

Original Research Article

The determinants of pregnancy health literacy among youth in Bogalay Township, Ayeyarwaddy Region, Myanmar

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ABSTRACT

Background: Focusing on adolescent reproductive health is very important, as 16% of the world's population is adolescents. This study aimed to identify the determinants of teenage pregnancy health literacy among youth and explore the perception of teenage pregnancy among youth and their guardians.

Methods: We conducted a cross-sectional study with a mixed-method approach to identify the determinants and perception of pregnancy health literacy among youth in Bogalay Township, Ayeyarwaddy region, Myanmar, between July and December 2020. We did the face-to-face personal interviews with guided self-administered questionnaires among 310 youth and individual depth interviews with 12 youth and 12 of their parents.

Results: About 43% (95% CI 37.1%, 48.1%) were well-versed in pregnancy health literacy issues. This study discovered that youth with high school education and less had a 6.8 (95% CI =1.4, 34.7) fold increase in odds of having poor pregnancy health literacy compared to those with higher education. Moreover, youth who could not earn their income was approximately 5.7 times more likely to have poor pregnancy health literacy than those who could earn. The majority of youth requested to disseminate reproductive health information through various media and channels and that health facilities be well-equipped to provide reproductive health care services to teenagers. Most parents believed that sexual and reproductive health education should be begun only when school-age children reach puberty.

Conclusions: The all-inclusive schooling system should be strengthened continuously in basic schools and universities. Sexual and reproductive health education/teaching programs and adolescents-friendly reproductive health services should be effectively implemented to prevent teenage pregnancy and ensure safer sex practices among teenagers. School-based sexual education programs must involve and assist parents and teachers in taking a more active role in SRH education in schools. In addition, young people should be well-equipped and have secured better and more employment opportunities.

Keywords: Youth, Teenage pregnancy health literacy, Education, Reproductive health care service, School-based sexual education

INTRODUCTION

Focusing on adolescent reproductive health is very important, as 16% of the world's population is adolescents. The world's adolescent fertility rate has declined from 65 per 1,000 women in 1990 to 47 per

1,000 women in 2015.^{1,2} Despite these advances, the number of adolescent pregnancies is projected to increase globally until 2030 as the world's adolescent population continues to grow.³ The adolescent birth rate in Southeast Asia is 45 per 1000 women. According to the 2014 Myanmar Census, Myanmar's population is estimated to

be 53.7 million, and its annual growth rate is 0.89. According to Myanmar's Demographics and Health Survey 2015-16, Myanmar's teenage pregnancy and motherhood are about 6%.⁴ Sexual and reproductive health issues among adolescents are a major concern in low-income countries. Teenage pregnancy and child marriage are more common in low-income, uneducated, rural communities.⁵ Pregnancy in adolescence is a major cause of maternal and child mortality. Pregnancy and childbirth complications are the leading cause of death among girls aged 15 to 19, with low and middle-income countries accounting for 99% of global maternal deaths among women aged 15 to 49.⁶ Teenage pregnancy has a negative impact on young girls' psychological development, is associated with poorer health outcomes for teenage girls and their children, and the young girls' educational and employment opportunities. Adolescent or young adult pregnancy can have negative social and economic consequences and negative health consequences.⁷ Many studies show that adolescent mothers have higher rates of adverse newborn outcomes, and the social, educational, and economic consequences of young motherhood can be severe.⁸⁻¹⁰ Adolescent pregnancy, adverse SRH outcomes, and negative social consequences are all reduced by sexual and reproductive health (SRH) education.^{11,12} Knowledge, social skills, and competencies are essential for promoting and maintaining a healthy lifestyle.¹³ Health literacy is defined as "the knowledge, motivation, and competencies to access, understand, appraise, and apply health-related information in the context of healthcare, disease prevention, and health promotion".¹⁴ A study in Lao PDR reported that 60% of adolescents had problematic teenage pregnancy health literacy (TPHL), and only 0.4% had excellent TPHL level.¹⁵ Another study showed that 65.5% of respondents had inadequate SRH literacy.¹⁶ According to the 2004 Family and Youth Survey, adolescents lack sexual and reproductive health (SRH) knowledge. According to 66% of females in this survey, a woman can become pregnant if she has intercourse while menstruating. 38% of adolescent girls are unaware that a woman can become pregnant after having sex only once. There are also gaps in their understanding of birth spacing, with 20% of 15-19-year-olds have never heard of contraception and only 17% having heard of the emergency contraceptive pill.¹⁷ Only 11% of unmarried females correctly identify the midcycle as when they are most likely to conceive. Adolescents' ability to make informed decisions based on correct sexual and reproductive health knowledge contributes to the prevention of SRH problems, so more research on sexual and reproductive health literacy is needed.¹⁸

