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The state of youth sexual and reproductive health problems and service utilisation in major towns of Ethiopia: a cross-sectional study

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ABSTRACT

Objectives The study aimed to assess the prevalence of reproductive health problems among youths and the utilisation of services and associated factors in urban Ethiopia.

Design This paper presents findings related to sexual and reproductive health (SRH) based on a formative assessment of the Integrated Youth Activity which is conducted by cross-sectional study.

Setting Youths from community and higher education institutions were included from 13 major urban towns of Ethiopia in the study.

Participants A total of 1954 youths from community settings were included from randomly selected eligible households and 1261 students were included from higher education institutions.

Primary outcomes The youths' experience of unwanted pregnancy; exposure to high-risk sexual behaviour (HRSB); SRH service utilisation; and current use of family planning (FP) services.

Results Among youths, 35% have engaged in HRSB, more than 14% have experienced at least one unwanted pregnancy and 26.7% have used SRH services. Additionally, only 26.4% of female youths use FP. The uptake of SRH services is lower among unmarried youths, those aged 18–19, individuals with no access to mass media and those who do not encounter SRH messages. Unintended pregnancy among women is common among those in higher education, lacking comprehensive HIV knowledge and engaging in HRSB. HRSB is prevalent among youths with no education, aged 18–19, who have not used SRH or FP services, and those with multiple social media accounts.

Conclusion A relatively high proportion of youths exhibit low uptake of SRH and FP services, with a higher proportion exposed to HRSB and unintended pregnancy. Barriers to the utilisation of SRH services as well as increased risk of HRSB, including unwanted pregnancies, are often linked to poor access to accurate and relevant SRH information. To address this gap, delivering targeted SRH-related messages through social media and mass media broadcasts can play a transformative role. This approach not only broadens youth access to reliable SRH information but also enhances their health literacy by increasing the credibility and relevance of the information provided.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The study is generalisable to urban and educated youth in Ethiopia, as it includes participants from major urban towns and higher education institutions.
⇒ The limitation of this study is the lack of qualitative findings to explain and complement the quantitative results.

INTRODUCTION

Adolescents and youth make up a significant portion of the global population, totalling 1.8 billion, with most residing in developing nations. In Africa, nearly one-third of the population is aged 15–29 years.[1] In Ethiopia, youth constitute over one-fifth of the total population and one-third of urban residents[2] with their numbers increasing annually by 9% nationwide, 18% in urban areas and 5.9% in rural regions.[3]

Adolescence and youth mark a transitional phase from childhood to adulthood which is marked by rapid physical, cognitive and psychosocial development, including puberty and increasing independence from parents.[4] It is also associated with heightened risk-taking behaviours and emotional reactivity, influenced by both external and internal factors.[5] Despite their resistance to disease, older youths face the highest global mortality globally,[4 6] with sub-Saharan Africa reporting 29 deaths per 1000 youths—more than double the global average of 14 per 1000.[4 7] The leading causes of death—substance abuse, risky sexual behaviour exposing them to HIV/AIDS, complications arising

from unintended pregnancies and violence—are largely preventable.[4 8]

Youth health often receives limited attention in policies and services due to the perception that young people are generally healthy.[1] While youth-friendly health services exist, their utilisation remains low due to insufficient knowledge, fear of stigma and concerns about confidentiality. For instance, many young people avoid seeking care due to fear of being recognised in clinic waiting rooms.[9 10]

Addressing adolescent and youth health requires a comprehensive approach that supports their evolving needs and promotes lifelong healthy behaviours.[11] To this end, the Ethiopian government and Ministry of Health have developed various strategies and guidelines to improve youth health outcomes.[12 13] USAID has granted Amref Health Africa and its partners to implement the Integrated Youth Activity (IYA) programme, focusing on urban areas of Ethiopia. Effective implementation requires a deep understanding of youth reproductive health behaviours and service utilisation. This study aims to assess reproductive health risks, such as risky sexual behaviour and unintended pregnancies, and the use of sexual and reproductive health (SRH) services among urban youths in Ethiopia. Additionally, it explores factors influencing high-risk sexual behaviour (HRSB) and barriers to accessing SRH services.

METHODS

Study context

The Ethiopian government has developed policies and strategies to leverage youth potential for demographic and economic growth.[14] The Ministry of Health has formulated a youth reproductive health strategy and engagement guidelines to enhance youth health.[12 13] USAID's Integrated Youth Activity (IYA), implemented by a consortium led by Amref Health Africa aims to empower youth through the 'Kefeta' project. This initiative establishes youth-led service delivery systems in 18 major Ethiopian cities (online supplemental annex A). A formative assessment was conducted to inform the project's implementation,[15] identifying youth challenges and guiding appropriate interventions. This paper presents findings from that assessment.

Study area and period

Although the IYA programme (Kefeta) operates in 18 towns, the data collection was conducted in 13 towns, excluding Dessie, Kombolcha, Mekelle, Semera/Logia and Debre Birhan due to security concerns. The selected towns are major urban centres and regional and zonal capitals. Study participants were selected from both community settings and higher education institutions (10 universities and 6 colleges) within these towns (online supplemental annex A). Data collection took place from 12 ecember 2021 to 3 January 2022.

