors (residence, education, prior contraceptive use, and number of children) and four

Table 2 Findings of CFA; standardized factor loadings and factors reliability measure in the four emerging regions

		Afar		Benishangul-Gumuz		Gambela		Somali	
No.	**Factor/items**	**α**	**λ**	**α**	**λ**	**α**	**λ**	**α**	**λ**
	Contraception awareness	0.87		0.85		0.90		0.87	
1	Aware of female sterilization		0.87		0.61		–		–
2	Aware of male sterilization		0.84		–		–		–
3	Aware of IUD		0.77		–		–		0.62
4	Aware of injectables		–		–		0.87		0.64
5	Aware of implants		–		–		0.80		0.79
6	Aware of pill		–		–		0.85		0.67
7	Aware of male condom		–		0.61		0.93		0.77
8	Aware of female condom		0.68		0.65		0.69		–
9	Aware of lactation amenorrhea		–		–		–		–
10	Aware of rhythm		–		0.66		–		0.63
11	Aware of withdrawal		0.71		0.65		–		–
12	Aware of emergency contraceptive		0.72		0.64		–		0.61
	Self-efficacy	0.90		0.89		0.95		0.89	
1	Perceived self-efficacy for starting a conversation with partner about FP		0.67		0.78		0.79		0.78
2	Perceived self-efficacy for convincing partner that they should use a FP method		0.77		0.78		0.85		0.80
3	Perceived self-efficacy for obtaining a FP method if decided to use one		0.78		0.89		0.92		0.89
4	Perceived self-efficacy for using a FP method even if partner doesn't want you to		0.69		–		0.82		–
5	Perceived self-efficacy for using a FP method even if no friend or neighbor uses		0.84		0.87		0.95		0.77
6	Perceived self-efficacy for using a FP method even if religious leader did not think she should		0.69		0.73		0.77		–
7	Perceived self-efficacy for getting to a place where contraceptives are provided if needed		0.77		0.70		0.89		0.71
	Rejection of myth and rumor	0.94		0.86		0.90		0.92	
1	Disagreed that use of contraceptive injection can make a woman sterile		0.70		–		–		0.77
2	Disagreed that people who use contraception end up with health problems		0.79		–		0.80		0.81
3	Disagreed that contraceptives can harm your womb		0.83		0.74		0.85		0.85
4	Disagreed that contraceptives reduce women's sexual urge		0.85		0.68		0.82		0.71
5	Disagreed that contraceptives can cause cancer		0.83		0.78		0.87		0.80
6	Disagreed that contraceptives can give you deformed babies		–		–		0.87		0.70
7	Disagreed that contraceptives are dangerous to your health		–		–		0.72		0.81
8	Disagreed that women who use FP may become promiscuous		–		–		–		0.64
9	Disagreed that women who cook cannot use FP		–		–		0.71		0.68
10	Disagreed that women who do not get enough nutrition should not use FP		0.61		–		0.64		–
	Intra-family discussion	0.84		0.77		0.82		0.74	
1	Discussed FP with mother		0.65		–		0.77		–
2	Discussed FP with mother-in-law		0.68		0.68		–		0.78
3	Discussed FP with aunt		0.74		–		0.72		–
4	Discussed FP with sister		0.73		–		–		–
5	Discussed FP with sister-in-law		0.70		0.71		0.61		0.77
6	Discussed FP with father		0.65		–		0.69		–
	Family support	0.88		0.86		0.91		0.83	
1	Perceived that mother would support my use of contraceptives		–		0.67		0.70		–
2	Perceived that mother-in-law would support my use of contraceptives		0.82		0.88		0.90		0.86
3	Perceived that sister-in-law would support my use of contraceptives		0.88		0.82		0.89		0.88
4	Perceived that father would support my use of contraceptives		0.85		0.66		0.79		0.63
5	Perceived that father-in-law would support my use of contraceptives		0.76		0.78		0.89		0.87

Table 2 (continued)

No.	Factor/items	Afar		Benishangul-Gumuz		Gambela		Somali	
		α	λ	α	λ	α	λ	α	λ
6	Perceived that religious leader would support my use of contraceptives		–		–		–		–

ideational factors (contraception awareness, self-efficacy, rejection of myth and rumor and family support) showed significant association with the intent to use contraceptives at 5% level of significance.

Women who had better awareness of contraceptives had a 6.06 times higher chance of intending to use contraceptives compared to women with a low awareness of contraceptives. Increased family support was associated with a 54% higher likelihood of the intent to use contraceptives (Table 3).

Benishangul-Gumuz region

The demographic factors (education, age, attend on religious services and number of children) and the ideational factors of self-efficacy and rejection of myth and rumor showed significant association with the intent to use contraceptives at the 5% level of significance.

Women who had high rejection of myth and rumor had a 2.83 times higher chance of intending to use contraceptives compared to lesser scores on rejecting myth and rumors. High self-efficacy was associated with a 4.76 times higher chance of intending to use contraceptives (Table 3).

Gambela region

Demographic factors (age, attend on religious services, prior contraceptive use, and number of children) and two ideational factors (self-efficacy and rejection of myth and rumor) showed significant association with the intent to use contraceptives at 5% level of significance.

Women who had high levels of rejection of FP myth and rumor were 2.0 times more likely to report intention of future contraceptive use, compared to women with lesser scores on rejection of myths and rumors. High self-efficacy in FP was associated with a 6.25 times higher level of reporting an intention of future contraceptive use (Table 3).

Somali region

The demographic factors of age and prior contraceptive use and only one ideational factor of self-efficacy in FP showed significant association with the intent to use contraceptives at 5% level of significance. High self-efficacy was associated with a 3.45 times higher chance of intending to use contraceptives (Table 3).

Discussion

This study revealed the differences and commonalities of ideational factors as determinants of contraceptive use intentions in the four emerging regions of Ethiopia. The findings showed that for each region, higher contraceptive ideation scores were associated with greater intention of future contraceptive use. This finding is consistent with previous findings suggesting that higher contraceptive ideation is one important means to promote intentions to use contraceptives [8, 18–20]. Even with differences in contraceptive prevalence and reproductive health outcomes across the four emerging regions of Ethiopia, a similar positive correlation of contraceptive ideation and the intent to use contraceptives was observed in each of the regions.

We observed variation across regions on the effect of ideational factors on intention to use contraception. Of the five dimensions of ideation, self-efficacy was an important predictor of the intention to use contraception in all regions of the study, a result consistent with evidence from prior research [19, 20]. Rejection of myth and rumor was the other important dimension of ideation in all regions except in Somali. Contraception awareness and family support were significant in Afar region only. In Afar household decision making, men are generally the authority figure and have the final say [21]. This might be the reason for the strong influence of family support as the strong determinant of the intent to use FP.

The role that the different ideation dimensions play in contraceptive use intention can help guide health education initiatives. The results from this study provide information to regional/district health offices to tailor their areas of focus to improve future contraceptive use. Self-efficacy was found to be a significant predictor variable on the intent to use contraceptives in all the four regions. Thus, the communication programs in the four regions should focus on increasing self-efficacy for contraceptive use. Strategies for strengthening self-efficacy for contraceptive use should include encouraging clients to use contraceptives for the first time and develop mastery of the practice. Along with communications emphasizing self-efficacy, regional/district health offices should identify and address psychological, logistic, and structural barriers to contraceptive access. Family planning programs should provide opportunities for women to learn

Table 3 Association of ideation and different demographic factors with intention to use contraceptives, multiple binary logistic regression