The adolescent period is a developmental stage between childhood and adulthood and involves physical and mental changes. If they do not have enough knowledge, experience, and counselling on SRH, they may face health-related issues such as unintended pregnancies, leading to adverse health consequences and long-term psychosocial, social, and economic problems. The decline

in adolescent pregnancy rates can be attributed to increased pregnancy health literacy. To address the challenges of adolescent pregnancy, it is necessary to investigate teenagers' health literacy and identify the influencing factors. This study aimed to identify the determinants of teenage pregnancy health literacy among youth and explore the perception of teenage pregnancy among youth and their guardians.

METHODS

A cross-sectional study was conducted with a mixed-method approach between July and December 2020 in urban and rural Bogalay Township, Ayeyarwaddy Region, among youth aged 13 to 24, regardless of marital status or pregnancy and pregnancy guardians.

Sample size

We calculated the sample size by assuming that 60% of adolescents were knowledgeable about pregnancy health.¹⁹ We used the one-sample proportion formula ($z^2 pq/d^2$), and the minimum required sample size was 310 by setting the margin of error (d) to 0.07, the design effect to 1.5, and the non-response rate to 0.1 at the 95 % confidence interval.²⁰

Sampling procedure

We used a multi-stage cluster sampling method to collect data in rural and urban areas for the quantitative part. We selected two wards from the urban area and eight villages from the rural area as clusters. A total of 310 respondents was selected at random with assent or consent in equal sex ratio from the sampling frame of all eligible youth in the selected clusters. We chose well-communicated 12 youth and 12 guardians with equal sex ratios, including both high and low educated ones.

Data collection method and tools

We assessed the pregnancy health literacy level among study populations by asking questions regarding pregnancy literacy, contraception, the consequences of adolescent pregnancy, and literacy about sexually transmitted infections. We collected the data through a face-to-face, over-the-person interview using a pretested and semi-structured questionnaire.²¹⁻²³ The level of pregnancy health literacy was classified as high or low by using the mean value of the given scores as the cut-off point. And respondents' attitudes were classified as good or poor based on the cut-off point "2" of average attitude scores because 4 Likert scale points accessed it. We used individual depth interview (IDI) guidelines to investigate the perception of teenage pregnancies among youth and their guardians. IDI was performed in private rooms at health centers, community centers, or religious gathering areas to protect respondents' privacy. Only investigators had access to the data at the end of each data collection day. After completing the questionnaire, we provide each

respondent with health education regarding teenage pregnancy.

Data analysis

The background characteristics were described using frequency distribution tables and bar charts. We used the chi-square test of independence for bivariate analysis. The binary logistic regression analysis was done to identify the factors associated with pregnancy health literacy. The results were reported using an adjusted odds ratio with a 95% confidence interval. Variables whose p-value was less than 0.2 during bivariate analysis were included in multivariate analysis. All quantitative analyses were done using SPSS (version 16). Thematic analysis was performed on qualitative data using the QDA (qualitative data analysis) application. We used only texts to investigate qualitative findings.

RESULTS

Background characteristics

The gender-specific background characteristics of randomly selected 310 youth is shown in (Table 1). The majority were aged less than 18 (61.9%), living in rural (89.7%), students (66.8%), and had high school and below education (83.5%). More than 80% of their parents were in middle school education. Most of them (71.3%) lived in the extended family with their parents. Almost all (96.8%) were single and (93.9%) had a good attitude on pregnancy health literacy. Most youth (81.8%) did not discuss sexual and reproductive health with their friends, but (18.2%) did (Table 2). Most of the discussed friends (48.4%) were from outside the school and discussed less than the weekly pattern (83.9%). The most commonly discussed topics were physical changes during puberty (53.2%), menstruation (43.5%), functions of reproductive organs (27.4%), and contraceptives (27.4%), respectively. The reasons for no discussion about sexual and reproductive health among youth were afraid to be disdained (83.5%), shameful to discuss (83.1%), thinking of being too young to discuss (8.5%), no suitable words to discuss (5.6%) and no one to discuss (2.4%) correspondingly.