Study population, sampling procedures and sample size

The study population comprised adolescents and youth aged between 18 and 29 years, identified through household surveys in community settings and higher education (HEI) institutions. In community settings, participants were identified from 63 enumeration areas (EAs) across 13 towns. A census identified households with at least one youth aged 18–29 years, and 32 households per EA were selected via systematic random sampling. If multiple eligible youths were present in a household, one was selected randomly. Among 11 615 surveyed households, 69% had at least one eligible youth,[15] and 1954 youths were included in the study.

For HEIs, the samples were divided between universities (60%) and technical and vocational education training colleges (40%), with proportional distribution among institutions. Eligibility included third-year students and above, and participant selection based on university records. A total sample of 1261 HEI students aged 18–29 years participated in the study.

Data collection tool

The Kefeta IYA formative assessment used the Positive Youth Development (PYD) framework. The SRH section adapted standard tools from the Demographic and Health Survey[16] and the PYD framework.[17] These tools were refined through consultations with Kefeta consortium members and programmed into Kobo Toolbox for electronic data collection. Trained interviewers administered the survey, covering sociodemographic characteristics, media usage, life skills, SRH knowledge, attitudes, service utilisation, facilitators and HRSBs.

Data collectors and field work

Experienced data collectors and supervisors, fluent in local languages and preferably under 30 years old, were recruited for data collection. They underwent comprehensive training on the study subject and data collection tool. Data collection was conducted using tablet computers with Kobo Toolbox. To ensure data quality, a rigorous process was followed before, during and after data collection. Data collectors received both physical and virtual supervision, and a technical team ensured proper data management.[15]

Operational definitions

- Fertility knowledge: classified as good or poor based on four knowledge questions. Respondents answering at least two questions correctly were categorised as having good knowledge; otherwise, they were classified as poor.
- Comprehensive HIV knowledge: defined as knowing that consistent condom use and having a single uninfected, faithful partner reduce HIV risk, recognising that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about HIV transmission or prevention.[16]
- Attitude towards condoms: assessed using four attitude questions. Respondents answering at least two positively were categorised as having a good attitude; otherwise, they were classified as poor.

- Attitude towards SRH-related issues: assessed using six items adapted from the PYD framework. Respondents answering at least 80% of the items positively were categorised as having a good attitude; otherwise, they were classified as poor.[17]
- Critical thinking skills: assessed using six items from the PYD framework. Respondents answering at least 80% of the items positively were classified as having good skills; otherwise, they were categorised as poor.[17]
- Self-efficacy skills: assessed using six items from the PYD framework. Respondents answering at least 80% of the items positively were categorised as having good skills; otherwise, they were classified as poor.[17]
- Self-control (emotional control): assessed using six items from the PYD framework. Respondents answering at least 80% of the items positively were classified as having good control; otherwise, they were categorised as poor.[17]
- Interpersonal skills (social and communication skills): assessed using six items from the PYD framework. Respondents answering at least 80% of the items positively were categorised as having good skills; otherwise, they were classified as poor.[17]
- Exposure to HRSB: assessed among unmarried youth with prior sexual experience using five items: vaginal intercourse without a latex condom (male or female), had sex with someone not known well or just met, used alcohol or drugs before or during sex, sex with someone who has had many sexual partners, and had sex with someone not trusted or faithful. The HRSB is coded as yes if the youth's sexual history is yes for at least one of the above items.

Data management and analysis

Data cleaning and analysis were conducted using Stata V.17. Data cleaning was conducted using quality check reports, descriptive analysis to identify outliers, and data collection reports. To adjust for disproportionate sampling, all analyses were weighted:

- HEI data: weighted based on the ratio of students in each HEI to the allocated sample size.
- Community sample data: weighted using the inverse probability of selection, considering multistage sampling process.

Descriptive analysis, including frequencies, cross-tabulations and graphical presentations, summarised participant characteristics and outcome variables.

Multilevel logistic regression was used to identify predictors of SRH service utilisation, family planning (FP) utilisation, occurrence of unwanted pregnancy, and HRSB. This approach accounted for clustering effects at the town level. Composite variables (eg, critical thinking, self-efficacy skills, self-control: emotional control, and interpersonal: social and communication skills) had reliability of coefficients (Cronbach's alpha) ranging from 75% to 88%. The intraclass correlation coefficient (ICC) was used to assess town-level variation. Statistical significance was set at a p value of less than 0.05.

RESULTS

The results section is organised into five major sections which are sociodemographic characteristics and media use; knowledge, attitude and skills of youths on SRH-related issues; SRH service utilisation experiences and its facilitators; SRH risks and their facilitators; and synthesis of reproductive health problems in urban Ethiopia.

Sociodemographic characteristics and media use of youths

The study included 3215 adolescents and youths from community and higher education institution settings, achieving a response rate of 97%. Most participants were from community settings. Among HEI participants, the 20–24 age group was the largest demographic. A significant gender disparity exists, with female predominating in community settings and males in HEI settings. Over 90% of young adults reported owning a mobile phone, with more than two-thirds owning smartphones (table 1).