Variable	Afar Benishangul-Gumuz		Gambela Somali	
	AOR	AOR	AOR	AOR
Residence				
Rural (comparison group)				
Urban	3.08*	0.87	0.59	NS
Education				
No education(comparison group)				
Primary	1.22*	1.79*	2.26	1.48
Secondary	1.15	5.06*	1.50	0.77
Above secondary	3.58*	1.29	0.78	1.03
Age (years)				
15–24 (comparison group)				
25–34	0.76	0.49*	0.97	0.69
35–49	0.54	0.13*	0.36*	0.29*
Partner's education				
No education (comparison group)				
Primary	0.56	1.63	0.75	0.31
Secondary	0.93	2.73	1.09	0.63
Above secondary	0.71	2.50	0.87	0.70
Marital status				
Never married (comparison group)				
Married/cohabited	NS	0.59	NS	NS
Divorced/widowed		0.60		
Exposure to radio or TV				
No (comparison group)				
Yes	1.75	0.80	1.19	1.50
Family income				
Lowest (comparison group)				
Second	NS	NS	0.48	1.52
Middle			0.39	1.53
Fourth			0.47	1.17
Higher			0.63	0.83
Religion				
Muslim (comparison group)				
Non-Muslim	3.28	NS	1.21	3.33
Attend on religious services				
At least once a day (comparison group)				
At least once a week	1.23	1.91	1.85*	2.03
At least once a month	0.88	2.19	1.15	1.37
Never/few times a year	0.57	2.79*	1.86	1.61
Employment status				
House wife(comparison group)				
Pastoralist	NS	0.97	NS	0.26
Farmer		0.92		0.24
Employed		0.66		0.61
Other		0.50		0.47
Prior contraceptive use				
Yes (comparison group)				
No	0.29*	0.59	0.18*	0.07*
No. of children				
Zero (comparison group)				
1–2	0.43	3.07*	0.32*	1.79
3–4	0.32*	3.13*	0.31*	1.35
≥ 5	0.29*	6.24*	0.15*	2.24
Ideational factors				
Contraception awareness	6.06*	1.22	1.88	4.22
Self-efficacy	3.85*	4.76*	6.25*	3.45*
Rejection of myth and rumor	2.34*	2.83*	2.0*	1.13
Intra-family discussion	1.42	0.48	0.49	1.66
Family support	1.54*	0.96	1.28	1.39

NS not selected by the simple binary logistic regression, *AOR* adjusted odds ratio

*p-value < 0.05

and practice how to communicate with their spouses about contraceptive use. Other relevant strategies should include opportunities for the audience to learn from a satisfied contraceptive user similar in other respects to the non-using audience. Observing relevant behaviors in others allows one to form "a conception of how new behavior patterns are performed, and on later occasions the symbolic construction serves as a guide for action" [22]. Modeling relevant behaviors can be implemented in small groups or through the mass media. Promoting discussion about contraceptive use with significant others and encouraging personal advocacy in favor of contraceptive use among the intended audience are also important to build self-efficacy.

The rejection of myth and rumor dimension of ideation was found to be a significant predictor variable on the intent to use contraceptives in Afar, Benishangul-Gumuz, and Gambela. For these regions, effectively demystifying myths and rumors about contraceptives through strategically designed messages that provide factual information on contraceptives will be vital to improve the intention to use contraceptives. Mass media and community conversations that allow participants to discuss the prevailing myths about contraceptives in their community and critically examine their personal beliefs about contraceptives may be helpful. Given the important role of family support in Afar, the relevant regional/district health office should broaden the reach of family planning education programs to include in-laws—particularly mothers-in-law—to shift ideation of contraceptive use.

In addition to the ideation factors, we found other sociodemographic variables that predicted the intent to use contraceptives and that aligned with previous findings in the literature. In the Afar and Benishangul-Gumuz

regions, education was found to be a positive predictor on intention to use contraceptives. Women's educational level on contraceptive use has been well documented, especially in developing countries where high proportions of women are not using FP services [19, 23–25]. However, we did not see the same effect in Gambela and Somali region, perhaps because everyone (educated or not) adheres to decrees from ethnic/religious leaders.

Younger women had higher intentions to use contraceptives in the future. Studies in low and middle income countries [19, 23] reveal that younger women are more likely to use FP services than older women. This difference may be due to continuous education attainment opportunities that might improve a younger generation's knowledge about utilizing contraception.

In this study, women's place of residence affects contraception use intention. In particular, women belonging to a pastoralist community had lower intentions of using contraceptives compared with non-pastoralist ones, consistent with other studies [24, 26]. Pastoralist communities of Ethiopia, which are hard to reach and mobile, have comparatively less access to and provision of health care services such as medicines, health equipment, health providers, and other services. These factors combine to result in low quality, high cost services; coupled with the lack of transportation, these factors result in unmet demand for health services, including family planning.

Parity had an uneven effect. In Afar and Gambela regions, women who had a greater number of children expressed less the intent to use contraceptives, whereas the opposite was true for Benishangul-Gumuz, where women's intention to use contraceptives increased as the number of children increased. Similar research from Bangladesh [23] showed that women with large number of children tended to use contraceptives more compared to women with fewer children.

This study has limitations. The information collected is self-reported. There is, therefore, the possibility that the ideation and intention to use family planning responses may have been affected by social desirability bias. Prior to data collection, the data collectors were trained to minimize subjectivity and the influence of social desirability. Only selected districts were included in the study raising the question of generalizability; this may not be an important issue in the Somali and Afar regions, which have a homogeneous ethnic and religious distribution. For the Benishangul-Gumuz and Gambela regions, however, where there is ethnic diversity, we attempted to include districts from each ethnic group.

Abbreviations

AOR: Adjusted odds ratio; CFA: Confirmatory factor analysis; CPR: Contraceptive prevalence rate; EDHS: Ethiopian Demographic and Health Survey; FMoH: Federal Ministry of Health; FP: Family planning; SPHMMC: Saint Paul's Hospital Millennium Medical College; SPSS: Statistical Package for the Social Sciences; WRA: Women of reproductive age.

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Authors' contributions

Conceived and designed the study: TG, DB, FS, AM, YA, BN, and MK. Analyzed the data: TG. Prepared the manuscript: TG. Revised and edited the manuscript: DB, MG, and TG. All the authors provided support throughout the process and read and approved the final manuscript.

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Availability of data and materials

The dataset supporting the conclusions of this article is included within the article (and its Additional file). The raw data used in this study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from the institutional review board of Saint Paul's Hospital Millennium Medical College on July 9, 2016, with a reference number P.M/23/29/2016. Individual verbal informed consent was obtained before proceeding to the data collection. All information obtained from the individual subjects was kept private and confidential. Coding and aggregate reporting were used to eliminate respondents' identification and ensure anonymity.

Consent for publication

Not applicable.

Competing interests

The authors have declared that they have no competing interests.

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COMMENTARY

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ASRHR in Ethiopia: reviewing progress over the last 20 years and looking ahead to the next 10 years

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Abstract

Over the last two decades, improvements in Ethiopia's socio-economic context, the prioritization of health and development in the national agenda, and ambitious national health and development policies and programmes have contributed to improvements in the living standards and well-being of the population as a whole including adolescents. Improvements have occurred in a number of health outcomes, for example reduction in levels of harmful practices i.e., in child marriage and female genital mutilation/cutting (FGM/C), reduction in adolescent childbearing, increase in positive health behaviours, for example adolescent contraceptive use, and maternal health care service use. However, this progress has been uneven. As we look to the next 10 years, Ethiopia must build on the progress made, and move ahead understanding and overcoming challenges and making full use of opportunities by (i) recommitting to strong political support for ASRHR policies and programmes and to sustaining this support in the next stage of policy and strategy development (ii) strengthening investment in and financing of interventions to meet the SRH needs of adolescents (iii) ensuring laws and policies are appropriately communicated, applied and monitored (iv) ensuring strategies are evidence-based and extend the availability of age-disaggregated data on SRHR, and that implementation of these strategies is managed well (v) enabling meaningful youth engagement by institutionalizing adolescent participation as an essential element of all programmes intended to benefit adolescents, and (vi) consolidating gains in the area of SRH while strategically broadening other areas without diluting the ASRHR focus.

Introduction

This commentary takes stock of the progress made in adolescent sexual and reproductive health and rights (ASRHR) in Ethiopia in the last two decades. Firstly, it discusses the political, economic, social context and the policies and programmes, highlighting the enablers and barriers in addressing ASRHR. Secondly, it highlights levels and trends in key ASRHR indicators, paying attention to differing levels and trends in different groups of adolescents. Building on this it sets out an agenda for action.

The profile and distribution of adolescents has changed significantly over this period in Ethiopia with the estimated population of adolescents increasing from 15.6 million in 2000 to 26.8 million in 2020 [1]. Population growth means that declining rates of child marriage for example co-exist with higher absolute numbers of girls affected. This necessitates a holistic multisectoral approach to address their overall well-being as they transition into adulthood, leaving no one behind. Given that there are 10 years to the Sustainable Development Goals (SDG) target date, there is a pressing need to build on the lessons learnt in the 15 years of the Millennium

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Development Goals (MDG) era and the first 5 years of the SDGs era.