Teenage pregnancy health literacy

The overall proportion of good teenage pregnancy health literacy among youth in the study area was 42.6% (95% CI=37.1%, 48.1%). The comparative proportions of pregnancy health literacy among youths based on their specific characteristics is shown in (Table 1). The higher pregnancy health literacy proportions were found in over 18 years age group (57.6%, 95% CI=48.7%, 66.5%), female (46.5%, 95% CI=38.6%, 54.3%), rural setting (44.2%, 95% CI=38.4%, 50.0%), youth who had good attitude on pregnancy health literacy (43.3%, 95% CI=37.6%, 49.0%), high school and above education (66.7%, 95% CI=53.8%, 79.6%), out-schoolings (43.7%,

95% CI=34.1%, 53.2%), single (42.7%, 95% CI=37.1%, 48.3%), youth who lived together with both parents (42.9%, 95% CI=36.5%, 49.3%), youth who had no own income (57.8%, 95% CI=51.7%, 63.9%), youth who had relationship (63.5%, 95% CI=50.4%, 76.6%) and teenagers who discussed about SRH with friends (61.3%, 95% CI=49.2%, 73.4%) correspondingly compared to their counterparts. The most accessible information sources for pregnancy health literacy and STIs/HIV were health talks (67.1% and 74.1%), television channels and the internet (51.5% and 52.5%), and their parents, siblings, and relatives (33.9% and 52.5%) correspondingly.

Youth's responses to pregnancy health-related issues

The response to pregnancy health literacy issues by gender is depicted in (Table 3). We found that there were gender differences. Males had significantly less knowledge than females regarding puberty age, awareness of contraceptives, consequences of teenage pregnancy, and mode of transmission of HIV (mother to child and through unclean syringes and needles). However, males had significantly higher knowledge than females regarding types of contraceptives (emergency pills and condoms) and signs and symptoms of syphilis (dysuria and discharges).

Determinants of teenage pregnancy health literacy

We used multiple logistic regressions analysis to identify the determinants of teenage pregnancy health literacy among youth and reported the results in Table 4. The significantly associated determinants were the youth's educational status and the ability to earn their own income. Compared to those with higher education, youth with below high school education had a 6.8 (95% CI=1.4, 34.7) fold increase in the odds of having poor pregnancy health literacy. Furthermore, youth who could not earn their own income was approximately 5.7 (95% CI=1.1, 29.6) times more likely to have poor pregnancy health literacy than those who could. We found that youth's age, relationships, discussion about SRH with friends, and discussion patterns did not affect their pregnancy health literacy.

Perception of teenage pregnancy

Male youths reported that physical changes in puberty included changes in voice, taller height, bigger penis and testes, hair growth on the face, axilla, face, chest, pubic area, and interest in the opposite sex. Female youths reported taller height, bigger nipples and hip, menstruation, hair growth on the axilla and public area, and interest in the opposite sex as puberty changes. More than half of young people said that the consequences of teenage pregnancy were negative health and social consequences, such as high-risk pregnancy, disruptions in their educational careers, and blaming and disdain for their social environment. Furthermore, nearly half of

young people were aware of contraception and its benefits, particularly for oral contraceptive pills, injection Depo, and condom use. In addition, they mentioned health talks, television channels, the internet, printed

media, and friends as sources of information about teen pregnancy and STIs/HIV. The majority of young people requested to disseminate reproductive health information through various media and channels.

Table 1: Background characteristics of youth by gender and literacy level (n=310).