More than two-thirds of young adults (63% in the community and 99% in HEI setting) have at least one social media account. Even among those without an account, nearly all reported people use at least one social media platform (51.8% weekly and 48% daily). Daily social media engagement was reported by 44% of community-based young adults and 89% of those in HEIs, with an average time of 89.3 min and 83.6 min per day, respectively (table 1).

More than 76% of young adults (92% in the community and 76.1% in HEIs) use radio or TV, with TV being more common in community settings and radio more common in HEIs. One-third of young adults in both settings use both media types (table 1). Preferred times for radio listening are Saturday nights after 20:00 and mornings between 08:00 and 12:00, whereas TV is most frequently watched on Sunday afternoons (14:00–18:00) and nights after 20:00 (figure 1).

Knowledge, attitude and skills of young adults on SRH-related issues

Over 37% of young adults (37.2% in the community and 42.5% in the HEI) have seen or heard SRH-related messages, with TV being the most common source (63.9% in the community and 32.8% in HEI), followed by social media (31.1% in the community and 46.5% in HEI). Comprehensive HIV knowledge was reported by 37.8% of the young adult community and 35.7% of HEI youth. However, over 90% (90.9% in the community and 91.3% in HEI) have poor attitudes towards SRH-related issues. Poor self-efficacy skills were reported by 96.7% of community youth and 73.1% of HEI youth. Social and communication skills were relatively better developed compared with critical thinking and emotional control skills (table 2).

Sexual and reproductive health service utilisation experiences and its facilitators

Most young adults in both community and HEI settings have not received SRH or HIV/AIDS prevention and

Table 1 Characteristics and media use of youths by setting

		Community % n=1954	HEI % n=1261	Total % n=3215	Unweighted # n=3215
Youth age	18–19 years	20.6	1.6	18.9	434
	20–24 years	39.6	88.7	44.0	1881
	25–29 years	39.8	9.7	37.1	900
Gender	Female	72.9	22.9	68.4	1674
	Male	27.2	77.1	31.6	1541
Relationships	Married	31.1	7.1	29.0	870
	Not married, have sexual partner	13.8	20.1	14.3	523
	Not married, no sexual partner	55.1	70.5	56.5	1784
	Others	0.0	2.3	0.2	38
Education	No formal education	3.6		3.3	87
	Primary education	24.9		22.7	517
	Secondary education	35.5		32.4	712
	Currently attending HEIs	13.1	100	20.8	1477
	Completed HEIs	22.9		20.8	422
Mobile phone ownership	Yes, smartpPhone	60.0	86.2	62.3	2135
	Yes, feature/basic phone	29.5	11.8	27.9	796
	No, I do not have a mobile phone	10.5	2.0	9.8	284
Work for most of the time in the last 12 months	No	58.8	67.5	59.6	1936
	Yes	41.2	32.5	40.4	1279
Telegram account	No	43.3	2.5	39.6	995
	Yes	56.7	97.5	60.4	2220
Facebook account	No	47.3	8.8	43.8	1034
	Yes	52.7	91.2	56.2	2181
YouTube account	No	56.5	4.7	51.9	1297
	Yes	43.5	95.3	48.1	1918
TikTok account	No	62.8	19	58.9	1539
	Yes	37.2	81	41.1	1676
Instagram account	No	78.7	31.3	74.4	2003
	Yes	21.3	68.7	25.6	1212
Twitter account	No	89.8	44.7	85.8	2302
	Yes	10.2	55.3	14.3	913
LinkedIn account	No	94.2	48.6	90.1	2460
	Yes	5.8	51.4	9.9	755
# of social media (SM) accounts	No SM	36.8	0.8	33.6	796
	One or two SMs	17.0	2.9	15.8	405
	Three or four SMs	28.0	23.9	27.7	792
	Five or more SMs	18.2	72.4	23.0	1222
Frequency of social media use	Didn't use any SM	0.3	0.1	0.3	7
	Use at least one SM everyday	43.9	89.1	48.0	1839
	Use at least one SM once a week	55.8	10.8	51.8	1369
Mean stay on social media on daily basis in minutes		89.3'	54.8'	83.6'	

Continued

Table 1 Continued

		Community % n=1954	HEI % n=1261	Total % n=3215	Unweighted # n=3215
Number of social media used everyday	Everyday non-users	56.0	10.9	52.0	1375
	One SM	13.6	14.3	13.6	454
	Two SMs	14.2	25.5	15.2	526
	Three SMs	8.6	19.2	9.6	376
	Four to seven SMs	7.7	30.1	9.7	484
Mass media	No mass media used	7.7	23.9	9.2	431
	Uses radio only	6.1	14.2	6.8	315
	Uses only TV	52.8	25.4	50.3	1303
	Uses both TV and radio	33.4	36.5	33.7	1166

All reported % are calculated within a column. All % are weighted percent.
HEI, higher education institutions; SMs, social media; TV, television.

control training. Young adults in HEIs had better training access than those in community settings. Only 26.6% of females in community and 17.8% in HEI setting are currently using FP methods, with short-acting FP methods the most common. Health centres were the primary service providers in settings. About 27% of young adults (27.1% in the community and 23.1% in HEI) used SRH services in the past 3 months, but only 13% of health facilities are friendly (table 2).

