Original Research Article

Knowledge, Attitude and Practice Towards Reproductive Health among Females Attending Rural Family Medicine Unit in Gharbia Governorate, Egypt

Abstract

Background: Reproductive health is fundamental to people's health and survival, economic development and the wellbeing of humanity. Absence of knowledge regarding reproductive health means that women can't make informed and correct choices, with the consequence that they are likely to suffer from sexually transmitted infections and unwanted pregnancies. Our study aimed to assess knowledge, attitude and practice of females attending Meet Hebish Elbaharia Family Medicine Unit in Egypt regarding reproductive health.

Methods: This cross-sectional study was conducted at Meet Hebish Elbaharia Family Medicine Unit. A pre-designed questionnaire sheet was developed and validated to collect data about socio-demographic, knowledge, attitude and practice of females attending for promotive, preventive and curative health services towards reproductive health.

Results: There were significant relationships between studied females' socio demographic characteristics and their knowledge, attitude and practice towards reproductive health. The majority of the studied females had a poor level of knowledge about reproductive health. The internet was

the main source of information about reproductive health among the studied females. The majority of studied females didn't have pre-marital examination with the commonest used family planning method by females was “IUD” followed by contraceptive pills. Stepwise linear regression detected that total score of socio demographic characteristics of females were the significant predictors for imperfect practice of the studied females towards reproductive health.

Conclusion: Knowledge among females about reproductive health was relatively low and the majority of females had a neutral attitude toward reproductive health. Imperfect practice was high among old aged, illiterates and housewives. There were significant relationships between demographic characteries of females and their knowledge, attitude and practice towards reproductive health. In addition, there were significant relationships between knowledge and attitude of females towards reproductive health from one side and their practice from the other side.

Keywords: Knowledge, Attitude, Practice, Reproductive health.

Introduction

The world health Organization (WHO) defines Reproductive health as "a state of complete physical, mental and social well-being, and not Just the absence of disease or infirmity, in all circumstance relating to the reproductive system and its functions and processes [1].

Reproductive health, therefore, implies that people are able to have a responsible, satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so [2].

The definition of reproductive health includes many components, among which are family planning, maternal and child health, prevention of harmful practices, reduction of the spread of reproductive tract infections and other sexually transmitted diseases (STDs), including HIV/AIDS, and provision of treatment or STDs and their complications [3].

Poor knowledge regarding reproductive Health means that women cannot make or are not in a position to make informed and correct choices, with the consequence that they are likely to suffer from sexually transmitted infections and unwanted pregnancies [4].

The issues of reproductive health rights and reproductive health problem have been increasingly perceived as social problems, they have emerged as a matter of increasing concern throughout the developed and developing countries [5].

Studies conducted in Egypt regarding knowledge attitude and practice of females towards reproductive health found that Egypt is one of few regions in the world where knowledge about HIV, reproductive and

sexual behavior continues to be limited. The need among Egyptian females for reproductive health and sexuality education can no longer be ignored [6].

The International Conference on Population and Development (ICPD), hold in Cairo in 1994, was a landmark event as it declared that sexual and reproductive health is important to individuals, couples and families, as well as to the social and economic development of communities and nations [2]. Reproductive health education is a basic right for women as it enriches their knowledge and awareness and providing them with the tools to understand their responsibilities and rights [7].

In the past few years, the issues of reproductive health have been progressively perceived as a social problem; they have been increasing as atopic of concern in both developed and developing countries, as the reproductive health is a human right stated in international law [8]. These rights rest on the respect of the right of men and women to be informed about and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of birth control which aren't against the law and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant and access multispectral services to prevent and respond to intimate partner violence [2].

Adolescent reproductive health creates a major worldwide load and has more complications compared to adult reproductive health such as early pregnancy and child-care issues, difficulties accessing contraception

and safe abortions, lack of healthcare access, high rates of HIV and sexually transmitted infections and mental health issues [9].

A study conducted in Riyadh, Saudi Arabia in 2018 showed that more than two-thirds (66.3%) of the participants had inaccurate knowledge, while about one-third (33.7%) of them had correct knowledge regarding reproductive health [10].

Studies also have identified clear links between poor menstrual hygiene and health problems such as urinary and reproductive Tract infections (UTl). It is important that females should taught to regard menstruation as a normal physiologic process. Every female should be prepared for her first menstruation and what special care she should give herself during this time [11].