Variables	Gender, N (%)		Literacy level N (%)	
	Male (N=155)	Male (N=155)	Poor (N=178)	Good (N=132)
Age groups (years) N (%)				
13-17	91 (58.7)	101 (65.2)	128 (66.7)	64 (33.3)
18-24	64 (41.3)	54 (34.8)	50 (42.4)	68 (57.6)***
Residence N (%)				
Rural	135 (87.1)	143 (92.3)	155 (55.8)	123 (44.2)
Urban	20 (12.9)	12 (7.7)	23 (71.9)	9 (28.1)
Education N (%)				
High school and below	131 (84.5)	128 (82.6)	161 (62.2)	98 (37.8)
High school passed and above	24 (15.5)	27 (17.4)	17 (33.3)	34 (66.7)***
Schooling status N (%)				
Out of school	60 (38.7)	43 (27.7)	58 (56.3)	45 (43.7)
Schooling	95 (61.3)	112 (72.3)	120 (58.0)	87 (42.0)
Own income N (%)				
No	124 (84.9)	129 (84.9)	19 (42.2)	26 (57.8)
Yes	22 (15.1)	23 (15.1)	152 (60.1)	101 (39.9)*
Marital status N (%)				
Non-single	6 (3.9)	4 (2.6)	6 (60.6)	4 (40.0)
Single	149 (96.1)	151 (97.4)	172 (57.3)	12 (42.7)
Relationship N (%)				
No	120 (77.4)	138 (89.0)	159 (61.6)	99 (38.4)
Yes	35 (22.6)	17 (11.0)	19 (56.5)	33 (63.5)**
Living with parents N (%)				
Not-with both parents	39 (25.2)	40 (25.8)	46 (58.2)	33 (41.8)
With both parents	116 (74.8)	115 (74.2)	132 (57.1)	99 (42.9)
Father's education N (%)				
Middle School passed and below	125 (80.6)	125 (80.6)	145 (58.0)	105 (42.0)
High School passed and above	30 (19.4)	30 (19.4)	33 (55.0)	27 (45.0)
Mother's education N (%)				
Middle School passed and below	134 (86.5)	132 (85.2)	157 (59.0)	109 (41.0)
High School passed and above	21 (13.5)	23 (14.8)	21 (47.7)	33 (52.3)
Family type N (%)				
Extended	98 (63.2)	123 (79.4)	131 (59.3)	90 (40.7)
Nuclear	57 (36.8)	32 (20.6)	47 (52.8)	42 (47.2)
Parents' relationship N (%)				
Not-lived together	31 (20.0)	21 (13.5)	34 (65.4)	18 (34.6)
Lived together	124 (80.0)	134 (86.5)	144 (55.8)	114 (44.2)
Discussion with friends about SRH N (%)				
No	117 (75.5)	131 (84.5)	154 (62.1)	94 (37.9)
Yes	38 (24.5)	24 (15.5)	24 (38.7)	38 (61.3)**
Attitude level N (%)				
Poor	17 (11.0)	2 (1.3)	13 (68.4)	6 (31.6)
Good	138 (89.0)	153 (98.7)	165 (56.7)	126 (43.3)
Gender N (%)				
Male			95 (61.3)	60 (38.7)
Female			83 (53.5)	72 (46.5)
The overall prevalence of literacy level among teenagers N (%)			178 (57.4)	132 (42.6)

SRH: Sexual and Reproductive Health, (***)=p<0.001, (**)=p<0.01, (*)=p<0.05)

Health facilities should be well-equipped to provide reproductive health care services to teenagers.

Table 2: Discussion patterns about reproductive health among youth (n=62).

Variables	Gender, N (%)	
	Male (N=38)	Female (N=24)
Discussion with friends about SRH (n=310)		
No	117 (75.5)	131 (84.5)
Yes	38 (24.5)	24 (15.5)
SRH friends		
Not School-mates	16 (42.1)	14 (58.3)
School-mates	22 (57.9)	10 (41.7)
SRH discussion pattern		
Less than weekly	32 (84.2)	20 (83.3)
Weekly	6 (15.8)	4 (16.7)
Discussion topics		
Functions of Reproductive organs	15 (39.5)	2 (8.3)
Physical changes in puberty	24 (63.2)	9 (37.5)
Menstruation	5 (13.2)	22 (91.7)
Conception	4 (10.5)	9 (37.5)
Condom	13 (34.2)	1 (4.2)
Contraceptives	8 (21.1)	9 (37.5)
Sexually transmitted infections	10 (26.3)	0 (0.0)
Reasons for “no discussion” (n=248)		
Shameful	103 (88.8)	103 (78.0)
No one to chat	3 (2.6)	3 (2.3)
Thinking of too young to discuss	3 (2.6)	18 (13.6)
Can't find suitable words to discuss	7 (6.0)	7 (5.3)
Afraid to be disdained	103 (88.8)	104 (78.8)