Multilevel analysis indicated that young adults in community settings, older individuals, married individuals, those with sexual partners, those without social media accounts, those without HRSB and those exposed to SRH-related messages had higher odds of using reproductive health and FP services (online supplemental file 2). The ICC showed significant town-level variation for SRH services use (0.04 (0.02, 0.11)) and FP utilisation (0.07 (0.02, 0.17)).

The adjusted multilevel analysis revealed several significant factors influencing SRH service utilisation. Community-based young adults had 50% lower odds of using SRH services, while males had 70% lower odds. Unmarried youth with sexual partners had 79% lower odds, whereas unmarried youth without sexual partners had 90% lower odds. Age was also a determining factor, with those aged 20–24 having 2.06 times higher odds of using SRH services, and those aged 25–29 having 2.33 times higher odds. Additionally, young adults who used both TV and radio had 2.17 times higher odds, while those exposed to SRH-related messages had 2.34 times higher odds. Receiving SRH and life skills training was also associated with increased utilisation, with odds of 1.44 and 1.42 times higher, respectively (table 3).

Additionally, unmarried youth with a sexual partner (78%), those without a sexual partner (95%) and those with three or more social media accounts (39%) had lower odds of using FP services. Youth aged 20–24 (1.99 times) and 25–29 (2.57 times), those using both TV and radio (1.94 times), those exposed to SRH-related messages (1.38 times) and those with positive condom

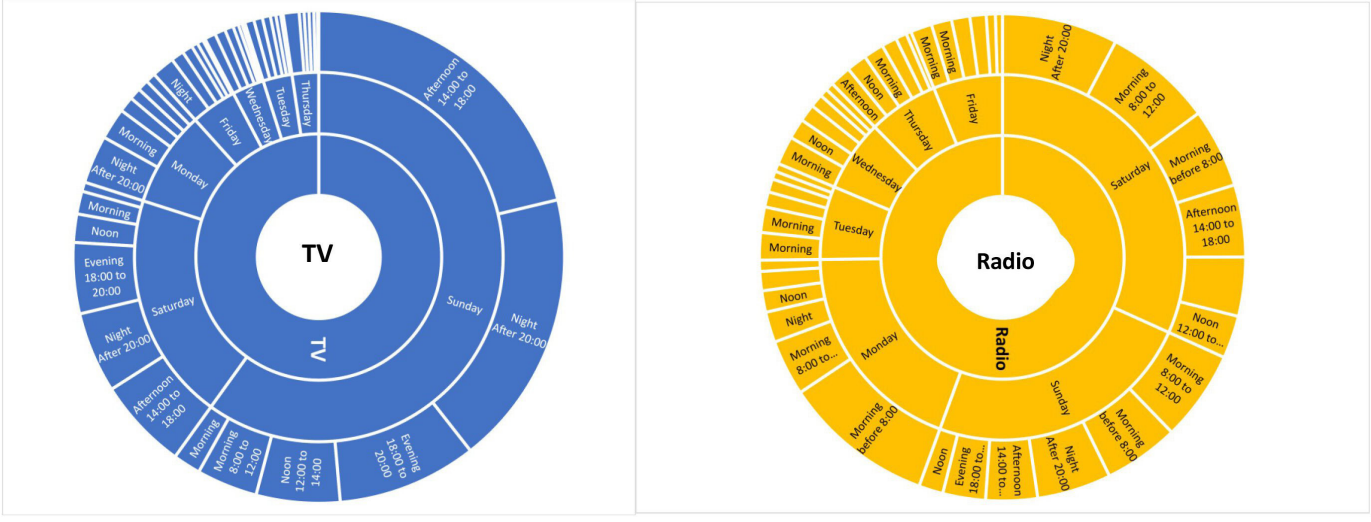

Figure 1 Mass media use and preferences of time on the day of mass media use.

Table 2 Risks and sexual and reproductive health utilisation experiences of youths by setting