Reproductive health is a universal concern but is a special importance for women particularly during reproductive years. Half of the world's 2.9 billion women are now 15 – 49 years of age without proper healthcare services, this group is highly vulnerable to problems related to sexual intercourse, pregnancy, contraceptive side effects, and etc [12].

In Egypt, the status of reproductive health and the quality of life of females are not satisfactory. Unequal access to information, care and basic health services, early marriage, deeply-rooted believes, and illiteracy leading to lack of awareness and underutilization of reproductive health services among women [7].

The Central Agency for Public Mobilization and Statistic (CAPMAS); showed that Egyptian peoples whose aged from 20 years old to 60 years old represent about 49.33 million people; out of them about 63.3% aged below

40 years old, and the percentage of married Egyptian females in rural areas in 2019 was 58.5% [13]. Also, according to the preliminary data of the Labor Force Survey in 2020, the unemployment rate for females was 17.7%, compared to 6.0% for males. The percentage of female workers aged 15 years and over was 11.8% [14].

Egyptian females obtain insufficient reproductive health education through the formal education in schools & university system. In Egypt a study conducted in Assiut city revealed that 65.5% of females had satisfactory knowledge, and 81.5% of women had positive attitude regarding reproductive health. The main sources of information for these women were mainly from schools whereas parents, newspapers, and magazines less reported [15].

So, this study was conducted to assess knowledge, attitude, and practices of females regarding reproductive health to increase orientation to this problem for good utilization of the applied reproductive health services which will be reflected upon decrease reproductive health problems and increase their quality of life.

Subjects and Methods

The methodology of the current study was done in 4 designs: administrative, technical, operational and statistical design:

I- Administrative design: Communication with the health manager was done to explain the objectives and the procedures of the study and to get their cooperation and help.

II- Technical design: This cross-sectional study was carried out at Meet Hebish Elbaharia Family Medicine Unit. It is a rural health unit in Gharbia Governorate. It is a family medicine health Unit, consists of different rooms, family medicine room, maternal and child health care room, vaccination room, family planning room and laboratory room. The population served by the unit counts for 25,427 persons. (According to local administrative unit of the village and according to census records of the year 2019). And the average number of clients attending the facility every month about 4,000 according to statistical records of the facility.

Informed written consent was taken from each participant in the study. All females were informed that their participations were voluntary and that the collected data were only used for the purpose of the study, as well as for their benefits. In addition, they have the right to withdraw at any time of the study. The approval from Ethical Committee of Tanta Faculty of Medicine was obtained before starting the study (according to Helsinki declaration) [16].

Females attending for promotive, preventive and curative health services were the target population of the study (those who attended for immunization of their children, coming for family planning counseling, pregnant women coming for vaccination and patients came to family medicine clinic). The study sample was chosen randomly from those aged 18 to 49 years.

III- Operational design:

A- Preparatory phase: They included the following:

The protocol was approved from the Ethical Committee of the faculty of Medicine Tanta University in December 2018 then from the

council of public health department on January 2019 and lastly from the university council on April 2019.

Preliminary visits were made to Meet Hebish Elbaharia Family medicine Uunit to: make communication with responsible staff to orient them with objectives and procedures of the study and to get their cooperation and help. Determine number of females coming to the family medicine unit every day. Also, preparation for questionnaire sheet which involved the following:

Part I: questionnaire for socio demographic data: the target population filled specially designed direct interview sheets, which included the following:

Age, marital state, occupation and education level.

Part II: questionnaires for knowledge, attitude and practice of study population regarding reproductive health aspects, which were as follows: Knowledge regarding Reproductive health:

1) Knowledge about puberty: Knowledge regarding the female reproductive system, puberty in girls, menstrual cycle and importance of reproductive hygiene.

2) Knowledge about pregnancy and childbirth: Knowledge about ovulation, ideal age for the first pregnancy, ideal place and attendant for labor and knowledge about abortion.

3) Knowledge about family planning methods: This includes family planning methods and the proper way to obtain contraceptive, family planning counseling, Accessibility and cost of family planning services.

4) Knowledge about Problems related to reproductive system: Knowledge regarding infections of the reproductive system, sexually transmitted

diseases, possibility of recovery, and the effect of them on Reproductive health.

5) Source of knowledge: This item included the source of information regarding reproductive health.

B- Attitude of target population regarding reproductive health:

1)Attitude towards signs of puberty: This estimate females believe towards puberty and associated changes.

2)Attitude towards pregnancy, childbirth and family planning methods: This item included attitude of participant females towards ideal age of pregnancy, spacing of pregnancy and its effects on the health of mother and baby, follow up during pregnancy, place and attendant of labor.