The aim of the commentary is therefore to review progress over the last two decades in selected ASRHR indicators, by addressing the following questions:

i. How have the national political, social and economic context as well as policies and programmes evolved with regards to ASRHR in the last two decades?
ii. In which health outcomes, harmful practices, health behaviours, health services use, and social determinants was there progress, and was the progress equitable and steady?
iii. What are the opportunities and challenges in moving ahead, and what key actions are needed to accelerate progress in the next 10 years?

Over the last two decades, political, economic and social developments, and national health and development policies and programmes have contributed to the changes in ASRHR

Improvements in the economic and social context

Ethiopia's economic situation has improved in the last two decades. Since the early 2000s, Ethiopia's economy has been one of the ten fastest growing in the world. From 2004 to 2013, the country's average annual Gross Domestic Product (GDP) growth rate exceeded 10%, which was more than four percentage points higher than the average for Africa's 26 other low-income countries [2]. According to data from 2004/2005, the poverty index stood at 38.7%, it declined to 29.6% in 2010/2011, and declined further to 27.8% in 2011/2012. The decline in poverty levels has been steeper in rural areas (30.4%) as compared to urban areas (25.7%) [2]. While this progress is uneven, Ethiopian children and adolescents as a whole are likely to be growing up in a context of declining poverty.

There has been impressive progress in primary school enrolment, but less progress in primary school completion, and in secondary attendance and completion. Further, the progress has been uneven in the country. The proportion of adolescents in Ethiopia with no education decreased by 70% between 2000 and 2016 and there was an increase of over 50% in those who have completed primary school in the same time period [3, 5]. While there has been an improvement in the net primary attendance, there is a high attrition rate with a significant decrease in school attendance at ages 14 and 15 [3–6]. Further, there is a significant urban–rural variation, with a higher proportion of adolescents living in urban areas having secondary education or higher over the last decade compared to their counterparts in the rural areas. Finally, new means of communication, including the use of social media, are transforming the lives of Ethiopian adolescents, while in this area there are disparities in access and use too [7].

High-level commitment to health and development

In 1994, the International Conference on Population and Development (ICPD) launched its Plan of Action, which recognized that Sexual and Reproductive Health and Reproductive Rights (SRHR) are central to women's rights and well-being and are important to achieving social and economic development. The Plan of Action lent legitimacy to local advocacy efforts, investment, action and research that improved SRHR at global, regional, national and local levels [8]. Since then, the Government of Ethiopia (GoE) has undertaken several measures to ensure that ASRHR is addressed in its work as part of the wider attention to SRHR. In 2000, Ethiopia organized the first signature event entitled "The National Youth Consultation workshop on Sexual and Reproductive Health" that brought together all stakeholders to discuss issues affecting youth and to develop a series of action plans regarding the country's youth policies and development agendas [9]. Based on the momentum created by this event and a conducive environment to engage multiple stakeholders, the GoE initiated several national initiatives that would mainstream ASRHR into the national agenda.

Contribution of national health and development policies and strategies

ASRHR has been mainstreamed into the national agenda through policies and strategies directly addressing unintended pregnancy and childbearing, maternal mortality, HIV/AIDS, child marriage, Female Genital Mutilation/Cutting (FGM/C), and violence against women and girls. This contributed to progress in a number of ASRHR outcomes as discussed in the subsequent section.

The GoE's national contraceptive provision and demand generation effort was strengthened through the development of its first National Reproductive Health strategy and its National Family Planning Guideline in 2006. Adolescents were a key population group to be addressed in these normative documents. In alignment with these documents, the GoE also developed a National Adolescent Sexual and Reproductive Health Strategy, which placed adolescent girls within the context of an overall effort targeting women and girls [10].

In aligning its agenda to the MDG target 5 on reducing maternal mortality, the GoE put in place a new

strategy to strengthen the delivery of maternal health services in both clinic and outreach settings through Health Extension Workers (HEWs), a category of health care providers used to provide care for a broad range of health issues [11, 12]. A focus of this strategy was improving access to quality antenatal care (ANC) and skilled birth attendance (SBA) during childbirth. An important component of the strategy was community engagement and sensitization. Furthermore, recognizing that unsafe abortion was an important cause of maternal mortality, the GoE expanded the circumstances under which safe abortion care could be provided. The law on safe abortion services authorizes the termination of pregnancy in certain circumstances including in cases of rape, incest, and fetal impairment, to save the life of the woman, if the if the woman has a physical or mental disability, or if she is under 18 years of age [14]. It could be provided without requiring proof of age or parental consent [13, 14].

The GoE has demonstrated a high level of political commitment in combating HIV/AIDS, as evidenced by establishment of the National AIDS control programme since 1987 under the Ministry of Health. Stemming from the lack of guidance on intervention activities undertaken by the government, NGOs and [15]. A Framework for the National Response to HIV/AIDS was adopted, outlining priority interventions for promoting and distributing condoms among other strategic issues with a multisectoral approach, engaging the public and private sectors, including NGOs, community-based organizations (CBOs) and faith-based organizations [16]. The GoE formulated a national policy on viral-load monitoring and a system to carry out quality assessment at the health facility-level on Antiretroviral Therapy (ART) and AIDS in 2003 and by decentralizing the free Highly Active Antiretroviral Treatment (HAART) in public facilities and private clinics and hospitals in 2005 [17]. To address the specific needs of adolescents and young people, the GoE organized a "National Youth Consultation on HIV/AIDS, Sexual and Reproductive Health in Ethiopia" in 2003, which informed the development of the National Youth Policy in 2004 and the Youth Development Package in 2006 [18]. By 2019, the GoE formulated and executed a national policy on HIV self-testing (HIV-ST), as a complementary approach to the existing facility-based HIV Testing Services, with the aim of reaching previously untested, hard-to-reach and test-averse populations [19]. Further to this, the GoE has developed four National Multisectoral Strategies. The strategic issues focus on capacity building, community mobilization and empowerment, integration with health programs, leadership and mainstreaming, coordination and networking and focus on special target groups with a multi-sectoral approach. The National HIV/AIDS Strategic Plan for 2021–2025 calls for self-testing (HIVST) to be introduced through social marketing and private providers to the general population on fee-payment basis with instructions for people testing positive to obtain confirmatory tests at health facilities located closest to them [20].

The GoE developed a National Strategy and Action Plan on Harmful Traditional Practices against Women and Children in 2013 [21]. The plan contained specific targets for the reduction of child marriage as part of broader targets for gender equality It also reiterated commitments to eliminate child marriage by 2025 in the Ethiopian Girl Summit that took place in 2014 [22]. The GoE's leadership in this area stimulated and supported NGO-led efforts in the country. For example, Berhane Hewan ("Light for Eve") a project which pilot tested a package of interventions between 2004–2006 to address child marriage was led by the Ethiopia Ministry of Youth and Sports, the Amhara Regional Bureau of Youth and Sport and in collaboration with the Population Council. It involved various stakeholders, and included multiple components to delay child marriage, including the engagement of out-of-school girls in non-formal education, livelihoods training, and the provision of support for girls to remain in school [23]. Building on the evidence base from the pilot project, the intervention was continued and expanded between 2010–2016 [23].

The National Strategy and Action Plan on Harmful Traditional Practices against Women and Children in 2013 also contained specific targets for the reduction of FGM/C as part of broader targets for gender equality [21]. Further, the GoE has established specific legal measures and actions to address violence against women and girls, including the revision of the Family Law in 2000 and the Penal Code in 2005 [24]. The GoE has also put in place institutional mechanisms at the federal and regional levels, including the establishment of the Ministry of Women, Children and Youth Affairs (MoWCYA), Child and Women Protection Units within the various police units, and a Special Bench for violence against women within the federal criminal court [25].

To conclude, over the last two decades, the evolving political, economic and social context of the country have placed some aspects of ASRHR high on the health and development agendas. The formulation and application of laws, policies, strategies and programmes have contributed to effective action in a number of areas, but there are still notable gaps and areas of weakness in translating them into action. More needs to be done to communicate these laws and policies, and to resource and manage the implementation of the strategies and programmes, and to carry the wider society along in this shared effort.