		Community % (n=1964)	HEI % (n=1261)	Total % (n=3225)	Unweighted # (n=3225)
Knowledge, attitude, and skills of youths on SRH-related issues					
Seen/heard SRH-related messages in the last 3 months	No	62.8	57.5	62.4	1852
	Yes	37.2	42.5	37.6	1363
Sources of SRH-related messages (n=1363)	TV	63.9	32.8	60.7	716
	Social media	31.1	46.5	32.7	459
	Health facility/health professionals	27.4	16.0	26.2	362
	Radio	18.0	21.9	18.4	305
	Family/friends	12.4	5.2	11.7	171
	Printed media	1.9	6.1	2.3	64
Fertility knowledge	Poor knowledge	47.1	55.7	47.9	1678
	Good knowledge	52.9	44.4	52.1	1537
Has comprehensive HIV knowledge	No	62.3	64.3	62.4	2055
	Yes	37.8	35.7	37.6	1160
Attitude on condoms	Poor attitude	33.4	49.5	34.8	1385
	Good attitude	66.7	50.5	65.2	1830
Attitude on SRH-related issues	Poor SRH attitude	90.9	91.3	90.9	2897
	Good SRH attitude	9.1	8.7	9.1	318
Critical thinking skills	Poor	59.9	46.0	58.7	1710
	Good	40.1	54.0	41.4	1505
Self-efficacy skills	Poor	96.9	73.1	94.8	2772
	Good	3.1	26.9	5.2	443
Self-control: emotional control	Poor	62.3	57.6	61.9	1824
	Good	37.7	42.4	38.1	1391
Interpersonal skills: social and communication skills	Poor	45.4	45.7	45.4	1399
	Good	54.7	54.4	54.6	1816
Health risks experience of youths					
Ever had sex	No	61.2	81.5	63.0	2131
	Yes	38.9	18.5	37.0	1084
Exposure to high-risk sexual behaviour (n=1084)	No	67.7	6.3	65.0	608
	Yes	32.3	93.7	35.0	476
Unwanted pregnancy (n=665)	No	85.7	47.7	85.5	552
	Yes	14.3	52.3	14.5	113
Outcome of the most recent unwanted pregnancy (n=113)	Delivered alive baby	67.6	28.3	66.9	71
	Abortion in a HFs	11.7	28.3	12.0	15
	Abortion outside of a HFs	7.0	27.4	7.4	9
	I am still pregnant	3.1	12.7	3.3	7
	Stillbirth	7.1	3.4	7.1	6
	Other	3.4	0.0	3.4	5
Mean number of Unwanted pregnancies		1.7	1.6	1.7	
Tobacco consumption	No	96.8	76.7	95.0	2810
	Yes	3.2	23.3	5.0	405
Chew chat	No	80.6	75.7	80.2	2463
	Yes	19.4	24.3	19.8	752

Continued

Table 2 Continued

		Community % (n=1964)	HEI % (n=1261)	Total % (n=3225)	Unweighted # (n=3225)
Drink alcohol	No	67.0	51.6	65.6	1976
	Yes	33.0	48.4	34.4	1239
Use at least one type of substance use	No	82.0	66.5	80.6	2336
	Yes	18.0	33.5	19.4	879
Reproductive health service utilisation and service characteristics					
Received HIV/AIDS prevention and control training	No	93.6	78.4	92.2	2818
	Yes	6.4	21.6	7.8	397
Received SRH training	No	93.7	86.1	93.0	2937
	Yes	6.3	13.9	7.0	278
Current use of FP (n=1674)	No	73.4	82.2	73.6	1156
	Yes	26.6	17.8	26.4	518
Types of FP methods (n=1674)	Did not use FP	73.4	82.2	73.6	1156
	Short-acting FPs (pills, condoms, injectables)	14.3	11.6	14.2	300
	Long-acting FPs (implants, IUCD, surgical)	10.5	3.0	10.3	188
	Other types of FPs (traditional FPs)	1.9	3.2	1.9	30
Source of the FP services (n=518)	Health centres	59.0	37.1	58.5	259
	Private health facilities	19.5	10.0	19.3	109
	Government hospital	9.5	24.2	9.8	72
	NGO clinics	4.4	11.4	4.6	26
	FGAE clinics	3.9	2.9	3.9	30
	Other	3.7	14.4	3.9	22
Used SRH services	No	72.9	76.9	73.3	2280
	Yes	27.1	23.1	26.7	935
Youth friendliness of the health facility (n=789)	No	89.9	56.6	86.9	592
	Yes	10.1	43.4	13.1	197

All % are weighted percent.

attitudes (1.36 times) had greater odds of using FP services (table 3).

Sexual and reproductive health risks and their facilitators

Sexual intercourse was reported by 39% of young adults in the community and 18.5% in the HEI. Among them, close to one-third (32.3%) in the community and 94% of young adults in the HEI engaged in HRSB, defined as condomless sex, sex with an unfamiliar or untrusted partner, drugs or alcohol use before sex or having multiple sexual partners. Unwanted pregnancy was experienced by 14.3% of community youth and 52.3% of HEI youth, with a quarter and 30%, respectively, resulting in abortion or stillbirth. Substance use was reported by 18% in the community and 33.5% in HEI settings, with alcohol being the most common (table 2).