Most parents believed that teenage pregnancy should not occur because teenagers were too young to become pregnant and that it could have negative health and social consequences. Furthermore, most parents believe that teenagers should be educated on avoiding unwanted pregnancies and sexually transmitted diseases. They also discovered that sexual education significantly prevents unwanted pregnancy and premarital sexual intercourse. Nonetheless, some parents were concerned that sexual health education could be harmful because it could lead to test and expose sexual experiments when they were already aware of how to avoid risky sexual behaviours. Most parents believe that sexual and reproductive health education should be begun only when school-age children reach puberty. Most parents expected their neighbors' opinions on teaching sexual education to their teenagers to be favorable regarding health literacy promotion and healthy behaviours. On the other hand, some parents were concerned that their neighbors would blame them for providing it in terms of social and culturally sensitive issues. Regarding the barriers to providing sexual and

reproductive education to youth, their presented barriers were shame, the perception that youth were too young to be taught, the issues being social and culturally sensitive, and the youth's unwillingness to listen. Giving sexual health information using IEC materials, talking about father to sons and mother to daughters, and talking gently with privacy were all ways to overcome these barriers. One of the fathers stated that he and his son discussed sexual education interactively and light heartedly.

DISCUSSION

Pregnancy health literacy among youth

The overall good teenage pregnancy health literacy rate among youth in the study area was 42.6% (95% CI=37.1%, 48.1%). Hence, more than half of the youth had poor health literacy in pregnancy and contraception, teenage pregnancy consequences, and sexually transmitted infections. According to all health system levels, people's health information and resources must be available and accessible to them based on their level of health literacy. The low health literacy of the youth in this study alarms the program implementers, and health care systems must use this information to consider health interventions for improving health literacy. Moreover, provided health services and materials should be user-friendly and comprehensive for people of all health literacy levels. Similarly, Angolan adolescents had a significant lack of knowledge about human biology and sexuality, and South African girls had a general lack of knowledge about reproductive biology.^{24,25} Furthermore, in Myanmar studies, sexual and reproductive health literacy among youth was found to be low (73.3% and 59.3%, respectively).^{22,23} Contrary to the findings of this study, 90.5% of Nigerian secondary school students had heard of sexuality education, but only 40.1% had discussed relevant topics on the subject.²⁶ According to the previous studies, the major sources of information for young people about sexual and reproductive health and pregnancy literacy were their parents, peers, and magazines.^{26,27} Furthermore, it was stated that attending a sexual education class and having a high level of pregnancy health literacy were statistically significant. The young people in this study would not have received sex education in school and may not have begun sexual activity. This finding could be due to a lack of access to reproductive health information at a younger age and a lack of exposure to the reproductive health service. It implies that sexual and reproductive literacy education should be emphasized through various channels, including school-based ones.

These school-based comprehensive sexuality education programs (CSE) would advise young people to postpone their sexual activity and encourage them to engage in safer sex practices such as condom use, the prevention of unwanted pregnancy, and the prevention of sexually transmitted infections.

Table 3: Responses to pregnancy health literacy issues by gender (n=310).