Substantive changes have occurred in a number of health outcomes, harmful practices, health outcomes, health behaviours, health service use, and social determinants in the first two decades of the twenty-first century

A substantial though uneven decline occurred in the levels of child marriage

According to a 2018 UNICEF report on child marriage trends, the overall prevalence rate of child marriage in Ethiopia has dropped by a third in the last 10 years [26]. However, geographical variations in child marriage exist with different levels of prevalence and rates of decline across the regions. With regard to prevalence, for example, in 2016, Afar had the highest rate of child marriage (67.4%), followed by Benishangul (50.3%) [5]. With regard to rates of decline, for example, in 2005, the rate of child marriage in Amhara (74.4%) was three times higher than that in Addis Ababa (13.7%) [4]. By 2016, the rate had decreased by 31.4 percentage points in Amhara and by 5.9 percentage points in Addis Ababa. Despite the progress, the prevalence of child marriage is still quite high at 40.3% in 2016 [5].

The median age at first marriage varies by region from 15.7 years among women in Amhara to 23.9 years in Addis Ababa in 2016, with an increase of 1.5 years in Amhara and 2 years in Addis Ababa since 2005 [4, 5] and in 2013, women aged 20–24 years were marrying about 3 years later than their counterparts three decades ago [27]. The proportion of married adolescent girls aged 15–19 years decreased by six percentage points from 23.2% in 2000 to 17.4% in 2016 [3, 5].

There has been a slight reduction in adolescent childbearing

The overall proportion of adolescents that have begun childbearing has decreased by 3.8 percentage points between 2000 and 2016, which could be in part due to the decrease in the proportion of adolescents that ever-had sex and early sexual debut. However, there are large regional variations; the rate ranges from 3% in Addis Ababa in 2016 to 23.4% in Afar in the same year [3, 5]. The variation between married and unmarried adolescents remains quite large over time with a decrease of 1.8 percentage points in the proportion of married adolescent girls with repeat pregnancies (see Table 1). In Ethiopia, as in other countries with similar social, economic and cultural contexts, girls are typically expected to bear a child soon after marriage [28]. The persistently high proportion of married adolescents who have at least one child clearly reiterates the role of societal norms in childbearing soon after marriage [28, 29]. The low rates of child marriage in some regions in Ethiopia, coupled with low rates of childbearing in the same regions point to an intersectionality between child marriage and childbearing. For example, Addis Ababa has one of the lowest rates of child marriage and of childbearing.

The decrease in adolescent childbearing could also be partly attributed to an increase in the use of modern contraceptives. The modern contraceptive prevalence rate (mCPR) among adolescents in Ethiopia currently stands at 36.4% [30]. Figure 1 shows a sharp increase in the proportion of married adolescent girls using contraception and a percentage point increase of 38% in the use of postpartum contraception between 2005 and 2016.

Finally, there has been a reduction in the equity gap in modern contraceptive use among married adolescent girls with a positive average annual rate of change of 10% and 12% across all education levels and urban–rural areas respectively [31]. The evidence points to a clear association between increased levels of education and reductions in early marriage and early childbearing [32]. The median age at first marriage increases with increasing

Table 1 Adolescent childbearing and sexual debut (2000–2016)

	2000	2005	2011	2016	Absolute percentage change (2000–2016)	Relative percentage change (2000–2016)
% of Adolescents that have begun childbearing						
Married	63.2	68.2	58.4	59.5	−3.7	−5.9
Unmarried	2.0	2.3	1.5	2.6	0.6	+30.0
Children ever born (married adolescents aged 15–19						
At least one child	39.9	38.4	36.3	41.9	2.0	5.0
At least two children	7.8	13.9	9.5	6.0	−1.8	−23.1
Ever had sex						
Females	30.7	27.4	24.2	24.6	−6.1	−19.9
Males	15.4	7.2	7.8	8.1	−7.3	−47.4
Sexual debut by age 15						
Females	13.5	11.1	7.1	6.3	−7.2	−53.3
Males	5.1	1.7	1.2	0.8	−4.3	−84.3

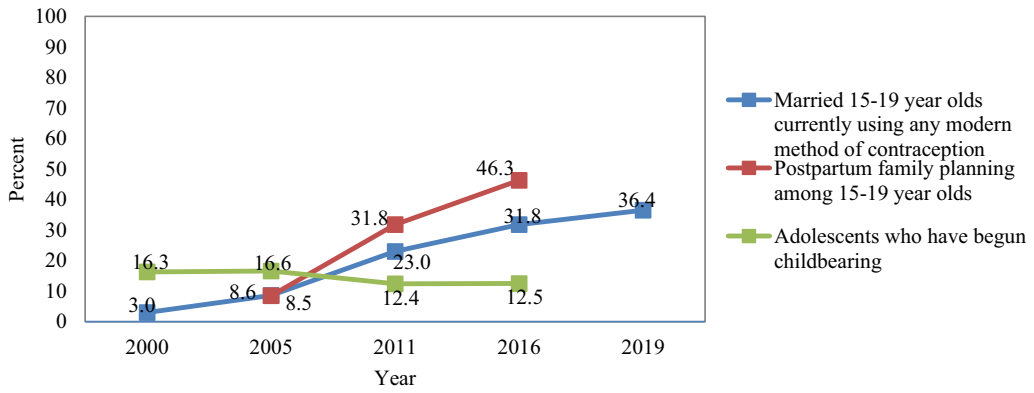

Fig. 1 Adolescent childbearing and modern contraceptive prevalence among adolescent girls in Ethiopia (2000–2019)

education, from 16.3 years among girls with no education to 24 years among girls with more than a secondary education [5]. The median age at first birth has seen an increase of 0.5 years among those with no education and 1.6 years among those with more than secondary education, between 2000 and 2016. This is in contrast to a slight decrease of 0.1 year among those with more than secondary education [3, 5].

Although SRH service uptake rates are lower in adolescents compared to the general population, they have increased over the last 20 years. ANC visits of four or more (ANC4+) and the use of SBA among adolescents have increased over time, yet the levels of use are still low (see Fig. 2) [3–6]. Further, there are enormous geographical variations, with the use of SBA among adolescent girls aged 15–19 years ranging from 25% in the Somali region to 88% in Addis Ababa in 2016 [5]. Finally, women who married later are at least twice as likely to have delivered their most recent baby in a health facility compared to women married before age 15 [29].

The overall national Maternal Mortality Ratio (MMR) has decreased from 673 in 2005 to 412 deaths per 100,000 live births in 2016 [4, 5]. Household survey data suggest that the proportion of female deaths that are pregnancy-related among adolescent girls aged 15–19 has decreased by 20% relative points between 2011 and 2016, although the progress was non-monotonous between 2000–2016 with the proportion decreasing from 19% in 2000 to 12% in 2005, increasing to 22% in 2011 [3–6].