The multilevel analysis revealed that young adults in HEIs had significantly greater odds of experiencing unwanted pregnancy (52.3% vs 14.3%) and engaging in HRSB (93.7% vs 32.3%) compared with their counterparts in community settings. Unmarried young adults, particularly those without a sexual partner, were also more likely to be exposed to both unwanted pregnancy and HRSB. Conversely, young adults who completed higher education and those who regularly watched TV had lower odds of experiencing these risks. However, young adults with multiple social media accounts and those who did not use FP and SRH services faced a higher likelihood of engaging in HRSB. Notably, young adults with a history of HRSB were at an increased risk of experiencing unwanted pregnancy, with 27.3% reporting an unwanted pregnancy compared with 12.6% among those without such behaviour (online supplemental file 2). Additionally, the ICC for city-level variation was significant for both unwanted pregnancy (0.03

Table 3 Association of risks and sexual and reproductive health utilisation experiences reported aOR (95% CI), multilevel analysis reported

	Used SRH services	Current use of FP services	Unwanted pregnancy	High-risk sexual behaviour
Setting: community	0.50 (0.31, 0.80)*	0.58 (0.29, 1.16)	0.16 (0.03, 0.77)*	1.08 (0.30, 3.94)
Gender: male	0.30 (0.23, 0.38)*			
Relationship				
Not married, have sexual partner	0.21 (0.16, 0.29)*	0.28 (0.19, 0.41)*		
Not married, no sexual partner	0.10 (0.07, 0.12)*	0.05 (0.04, 0.08)*		
Others	0.21 (0.09, 0.48)*	0.27 (0.06, 1.19)		
Youth age				
20–24 years	2.06 (1.41, 3.00)*	1.99 (1.22, 3.26)*	2.10 (0.54, 8.09)	0.47 (0.19, 1.16)
25–29 years	2.33 (1.57, 3.47)*	2.57 (1.55, 4.26)*	1.98 (0.52, 7.57)	0.17 (0.07, 0.43)*
Highest level of education				
Primary education	1.35 (0.76, 2.38)	1.79 (0.94, 3.44)	1.06 (0.46, 2.44)	0.65 (0.25, 1.65)
Secondary education	1.01 (0.56, 1.82)	1.45 (0.74, 2.85)	0.56 (0.22, 1.44)	0.69 (0.25, 1.90)
Currently attending HEs	1.07 (0.52, 2.18)	1.51 (0.64, 3.58)	0.67 (0.17, 2.60)	2.26 (0.62, 8.25)
Completed HE	1.13 (0.60, 2.11)	1.24 (0.60, 2.57)	0.26 (0.08, 0.85)*	0.27 (0.08, 0.89)*
Use of mass media				
Uses radio only	1.32 (0.87, 2.02)	1.83 (0.97, 3.47)	1.17 (0.42, 3.22)	3.27 (1.11, 9.63)
Uses only TV	1.39 (0.99, 1.95)	1.35 (0.84, 2.19)	0.81 (0.37, 1.78)	1.41 (0.56, 3.54)
Uses both TV and radio	2.17 (1.55, 3.03)*	1.94 (1.18, 3.19)*	0.65 (0.29, 1.49)	1.88 (0.72, 4.91)
Number of social media accounts				
One or two social medias	0.92 (0.65, 1.29)	1.02 (0.68, 1.52)	1.09 (0.56, 2.14)	2.01 (1.02, 3.93)*
Three or four social medias	0.61 (0.43, 0.86)*	0.65 (0.42, 0.99)*	0.95 (0.41, 2.17)	2.99 (1.46, 6.15)*
Five or more social medias	0.87 (0.60, 1.28)	0.83 (0.50, 1.38)	2.18 (0.80, 5.94)	3.40 (1.35, 8.57)*
Seen/heard SRH-related messages: yes	2.34 (1.93, 2.84)*	1.38 (1.05, 1.81)*	1.09 (0.68, 1.74)	0.62 (0.38, 1.00)
Fertility Knowledge: yes	1.14 (0.94, 1.39)	1.09 (0.83, 1.44)	1.57 (0.97, 2.54)	1.06 (0.66, 1.70)
Comprehensive HIV knowledge: yes	1.00 (0.81, 1.23)	1.09 (0.82, 1.45)	0.51 (0.31, 0.84)*	1.38 (0.85, 2.24)
Attitude of young people to condom use: yes	0.9 (0.73, 1.12)	1.36 (1.02, 1.83)*	1.18 (0.71, 1.96)	1.74 (1.02, 2.97)*
Attitude of youths on SRH issues: yes	0.84 (0.61, 1.17)	1.02 (0.67, 1.55)	1.43 (0.68, 3.01)	0.96 (0.44, 2.11)
Basic life skills				
Moderate life skill	0.82 (0.64, 1.05)	0.78 (0.56, 1.07)	1.23 (0.72, 2.11)	0.58 (0.32, 1.05)
Good Life skill	1.14 (0.91, 1.44)	1.10 (0.78, 1.57)	1.35 (0.72, 2.56)	1.14 (0.60, 2.15)
Received training on SRH and other health issues: yes	1.44 (1.03, 2.02)*	1.24 (0.72, 2.13)	2.07 (0.77, 5.6)	2.51 (0.95, 6.66)
Received training on life skills: yes	1.42 (1.01, 2.00)*	0.83 (0.46, 1.48)	0.51 (0.14, 1.85)	2.17 (0.70, 6.71)
Experience high-risk sexual behaviour: yes			2.68 (1.35, 5.31)*	
Used SRH-related services: yes				0.20 (0.10, 0.42)*
Currently using FP services: yes				0.42 (0.20, 0.89)*
City—ICC	0.04 (0.02, 0.11)	0.07 (0.02, 0.17)	0.03 (0.01, 0.18)	0.15 (0.05, 0.39)