Pregnancy health literacy issues	Gender, Frequency (%)	
	Male (N=155)	Female (N=155)
Puberty age was 11-16 years	99 (63.9)	147 (94.8)***
Aware of how to get pregnancy	60 (39.0)	55 (35.5)
Only one occasion of sexual exposure can cause pregnancy	28 (18.2)	37 (23.9)
The appropriate age for being pregnant for females was 20-30 years	26 (16.8)	39 (25.2)
Aware of contraceptives/contraception	79 (51.0)	95 (61.3)*
Types of contraceptives (male=79, female 95)		
OC pills	68 (86.1)	86 (90.5)
Injection Depo	73 (92.4)	86 (90.5)
IUCD	14 (17.7)	28 (29.5)
Emergency pills	20 (25.3)	9 (9.5)**
Condom	49 (62.0)	19 (20.0)***
Intradermal contraceptives	22 (27.8)	27 (28.4)
Do you know where do you get contraceptives?	92 (59.4)	93 (60.0)
Reported sources for contraceptive (male=92, female=93)		
Township / Public Hospital	34 (37.0)	34 (36.6)
MCH	48 (52.2)	49 (52.7)
Private clinics	49 (53.3)	40 (43.0)
Drug stores	63 (68.5)	71 (76.3)
Vender shops	30 (32.6)	29 (31.2)
Consequences of teenage pregnancy		
Health problem	85 (54.8)	100 (64.5)
Educational problem	91 (58.7)	115 (74.2)*
Social problem	38 (24.5)	62 (42.6)**
Economic burden	58 (37.4)	72 (46.5)
Psychological problem	59 (38.1)	90 (58.1)**
Aware of the health consequences of teenage pregnancy	22 (14.2)	43 (27.7)
Reported complications of teenage pregnancy (male=22, female=43)		
During pregnancy (Bleeding, eclampsia, abortion)	13 (59.1)	24 (55.8)
During delivery (Bleeding, obstructed labor)	14 (63.6)	33 (76.7)
After delivery (Bleeding, septicemia)	5 (22.7)	19 (44.2)
Low birth weight	16 (72.7)	34 (79.1)
Fetal death	13 (59.1)	27 (62.8)
Aware of sexually transmitted disease, Syphilis?	73 (47.1)	75 (48.4)
Reported signs and symptoms of Syphilis (male=73, female=75)		
Genital ulcers	41 (56.2)	34 (45.3)
Dysuria	22 (30.1)	11 (14.7)*
Discharges	21 (28.8)	8 (10.7)**
Groin Lymphadenopathy	9 (12.3)	3 (4.0)
Genital herpes	18 (24.7)	24 (32.0)
Genital warts	21 (28.8)	24 (32.0)
Syphilis can be cured completely	34 (46.6)	21 (27.3)
Aware of HIV/AIDS	145 (93.5)	147 (94.8)
Reported mode of transmission of HIV (male=145, female=147)		
By sexual contact	111 (76.6)	124 (84.4)
By transfusion of blood and blood products	103 (71.0)	109 (74.1)
From Mother to child	59 (40.7)	78 (53.1)*
Through unclean syringes and needles	86 (59.3)	107 (72.8)*
By eating together	0 (0.0)	1 (0.7)
By mosquitoes bite	6 (4.1)	6 (4.1)
Through sweat	3 (2.1)	5 (3.2)
HIV cannot be cured completely but only controlled	72 (46.5)	66 (42.6)

Table 4: Multiple logistic regression analysis to identify the determinants of pregnancy health literacy among youth in the study area (n=310).

Determinant factors	Crude OR (95% CI)	Adjusted OR (95% CI)
Age group (years)		
13-17	2.7 (1.7, 4.4)***	-
18-24	1	-
Education		
High school and below	3.3 (1.7, 6.2)***	6.8 (1.4, 34.7)*
High school passed and above	1	1
Love		
No	2.8 (1.5, 5.2)**	-
Yes	1	-
Own income		
No	2.1 (1.1, 3.9)*	5.7 (1.1, 29.6)*
Yes	1	1
Discussion about SRH with friends		
No	2.6 (1.5, 4.6)**	-
Yes	1	-
Discussion pattern		
Less than weekly	0.2 (0.05, 0.9)*	-
Weekly	1	-

Nagelkerke R² =0.369, Hosmer and Lemeshow p value=0.26, ***=p < 0.001, **=p < 0.01, *=p < 0.05