Although there is a paucity of adolescent-specific abortion data in the country, the available data point to an increase in adolescents seeking abortion services in health facilities. In 2008, the abortion rate for adolescents aged 15–19 was 11 per 1000 women of that age, with 9% of pregnancies ending in abortion [33]. This figure rose to 19.6 per 1000 women aged 15–19 in 2014, with 20% of pregnancies ending in abortion [33]. The estimated

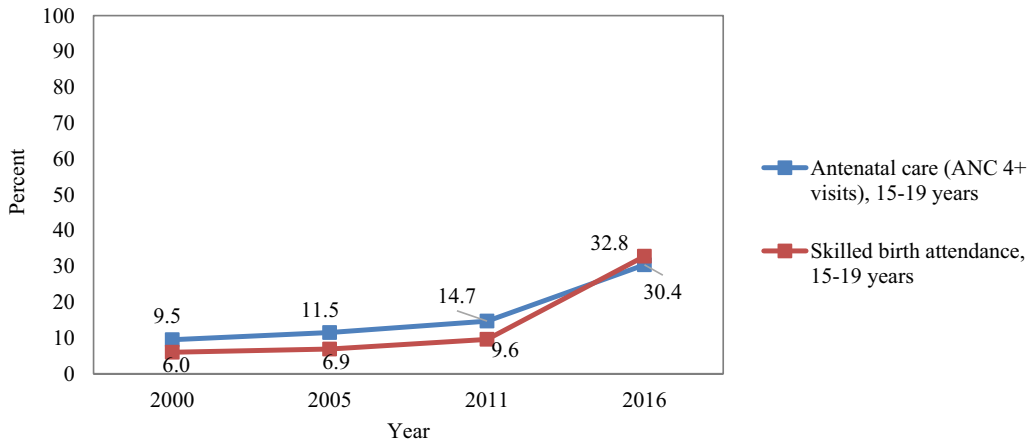

Fig. 2 Health service uptake among adolescents in Ethiopia (2000–2016)

incidence of legal and clandestine abortions based on 2014 data shows that adolescents who were sexually active (< 12 months) had the highest proportion of legal abortions (64%) when compared to other age groups [31]. For example, a study in one hospital in Ethiopia found that women under the age of 19 years were twice as likely to have a second trimester abortion compared to their older counterparts [34]. The higher abortion rate among adolescents suggests barriers in access to and use of contraceptive services, with at least one-third of pregnancies occurring among 13–16-year-olds being unintended [35]. There is no evidence that adolescents are more likely than older women to have clandestine abortions. However, critical gaps remain; although abortion is legal under specific circumstances, an estimated one-third of adolescent abortions are clandestine and potentially unsafe, these are mainly due to lack of information about location and availability of services, pressure from families and communities, poorly equipped facilities, absent providers, and a weak referral system [32].

There is some indication that the HIV infection rate in adolescents is declining. However, the numbers of adolescents using condoms and seeking HIV testing show a mixed picture

The estimated number of new annual HIV infections among adolescents aged 10–19 decreased between 2000 and 2018, from 6000 to 3000 cases among both boys and girls [36]. However, there are clear disparities in terms of gender. Similarly, use of condoms among adolescent during premarital sex shows a mixed picture, with a steady increase between 2000 and 2011, but a sharp decline in 2016 [4, 6] (see Fig. 3).

HIV testing among sexually active (< 12 months) adolescent girls who received their results showed good progress between 2005 and 2016 with a percentage point increase of 24%; however, progress slowed between 2011 and 2016, with only a modest percentage point increase of 6%. Meanwhile, HIV testing among sexually active (< 12 months) adolescent boys showed a decline of 33 percentage points between 2011 and 2016 [4, 6].

The actions by the GoE to rapidly scale-up HIV treatment and multi-sectoral approach to HIV/AIDS response are attributed to the prevention of large numbers of new infection in the country [18]. However, the mixed picture on HIV testing and condom use can be linked to low condom distribution to key populations, as a result of repeated stock-outs that could not be alleviated even with some redistribution schemes and diversion of free condoms for commercial purposes [18]. Delays in finalizing the condom strategy and implementation guidelines likely contributed to this [18].

FGM/C rates have shown a promising decline

The proportion of adolescent girls that have undergone FGM/C has sharply decreased by 24 percentage points (from 71 to 47%) between 2000 and 2016 [3, 5]. However, at least 28% of adolescent girls aged 10–14 years had experienced FGM/C in 2016, with Afar having the highest rate at 86% and Tigray the lowest rate at 14%. The high rates of FGM/C in some regions are upheld by traditions that see FGM/C as a means of social acceptance by symbolizing preservation of virginity and improving marriage prospects [37, 38]. However, the overall progress in decreasing FGM/C in the country is attributed to the community involvement, coupled with a legal code that criminalizes perpetuators of such practices [25].

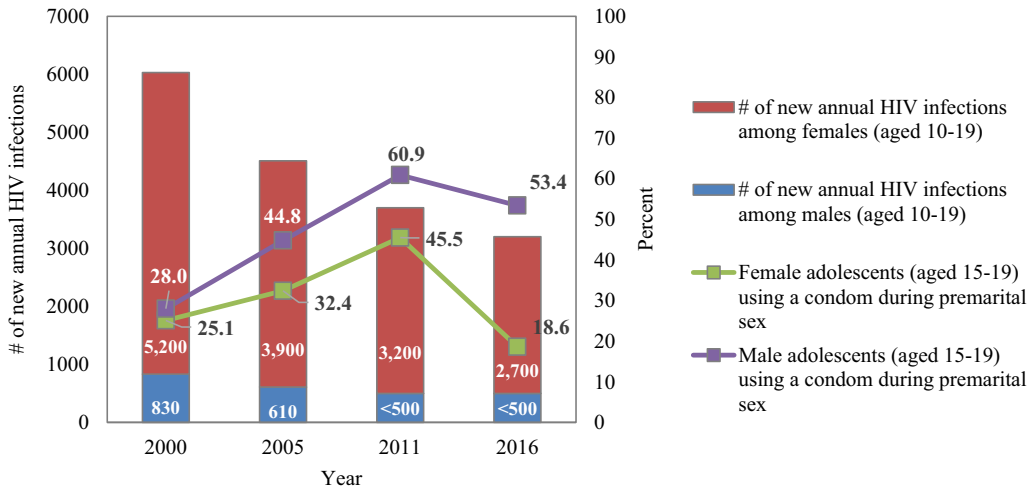

Fig. 3 HIV and condom use among adolescents in Ethiopia (2000–2016)

Levels of reported gender-based violence against girls and women remain high, but attitudes towards wife beating have changed

At least 33% of ever married adolescent girls have ever experienced physical, sexual or emotional violence committed by their husband or partner [5]. As elsewhere in the world, it is likely that many cases of GBV go unreported. The last two decades have seen a significant change in attitudes towards wife beating, with a percentage point decrease of 22% and 49% among girls and boys respectively condoning such violence between 2000 and 2016 [3–6].

Overall, ASRHR in Ethiopia has achieved substantial progress over the last two decades; however, there has been more progress in some areas than in others. Even where there has been progress, it has been inequitable with enormous variations by geographic location, and by education and wealth levels [39].

As we look to the next 10 years, Ethiopia must build on the progress made, and move ahead understanding and overcoming challenges and making full use of opportunities

What are the opportunities and challenges for moving ahead?

In the 25 years since the ICPD, Ethiopia has used available opportunities to accelerate progress on ASRHR and created some new ones. Specifically, the country has demonstrated committed leadership on ASRHR. It has established an enabling legal and policy environment and put in place sound health and gender strategies. These strategies have been well resourced, managed and implemented. Different government sectors have been involved in this work. Further, the Ministry of Health has built partnerships at national and sub-national levels with academic institutions, NGOs and professional associations of public health professionals and clinicians. And at the local level, it engaged extension workers from the communities in which they would serve. These workers were aware of the prevailing context and were trained and supported to engage in dialogue to challenge norms such as those related to child marriage and the low utilization of contraception or maternal health services [12]. Finally, it encouraged the active engagement of youth-serving NGOs and youth-led networks to promote their leadership and engagement [40].

At the same time, a number of challenges for accelerating progress on ASRHR persist. As noted in the previous section, there is some skepticism of the value of investing in adolescent health and development, and limited and uneven awareness of the enabling laws, policies, strategies and plans among both the frontline workers who are mandated to carry them out, and among the communities they are meant to benefit. Likewise, the implementation of these laws, policies, strategies and plans has been hampered by lack of both human and system capacity. As a result, implementation in some places, especially in rural areas has been fragmented and poorly coordinated, and in addition there is limited health system readiness to adequately respond to the needs and preferences of adolescents. Following from this, the progress that has been made in some aspects of ASRHR has been uneven across the country, with evident equity gaps. Finally, although some social norms appear to be changing, many other norms and attitudes, such as those that stigmatize premarital sexual activity, encourage early marriage, and value large family size persist [34, 37, 38]. This is coupled with resistance in some quarters to certain aspects of ASRHR such as comprehensive sexuality education.