Reference group: setting: HEIs, gender: female, relationship: married, youth age: 15–19 years, highest level of education: no formal education, use of mass media: no mass media, number of social media accounts: no social media accounts, seen/heard SRH-related messages: no, fertility knowledge: no, comprehensive HIV knowledge: no, attitude of youths on condom use: no, attitude of youths on SRH issues: no, basic life skills: poor life skill, received training on SRH and other health issues: no, received training on life skill skills: no, experience high-risk sexual behaviour: no, used SRH-related services: no, currently using FP services: no. All % are weighted percent.
*Significant with p value <0.05.
FPs, family planning methods; HE, higher education; HEIs, higher education institutions; HRSBs, high-risk sexual behaviours; ICC, intraclass correlation; SM, social media; SRH, sexual and reproductive health; TV, television.

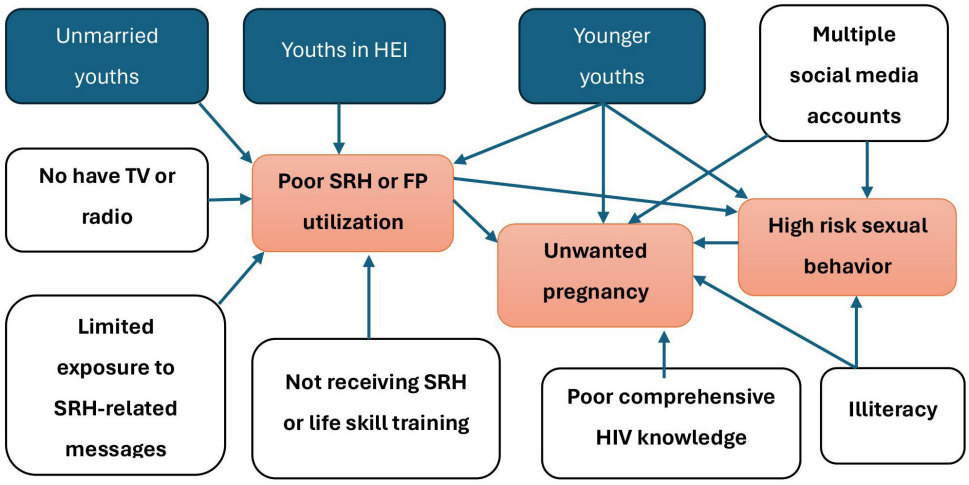

Figure 2 Relationships of barriers and facilitators to the double burden SRH-related problems young adults are facing.

(0.01, 0.18)) and HRSB (0.15 (0.05, 0.39)), suggesting that geographic location influences these outcomes (table 3).

The adjusted multilevel analysis indicated that young adults in community settings (84%), those who completed higher education (74%) and those with comprehensive HIV knowledge (49%) had lower odds of experiencing unwanted pregnancy. Conversely, young adults with a history of HRSB were 2.68 times more likely to experience unwanted pregnancy compared with their counterparts. Additionally, young adults aged 25–29 years (83%), those who completed higher education (73%), those who used SRH services (80%), and those who used FP services (58%) had lower odds of engaging in HRSB. However, young adults with multiple social media accounts and those with a positive attitude towards condoms had 1.74 times greater odds of engaging in HRSB (table 3).

The double burden of SRH-related problems

Urban Ethiopian youth face a dual burden of low SRH service utilisation and high risk of sexual behaviour leading to unwanted pregnancies, primarily due to inadequate awareness. Figure 2 summarises the barriers to SRH use and facilitators of HRSB. Poor SRH service or FP utilisation is significantly associated with risky sexual behaviours and unintended pregnancies. Many statistically significant barriers and facilitators arise from limited access to adequate and relevant SRH information, as illustrated in the white-background boxes in figure 2. The lack of sufficient SRH awareness is evident in the low levels of comprehensive HIV knowledge and the prevalence of illiteracy or lack of formal education, both of which were identified as significant factors. Contributing to this challenge are limited exposure to SRH-related messages, lack of access to TV or radio, absence of SRH or life skills training, and the influence of multiple social media accounts, all of which hinder access to essential SRH information.

DISCUSSION

A significant proportion of young adults have not used SRH services in the past 3 months. Those at higher risk include young adults in community, males, unmarried individuals, younger individuals, those without access to TV or radio, those with limited exposure to SRH-related messages and those not receiving SRH or life skills training. Nearly one in seven female young adults have experienced at least one unwanted pregnancy, with females in HEIs, those with no formal education, those lacking comprehensive HIV knowledge and female young adults with experience of HRSB being more susceptible to unwanted pregnancy compared with their counterparts. Moreover, more than one-third of young adults have experienced at least one HRSB, with those without formal education, young adults aged 15–19, individuals not using SRH and FP services and young adults with multiple social media accounts having greater odds of being exposed to HRSB.