Determinants of teenage pregnancy health literacy

In this study, youth education and earning income were significant predictors of teenage pregnancy health literacy. The study in Laos discovered more predictors of teenage pregnancy health literacy, living area, education, schooling status, marital status, father's education, mother's education, and attendance of classes with sex education content¹⁹. Furthermore, adolescent age, lower self-perceived school performance, and insufficient income for basic needs were linked to lower pregnancy health literacy²⁸. Despite this, there were no significant associations between teenage pregnancy literacy level and age in this study because the age range in this study was narrow, with a minimum of 13 and a maximum of 24 years. In contrast to other studies, high pregnancy literacy level was much higher in youth who lived in rural area than those in urban area, even though there was no relationship between residence and pregnancy literacy level.^{19,28} It could be considered whether rural areas had more facilities and opportunities for accessing pregnancy health literacy information and receiving youth reproductive health services and then health literacy than urban areas. It suggests that young people investigate the accessibility and availability of local reproductive health

services. As found in the previous studies, the statistically significant association in this study revealed that the more educated the young people were, the higher their pregnancy health literacy.^{19,28} Furthermore, another study found that those with more years of schooling had fewer teenage pregnancies.²⁹ Because education is a key fundamental factor for general health literacy, the higher the education level, the higher the health literacy level.³⁰ It implies that higher pregnancy literacy may result from higher education, which may protect against the consequences of poor pregnancy health literacy, such as teenage pregnancy, unwanted pregnancy, and transmission of sexually transmitted infections. In addition, income is also a protective factor for poor pregnancy literacy in this study. Though there were few relevant studies to make reference to and prove that association, it is reasonable to expect that those with their own income would be more likely to spend money on accessing information sources and health services for sexual and reproductive health. As a result, young people should be better equipped and given more job opportunities through a multi-sectoral approach to seeking more reproductive health services. These findings point to the need for policies that improve young people's access to health information, engagement, and understanding. Strategies must address locally identified health literacy needs while also focusing on improving equity in health outcomes and access to services for people with varying levels of health literacy.

Perception of teenage pregnancy

A survey conducted at the Free State school of nursing discovered, similar to this study, that there is still a gap in reproductive health that needs to be filled by involving young men to reduce teenage pregnancies.³¹ It implies that youth participation in reproductive health programs may reduce the number of teenage pregnancies. Furthermore, most parents believed that sexual and reproductive health education should begin only when school-age children reach puberty in this study. Similarly, a review of teenage pregnancy and motherhood found that sex education should be introduced at a younger grade level: a South African study found that school-based family life education should be introduced before girls begin sexual activity.^{25,32} The Zimbabwe study also discovered that the boys' high knowledge of AIDS came from the media and their teachers.³³ Another study among adolescents found that the general trend of reproductive knowledge levels increased^{34,35} Another study of mothers' perceptions of sexuality education for children found that children needed it.^{26,36} These findings suggest that the reproductive health education intervention positively impacted reproductive biology, contraception, and pregnancy literacy. In this study, the presented barriers to sex education between parents and teenagers were shameful, the parents' perception that youth were too young to be taught, social and culturally sensitive issues, and the youth's unwillingness to listen. It agrees with a South African study that concluded that cultural and

traditional practices related factors and father and son sexual health education related factors must be considered to prevent teenage pregnancies.³¹ Students in a Nigerian study, on the other hand, reported that they felt very comfortable discussing sexually related issues with their mothers and fathers and vice versa.³⁷ These findings indicate that it is still necessary to address existing and potential barriers and develop policy and strategies to address and overcome these barriers to improve awareness and parental and adolescent involvement in sexual and reproductive health discussions.

CONCLUSION

Only two out of 5 youth had good knowledge about teenage pregnancy health literacy. Teenagers' educational status and earning income status were significant predictors of their pregnancy health literacy. As a result, the all-inclusive schooling system should be continuously strengthened in education institutions, including middle and high schools and universities. Sexual and reproductive health education/teaching programs and adolescent-friendly and adolescent-specific reproductive health services should be implemented effectively to prevent teenage pregnancy, ensure safer sex practices among teenagers, and raise their awareness. School-based sexual education programs must involve and assist parents and teachers in taking a more active role in changing policy and programs and advocating for relevant SRH education in schools. Young people should be given more employment opportunities and be prepared to access assisted reproductive health services with political commitment.

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