In the past two decades, there have been several AYSRH programs implemented all over the country. However, these programs have been implemented with limited, and often token engagement of young people. These programmes could have been more effective if the key stakeholders, adolescents and young people were allowed to take part in design, planning, implementation and monitoring and evaluation. Further, the indirect effects of COVID-19 and the conflicts and internal displacements in the country could contribute to a stalling or even a reversal of the gains described in this commentary [41]. For example, inter-communal tensions along the Southern Nations, Nationalities, and People's (SNNP)-Oromia regional boundaries, violence in Benishangul-Gumuz region and civil strife in the Tigray region have likely negatively affected health and development programmes including those of ASRH [42]. Similarly, natural disasters in Afar, Amhara, Gambella, Oromia, SNNP and Somali regions have likely increased the vulnerability of populations in these regions to health and social problems, and in adolescents this can lead to problems such as unintended pregnancies and GBV [43].

With these opportunities and challenges in mind, what key actions must be taken to accelerate progress on ASRHR?

Ethiopia must make full use of the existing political support for ASRHR policies and programmes and sustain this support in the next stage of strategy development, while working to increase social support. In the last two decades, the Federal Ministry of Health of Ethiopia demonstrated commitment and leadership to addressing adolescents' needs. This is particularly exemplified by the 2016–2020 Adolescent and Youth Health (AYH) Strategy, the Reproductive Health Strategy and the National Strategy and Action Plan on Harmful Traditional Practices. It

is also exemplified by the establishment of an AYH case team with four designated personnel under the MNCH Directorate and the assignment of AYH focal persons at regional, zonal and woreda levels. This political support has been central to the advancement of ASRHR. Moving forward, this must be sustained, especially to ensure that ASRHR is adequately addressed in the next iteration of the AYH strategy.

In contrast, there is still lack of widespread social support for some aspects of ASRHR such as the provision of safe abortion care. Premarital sexual activity is not widely acknowledged; young couples face pressure to have a child shortly after marriage; child marriages and FGM/C while declining, continue to occur; and parent–child communication on SRH is limited. Therefore, moving forward, there is a need to step up efforts to challenge and change social norms affecting ASRHR by engaging religious and community leaders, parents and families, and adolescents themselves more actively, including through community dialogue on traditional values that negatively affect the health of adolescents, particularly girls. Increased school enrolment provides a window of opportunity to advocate for comprehensive sexuality education that challenges societal norms in making SRHR information accessible to adolescents.

Ethiopia must strengthen investment in and financing of interventions to meet the SRH needs of adolescents. While the country has taken great strides in the last two decades to ensure the provision of free maternal and newborn health services in public health facilities, the provision and uptake of some other interventions are hampered by the lack of financing and are not covered by the national health insurance scheme. Moving forward, there is a need to advocate for increased allocation of external and domestic funding for these interventions, taking into account the short- and long-term health and social outcomes as well as the costs of inaction for current adolescents and future generations. Importantly, this must include financial investments in the health sector, as well as other sectors which have a role to play in promoting ASRHR.

The opportunity presented by the country's tremendous progress must be seized to create an enabling legal and policy environment by ensuring that laws and policies are appropriately communicated, applied and monitored. As noted above, there is a low level of awareness about these laws, policies, and strategies among health care providers, teachers, parents, adolescents, and the community at large. Likewise, implementation of these laws and policies is hindered by the limited capacity of the relevant authorities, including law enforcement bodies. Moving forward, there is a need to step up efforts to inform all relevant stakeholders of the laws and policies in place, advocate for their proper implementation, and monitor them to ensure that they are applied appropriately and effectively.

Further, Ethiopia must continue to ensure its strategies are evidence-based and extend the availability of age-disaggregated data on SRHR. The 2016–2020 National AYH Strategy was successful in incorporating evidence-based interventions and delivery approaches, including for ASRHR. Moving forward, it will be important to ensure that the next iteration of the strategy is also grounded in the most up-to-date evidence available. Similarly, initial steps have been taken in gathering age and sex disaggregated data in health facilities in some areas of ASRH. This needs to be extended to all indicators relevant to adolescent health within and outside SRH (i.e., to track progress on the health outcomes addressed in AYH strategy), as well to ensure age and sex disaggregated reporting of this data.

Ethiopia must double down with renewed focus to ensure that its strong national strategies are managed effectively, and interventions delivered at scale, with quality and equity. In 2016, the National AYH Strategy rapidly increased in scope without sufficient expansion of its implementation mechanisms, resources, and infrastructure. As a result, there has been a lack of adequate coordination, inadequate resource allocation and mobilization, and implementation capacity, resulting in a diluted focus on ASRHR [44]. Moving forward, this calls for critically re-evaluating the readiness of the health, education and other systems at all levels (national, regional, zonal/district to facility) to translate strategies into programmatic action in line with a standards-driven approach to improve the quality of SRH services for adolescents. Likewise, it may require starting with a more limited scope and progressively expanding the focus as implementation improves. Specifically, this will require attention to five areas: promoting improved multi-sectoral coordination; ensuring adequate health care provider (and other relevant frontline worker) competencies and attitudes by moving beyond one-off, off-site trainings; tailoring interventions and delivery approaches through sub-national plans and strategies to account for diverse health situations and socio-economic contexts; committing to learn-by-doing on an ongoing basis; and making every effort to address the needs and vulnerabilities of those who are marginalized and could be left behind.

While there is some engagement of adolescents and young people in programme design, planning, implementation monitoring, and evaluation, this is not always fully meaningful, as already noted [40]. Moving forward, it is important that adolescent participation is institutionalized as an essential element of all programmes intended to benefit them, in particular

implementing the guidelines on youth engagement launched by the Ministry of Health. This should be complemented with technical and financial support for adolescent and youth-led organizations.

In light of the current COVID-19 pandemic, it will be particularly important to keep an ear to the ground to understand how COVID-19 (and the responses put in place to address it) is impacting adolescents and address their needs with responses that are sufficiently flexible to remain relevant and appropriate as the pandemic evolves [40]. Further, it is important for peace and harmony to be restored and that the special needs of adolescents and young people are taken into account in responses in humanitarian settings.

Abbreviations

AYH: Adolescent and Youth Health; AIDS: Acquired Immunodeficiency Syndrome; ANC: Antenatal care; ART: AntiRetroViral Therapy; ASRHR: Adolescent sexual and reproductive health and rights; FGM/C: Female genital mutilation/cutting; GBV: Gender-based violence; GDP: Gross Domestic Product; GoE: Government of Ethiopia; HEW: Health Extension Workers; HAART: Highly Active Antiretroviral Treatment; HIV: Human Immunodeficiency Virus; HIVST: HIV self-testing; HMIS: Health Management Information Systems; ICPD: International Conference on population and development; MCPR: Modern contraceptive prevalence rate; MMR: Maternal mortality rate; MNCH: Maternal and Child Health; MoWCYA: Ministry of Women, Children and Youth Affairs Offices; NGO: Non-Governmental Organisation; SBA: Skilled birth attendance; SDG: Sustainable Development Goal; VAW: Violence against women.

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Author contributions

In response to the invitation from the BMC journal special supplement on ASRH in Ethiopia, EA and VC-M conceived the paper. We then constituted a working group consisting of government staff (ES), NGO staff (WK, MA), academics (LO), UN staff (MP, WS, AH) and young people (LM, DD). In the working group, we developed a short outline and successive drafts of the paper. All authors read and approved the final manuscript.

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Reproductive Health

COMMENTARY

Open Access

Two decades of family planning in Ethiopia and the way forward to sustain hard-fought gains!

Mengistu Asnake Kibret[1*] and Lia Tadesse Gebremedhin[2]

Abstract

Family planning (FP) is a human right, and ensuring women's access to FP is central to protecting the health and wellbeing of mothers and children. Over the past two decades, Ethiopia has made FP service more widely available, increasing the contraceptive prevalence rate from 8% in 2000 to 41% in 2019. This remarkable fivefold increase can be attributed to the country's overall development, including investment in education (particularly for girls) and reduction in child marriage, as well as the adoption and implementation of several enabling FP policies and strategies. In Ethiopia, achieving universal access to sexual and reproductive health care services, information, and education, including FP, by 2030 means enhancing these effective government policies and programs. Achieving universal access requires increasing financial resources, including domestic financing through greater government commitment for commodity security and program implementation; strengthening public–private partnerships; and improving service delivery for populations that are hard to reach and/or in humanitarian crisis. The persistence of equity gaps due to regional and/or sociodemographic disparities and the low quality of FP service delivery challenge our progress in Ethiopia. The papers included in this supplement provide additional detail on the overall progress described in this commentary and highlight focal areas for improvement in responding to unmet needs. Current policies and services must adapt, maintain, and build upon these gains and focus on targeted actions in areas identified for improvement. We must sustain the hard-fought gains of the past decades and help shape the prosperous future we advocate for in our society by 2030 and beyond—Leaving No One Behind.