The overall proportion of SRH service utilisation in this study is consistent with findings reported in different geographical regions of Ethiopia.[18–20] In contrast, a higher proportion of SRH service utilisation was reported in other parts of Ethiopia.[21 22] The reason for the higher use of SRH services in the latter studies could be due to the relatively higher proportion of participants who are married. Unmarried and younger young adults (aged 18–19 years) had lower odds of using SRH services than married and older young adults, which is more consistent with studies conducted elsewhere in Ethiopia.[18 21 23] Married and older young adults are more likely to engage in sexual activities, increasing the demand for SRH services such as FP due to greater experience and awareness.

Poor access to SRH information and lack of exposure to TV or radio were associated with lower SRH services utilisation, consistent with findings from previous studies.[18 21–24] Limited exposure to SRH messages also decreased the likelihood of using SRH services. This is because access to mass media enhances young adults' exposure to

SRH-related information, while SRH messages serve as a catalyst, encouraging them to actively seek and use SRH services.

Illiterate young adults were more likely to engage in HRSBs and experience unwanted pregnancies, a finding consistent with prior studies in Ethiopia.[25–29] Educated young adults generally have better access to comprehensive SRH information, enhanced decision-making skills and a greater likelihood of using effective contraceptive methods. In contrast, illiteracy limits access to SRH education, leading to a knowledge gap in safe sexual practices, contraceptive methods and the consequences of risky behaviours, potentially resulting in uninformed decisions in their sexual lives. Female young adults with a history of HRSB were also more likely to experience unwanted pregnancies, likely due to inconsistent or ineffective use of FP methods.

Engagement in risky sexual behaviours was significantly associated with having multiple social media accounts. A previous study in Ethiopia also reported a similar finding, indicating that young adults with frequent social media engagement were 10 times having greater odds to be exposed to risky sexual behaviours.[30] Social media exposes young adults to a wider range of online content, including explicit or risky sexual material and peer influences that may normalise HRSBs. Exposure to such content increases the likelihood of engaging in unprotected sex and multiple sexual partnerships.[31 32]

Furthermore, the results demonstrated a significant association between poor SRH services or FP service utilisation, risky sexual behaviour and unintended pregnancy. This aligned with research conducted in Addis Ababa, which reported a higher prevalence of risky sexual behaviour among young adults who did not use reproductive health services.[33] Having multiple sexual partners is particularly common among risky sexual behaviours among younger young adults, as this life stage is characterised by exploration and experimentation.[5] These findings highlight the urgent need to improve SRH utilisation to mitigate related risks among young adults.

This study has several strengths. Notably, it serves as a foundational study in Ethiopia, where multidimensional reproductive health issues necessitate a comprehensive understanding of the challenges and patterns of service utilisation. Another strength is its generalisability to urban and educated youth, as it includes participants from major urban centres and higher education institutions. However, the study also has limitations. A key limitation is the absence of qualitative findings. Given that the study examines reproductive health risks and service utilisation, qualitative data could have provided deeper insights into some of the quantitative findings.

Programmatic implications of the findings

Lack of access to mass media and absence of SRH or life skills training result in limited exposure to SRH messages, leading to inadequate awareness, low services utilisation and risky sexual behaviour. Illiteracy or lack of formal education can restrict access to SRH education and awareness, creating a knowledge gap about safe sexual practices. Additionally, having multiple social media accounts increases exposure to a wider range of implicit and explicit sexual content, further influencing risky sexual behaviours. The gap in SRH knowledge exacerbates the double burden of SRH-related issues among young adults.

CONCLUSION AND RECOMMENDATIONS

Young adults in urban areas of Ethiopia face multifaceted challenges regarding their SRH. Many young adults exhibit poor SRH service utilisation behaviour and are exposed to HRSB, including unwanted pregnancy. SRH service utilisation is particularly low among young adults in community settings, primarily due to lack of exposure to SRH information. HRSB and unwanted pregnancy are especially prevalent among young adults in community settings, those who are illiterate, those aged 18–19 and those lacking comprehensive SRH knowledge. These issues are strongly linked to the non-utilisation of SRH services, including FP.

The overall SRH status of urban adolescents in urban areas of Ethiopia is concerning and requires urgent attention from stakeholders and programmes such as the IYA Kefeta project. It is recommended that interventions focus on increasing exposure to SRH messages and knowledge through targeted training and information dissemination via social media and mass media. Interventions should consider credibility, access and platform preference among young adults, with special attention to illiterate young adults in community settings.

Social media platforms have broad reach among young adults, particularly in HEIs, while TV and radio are more widely accessed in community settings and are considered more credible sources of SRH messages. However, information dissemination efforts must align with young adults' preferred times for consuming media to maximise impact. Therefore, mass media campaigns should be scheduled to reach all groups effectively, complemented by social media campaigns to counteract exposure to risky sexual content.

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Ethics approval The study protocol was reviewed and approved by the Ethiopian Public Health Association (EPHA) Institutional Review Board (IRB) under approval number EPHA/06/518/21. Permissions were obtained from town administrations and higher education institutions. Prior to conducting interviews, all respondents received comprehensive information about the study's purpose, interview content, and the contact details of the principal investigator (PI) and IRB chairperson. Verbal informed consent was obtained in accordance with the ethical clearance letter. The study adhered to the principles of the Declaration of Helsinki.

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