Introduction

Family planning (FP) is a human right, and ensuring women's FP access is central to protecting the health and wellbeing of mothers and children. The Constitution of the Federal Democratic Republic of Ethiopia Article 35(9) clearly sets forth a woman's right to FP, stating that "[t]o prevent harm arising from pregnancy and childbirth and in order to safeguard their health, women have the right of access to family planning education, information and capacity" [1].

Although the 1994 constitution set forth a right to family planning, prior to 2000, the FP program in Ethiopia suffered from a shortage of trained personnel, limited contraceptive commodity supplies, and inadequate supervisory support and monitoring systems: all impacted access to and quality of service provision, evidenced by a low contraceptive prevalence rate [2]. However, over the past two decades, Ethiopia has made the remarkable achievement of increasing the contraceptive prevalence rate from 8% in 2000 [3] to 41% in 2019 [4]. This fivefold increase can be attributed to the country's overall development, including investment in education (particularly for girls) and reduction in child marriage, as well as the adoption and implementation of several enabling FP policies and strategies. Policies that support FP

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services were anchored largely on the principles of the 1987 Safe Motherhood Initiative [5] and the Millennium Development Goals (MDGs) [6]. More recently, Ethiopia's FP2020 commitment, made at the 2012 London Summit on Family Planning, further shaped the national FP strategies [7].

Starting in the early 1990s, the government of Ethiopia worked to shape an enabling environment for prioritizing FP services through various sectoral reforms [8–14]. In the late 1990s and early 2000s, the government implemented these different sectoral reforms and specific policies by developing different strategic documents. Leaders established a cornerstone policy, the Ethiopian flagship health extension program (HEP) [15, 16]. HEP built on the experience of community-based FP programs implemented by international and local nongovernmental organizations (NGOs) in the late 1990s. Among them, the Family Guidance Association of Ethiopia and Consortium of Reproductive Health Associations played major roles in providing services and advocating for better policies and strategies [2]. These NGO-led programs laid the foundation to expanding women's and girls' access to FP information, counseling, and services in Ethiopia. However, the high dropout rates of community volunteers, lack of established incentive mechanisms, and resource scarcity led NGOs to phase out many community-based FP programs [17–19]. The programs' experience, however, informed HEP, which has been instrumental in accelerating progress to meet the country's MDGs [20]. HEP was also critical to increasing the uptake of long-acting reversible contraceptives [21]. Innovative service delivery approaches that include social marketing and using a network of private sector outlets also contribute to increasing access and responding to unmet needs [22, 23].

The Ethiopian government's decisions in 2007 to remove the tax levied on contraceptives [24] and empower the Ethiopian Pharmaceutical Supply Agency to procure and distribute contraceptives facilitated contraceptive supply and access [25]. At the same time, the government also broadened the resource base by increasing domestic financial resources allocated to the FP program: the annual allocation to the FP budget has continued to grow over the last decade. The country's FP program, however, still largely depends on external resources [26]. Advocates must push for continued increase of government financial commitments to FP and reproductive health programs.

The United Nations agenda on Leaving No One Behind is adopted as the vision, promise, and commitment of the Ethiopian government's 2030 Agenda and the SDGs [27, 28]. In Ethiopia, achieving universal access to sexual and reproductive health care services, information, and education, including FP, by 2030 means enhancing these effective government policies and programs. Achieving universal access requires increasing financial resources, including domestic financing through greater government commitment for commodity security and program implementation; strengthening public–private partnerships; and improving service delivery for populations that are hard to reach and/or in humanitarian crisis [29].

Two challenges block further FP progress in Ethiopia: the persistence of equity gaps due to regional and/or sociodemographic disparities and the low quality of FP service delivery. Government agencies should fine tune their growth and development policies to close these gaps and ensure access to quality services for the entire population, in particular youths. The political commitment to incorporate FP into the development arena, as demonstrated in the health sector transformation plan and Ethiopia's other national development plans, will help address this unfinished agenda. In addition, improving the quality of FP service delivery, expanding effective models of service integration, and reaching hard-to-reach population groups or subgroups and people in humanitarian crisis will further enhance the success of FP programs.

The papers included in this supplement provide additional detail on the overall progress described in this commentary and highlight focal areas for improvement in responding to unmet needs. These areas include child marriage in hot-spot areas, gender inequality, adolescent reproductive health, improving quality of care, and counteracting widespread individual and community misperceptions and beliefs. The emergence of the COVID-19 pandemic and other human-produced and natural disasters in the past years might affect the advancement of the overall achievements gained so far. We must adapt our work to maintain these gains. In addition, targeted actions in areas identified for improvement will sustain the hard-fought gains in the past decades and help shape the prosperous future we advocate for in our society by 2030 and beyond—Leaving No One Behind.

Abbreviations

FP: Family planning; HEP: Health extension program; MDG : Millennium development goal; NGO: Nongovernmental Organization; SDG: Sustainable development goals.

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Reproductive Health

COMMENTARY

Open Access

Ethiopia has a long way to go meeting adolescent and youth sexual reproductive health needs

Teshome W. Admassu[1*], Yordanos T. Wolde[2] and Mirgissa Kaba[3]

Abstract

Ethiopia has the second-largest youth population in Africa with about 37.4 million people aged 10–24 years. To meet the needs of this population group, adolescent, and youth health (AYH) programs, including those focused on sexual and reproductive health (SRH) and youth development, have gained traction in Ethiopia in the last two decades, especially following the 2005 election in Ethiopia. However, adolescents and youths in Ethiopia continue to face a high burden of morbidity and mortality from multiple factors including, teenage pregnancy, unplanned pregnancy, compromised nutrition, HIV and STIs, unsafe abortion, early and child marriage, and unmet needs for family planning. To date, adolescents and youth-related interventions in Ethiopia are fragmented under various ministries, uncoordinated, underfunded, project-oriented, lack effective policy implementation, and lack meaningful participation of young people. Addressing adolescents and youth health and development issues require evidence-based, well-tailored, at scale, intensified, coordinated, and holistic national responses. Therefore, there is a need to advocate for a realization of robust government commitment to ensure a multi-sectoral, coordinated, at scale, and well-funded national response to address the multifaceted needs of young people in Ethiopia including their sexual and reproductive health. An example to emulate is the HIV/AIDS response in Ethiopia, which was led by a national council chaired by the President of the Federal Democratic Republic of Ethiopia and spearheaded by a secretariat leveraging resources and implementing a multisectoral national plan down to the kebele level.

Keywords: Adolescent, Youth, Sexual and reproductive health needs, Adolescents and youth-related interventions, Ethiopia

Main text

More than one of every four Ethiopians is an adolescent 10–19 years of age while one in three is a young person aged 10–24 years [1]. Adolescents and youths 10 to 29 years are estimated to constitute 42% of the total population [2]. This section of the population should, in principle, be targeted with the right investment to contribute to the development of the country [3]. The investment among others includes enacting, designing, and implementing policies and programs that foster and support robust national youth development programs.

To meet the needs of this population group, adolescent, and youth development interventions, including those focused on health, and sexual and reproductive health (SRH), have gained traction in Ethiopia during the last two decades, especially following the 2005 election in Ethiopia [4].

The youth development policy environment in Ethiopia is favorable. The government established a youth dedicated ministry, enacted various policies and laws, developed national strategies, frameworks, guidelines, and documents to strategically guide youth development

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efforts in the country. Though, the government's position regarding young people has dramatically shifted since the enactment of the 2004 National Youth Policy (NYP) [5], which recognized youths as change agents and sought to ensure ownership and involvement of the youth in the country's development initiatives and contradicted the sentiment of the Vagrancy Control Proclamation, made that same year that considered young people as problems [6].

Traditionally, youth-related advocacy efforts in Ethiopia have been driven by NGOs, donors, and community-based organizations, and included youth-led initiatives. These advocacy efforts have led to notable gains including the establishment of the Ministry of Youth, Sport, and Culture, in 2001 and the enactment and development of various, policies, laws, strategies, and national documents to improve the status of young people in Ethiopia. The revised family code in 2000 [7] and the revised criminal code of Ethiopia in 2004 [8] that has liberalized abortion in Ethiopia; Development Package for Urban Youth of 2006 [9] and the Ethiopian Youth Development and Transformation Package of 2017 [10] contributed to efforts underway to adolescent and youth development. The revised family code, for instance, has saved thousands of adolescents from child marriage by instituting a minimum age of marriage [11]; the abortion law avoided a significant number of maternal deaths by expanding the provision of comprehensive abortion care services to adolescent and young girls [12, 13]. Other strategies include the 2007 national adolescent and youth reproductive health (AYRH) strategy [14], and the more comprehensive national adolescent and youth health (AYH) strategy of 2016 [15]. In general, these policies, laws, strategies, and packages, provided strategic guidance to improve the well-being of youths, girls, and young women.

Nonetheless, adolescents and youths in Ethiopia continued to suffer from a high burden of morbidity and mortality associated with reproductive health consequences [16]. Ethiopia has the fourth-highest absolute number of women globally married or in a union before the age of 18 years [17]. Over 76% of girls aged 15–19 and 65% of young women aged 20–24 who are married/in union are not using any method of contraceptives. The unmet need for family planning among married girls aged 15–19 years and 20–24-year-olds is 32.8% and 22.4% respectively [18]. Close to eight out of ten adolescents seeking legal abortion or postabortion care were not using family planning methods at the time of their pregnancy [13]. In Ethiopia still. Child marriage below the age of 18 years is not an exception. About 22.2% of women aged 20–24 years gave birth before they reached age 18 years [18]. Nearly half (47%) of adolescent girls aged 15–19 have undergone female genital mutilation [1]. Nearly two-thirds (64%) of women and girls aged 15–24 years believe wife-beating can be justified [13].

As part of its Family Planning 2020 commitments, the government of Ethiopia set ambitious goals to meet the reproductive health needs of adolescents from what these were in 2017. The commitment includes increasing modern contraceptive prevalence (mCPR) among adolescent girls aged 15–19 years from 32 to 40% and 20% to 10% among young women aged 20–24 years; and reducing the unmet need for family planning for those 15–19 and 20–24 years of from age from 20–10% and 18–10% and reducing adolescent pregnancy from 12 to 3%; respectively by the 2020 target [19].

Despite the efforts and progress by the government and its development partners yet there is a long way to meet the targets and ensure adolescent and youth sexual reproductive health. Currently, teenage pregnancy, unplanned pregnancy, HIV and STIs, unsafe abortion, early and child marriage, and unmet needs for family planning and contraceptive, risky sexual practice, among others, are major concerns that require well-tailored, at scale, intensified, coordinated, and holistic national responses [2, 4, 13, 17].

As pointed out above, the policy environment is conducive. Yet, several challenges have prevented the full implementation of policies and programs that meet the sexual and reproductive health needs of youths. Continual restructuring of the Ministry dedicated to youth issues gravely hinders the implementation of the NYP and attainment of its goals. To date, there is no national AYH and/or youth development program and ongoing efforts lack sufficient resource allocation by the government. Effectively addressing youth issues is further hampered by poor implementation of the NYP, poor coordination among various ministries and key stakeholders; lack of age and sex-disaggregated data across ministries, and lack of meaningful engagement of young people at all levels to address issues that affect their lives [4].

As stipulated in the NYP, it is required to establish the youth councils, inter-federal government offices committee and inter-regional bureaus committee, a consortium of non-governmental bodies, and Nationwide Youth Forum to meet provisions in the NYP [4, 5]. This remains yet outstanding affecting adolescent and youth SRH programming and youth development

efforts at large. Furthermore, adolescent and youth SRH programming by different stakeholders are in silos, uncoordinated, and unsynchronized as the Ministry of Women, Children and Youth[1] lacks the mechanism to effectively coordinate and implement youth-related responses with other ministries and stakeholders.

Regional health and youth bureaus are ill-equipped to design, implement, monitor, and evaluate tailored and evidence-based strategies, approaches, and interventions. For instance, there is no regional health or youth bureau that developed a regional policy implementation strategy and or intervention to date. Moreover, existing national and regional interventions, which are mainly funded by development partners, are short-lived projects implemented in piecemeal and skewed towards urban settings [20]. Most-AYSRH focused interventions are funded by international NGOs as projects, and often at a small scale, with no clear direction and/or mechanisms to scale up and sustain successful projects [20, 21]. The engagement of young people in contributing to their own wellbeing and development is weak due to poor government commitment and the absence and implementation of national youth engagement strategies. These youth engagement strategies would allow young people, who have a stake in this programming, to contribute to planning, implementation, and follow-up of projects targeting them [22].

Education, especially comprehensive sexual education (CSE), has positive effects including increasing young people's knowledge and improving their attitudes related to sexual and reproductive health and behaviors as they move into adulthood. The government of Ethiopia has not yet fully implemented its Eastern and Southern Africa (ESA) commitment endorsed in 2013 to improve the sexual and reproductive health rights of young people by increasing coverage and access to age-appropriate, evidence-based, inclusive CSE and friendly SRH services for both boys and girls [22]. Despite the government's commitment, there is no national CSE program in the country to date.

Therefore, there is a strong need to advocate for a realization of robust government commitment to ensure a multi-sectoral, coordinated, at scale, and well-funded national response to address the multifaceted needs of young people in Ethiopia including their sexual and reproductive health. A useful model to emulate can be found in Ethiopia's HIV/AIDS response, which was led by a national AIDS council (NAC) that was established in 2000 and chaired by the President of Ethiopia to oversee the implementation of the federal and regional HIV/AIDS plans, examines, and approves annual plans and budgets and monitors plan performance and impact. The council established a secretariat office to lead, coordinate, and mobilize resources for the implementation of the multi sectoral national HIV/AIDS strategy and plan along with the Federal structure. The NAC spearheaded the multi-sectoral forum composed of government, private, non-governmental, religious, and civic society representatives including youth initiatives and people living with HIV/AIDS, through its secretariat, HIV/AIDS prevention, and control office (HAPCO) [23].

It is time for the government to establish such a high-level body led by the country's top leadership to guide adolescent and youth development programs and ensure coordination among diverse stakeholders and resource allocation. This may call for reviewing existing policies to address current issues of young people, improving coordination efforts and interventions by various ministries and stakeholders, leveraging resources for youth development programs, building the capacity of youth-led initiatives, allocating funding to youth interventions, particularly for youth and youth-led organizations, and generating and documenting evidence on the effectiveness of interventions.

Conclusion

The youth development environment in Ethiopia has made great progress in addressing the multifaced needs of young people, yet critical steps are still needed to fully engage young people and to ensure that their needs and rights are met. The positive development in this arena is the result of continued advocacy efforts by various stakeholders including NGOs, donors, and civil society organizations, including youth-led and youth-serving organizations.

There is a strong need to advocate for a robust government commitment led by the country's top leadership to provide strategic guidance, allocate national funding and improve coordination mechanisms following good lessons from the coordination of HIV/AIDS response through NAC that made a well-coordinated multisectoral response possible.

Finally, the well organized and evidence-informed advocacy effort should gear up towards revisions of outdated policies, strategies, approaches, packages, and frameworks to address holistic adolescent and youth development including adolescent and youth sexual and reproductive health.

[1] The Ministry of Women, Children, and Youth is the current name of the ministry previously known as the Ministry of Youth, Sport, and Culture.

Abbreviations

AIDS: Acquired immunodeficiency syndrome; AYH: Adolescent and youth health; AYRH: Adolescent and youth reproductive health; AYSRH: Adolescent

and youth sexual and reproductive health; CSE: Comprehensive sexual education; ESA: Eastern and Southern Africa; HAPCO: HIV/AIDS prevention and control office; HIV: Human immunodeficiency virus; mCPR: Modern contraceptive prevalence; NAC: National AIDS Council; NGOs: Non-Governmental Organizations; NYP: National youth policy; SRH: Sexual and reproductive health; STIs: Sexually transmitted infections.

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