3)Attitudes toward health services for reproductive health: This included females' attitude towards importance of pre conception counseling and reproductive health services.

C- Self-practice of females :(Reported practice): This included the hygiene practices during menstruation, hygiene practice before and after sexual intercourse, attended antenatalconsultations during their last pregnancy, the use of antenatalhealth services and use of any family-planning method.

Scoring system:

1) Scoring system for knowledge of females:

The data of the study subjects' knowledge included 22 questions the total score of them ranged from (0-220). According to the answers, females' responses were evaluated using the model key answer sheet previously prepared by the researchers based on literature review.

The total knowledge score was divided as follow: Poor knowledge: <33.3% of the total knowledge score, and Accepted knowledge: 33.3-66.67

% of the total knowledge score. Moreover, Good knowledge: >66.67% of the total knowledge score.

2) Scoring system for attitude of females [17]:

Attitude towards reproductive health was measured using a scale composed of 15 items designed specifically for the study. The attitude scale had five response options (strongly agree given score 1 and strongly disagree given score 5). For easy presentation of data strongly agree and agree were submitted together to represent the positive attitude of participants while strongly disagree and disagree were submitted together to represent the negative attitude.

3) Scoring system for practice of females:

Practice of each participant was submitted, when the score was below one third it considered imperfect practice, and when the score is above one third and below two thirds, it was considered accepted practice but if the score was more than two thirds it was considered perfect practice.

The total practice score was divided as follow: Imperfect practice: <33.3% of the total score, and Accepted practice: 33.3-66.67 % of the total practice score. Lastly, Perfect practice: >66.67% of the total practice score.

Pretest study: To assess the clarity, feasibility, and applicability of the tools that were used in this study for data collection, a pretest study was conducted with 10% of the predetermined sample size. According to the study criteria, the results of the pretest study helped in the necessary modifications of the tools according to the content validity and results of the pretest study.

Questionnaire validity: The content validity of the questionnaire was reviewed by five experts in the field of public health and community medicine in order to establish the relevance of the questionnaire items to the study objectives. The experts conducted their review separately the face validity of the questionnaire was calculated based on experts' opinion after calculating content validity index (%) of its items and it was 95%. The results indicate that expert reviews have a significant impact on identifying the issues with the questions. Therefore, some changes were applied based on experts' recommendations.

Tools of data collection:

Tool I: Data were collected via face-to-face interview. The family medicine unit was visited 3 days per week for 6 months and about 7 females were included each day to fill the questionnaire sheet, the average time spent for filling the questionnaire from each female ranged between 10:15 minutes.

Tool II: A Five-point Likert-type scale was developed to assess females' responses to knowledge, attitude and practice items towards puberty, menstrual cycle, pregnancy and childbirth, family planning methods, STDs, and the use and access of reproductive health services for females.

IV- Statistical design:

Regarding sampling, a simple random sample of females with response rate 89.9%. While concerning the sample size, the collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 20. The minimal sample size was 513 for single proportion for bad reproductive health practice. Putting in

consideration that hypo sized probability 71.2 and alternative probability was 65% from pretest study (13 out of 20 women) at the power of 85%. The rage, mean and standard deviation were calculated for quantitative data. For qualitative data, which describe a categorical set of data by frequency, percentage or proportion of each category. The association between outcome and dependent variables was done using Chi-square test, Monte Carlo exact test, Fissure Exact test (FE) and stepwise linear regression. Significance was adopted at $p<0.05$ for interpretation of results of tests of significance.

Results:

Table 1 shows significant relationships between the knowledge of reproductive health from a side and the age, marital status, education and occupation of females from the other side.

Table 1: Relationship between sociodemographic characteristics of the studies females and their level of knowledge about reproductive health:

			Knowledge			Total	X^2	P-value
			Poor	**Accepted**	**Good**			
Age	**18 – 29**	**N**	109	62	31	202	**23.371**	**0.001***
		%	54.0%	30.7%	15.3%	100.0%		
	30 – 39	**N**	45	26	35	106		
		%	42.5%	24.5%	33.0%	100.0%		

	40-49	**N**	118	53	34	205		
		%	57.6%	25.9%	16.6%	100.0%		
Marital Status	**Married**	**N**	105	92	87	284	**91.062**	**0.001***
		%	37.0%	32.4%	30.6%	100.0%		
	Widow	**N**	30	2	2	34		
		%	88.2%	5.9%	5.9%	100.0%		
	Divorced	**N**	32	4	3	39		
		%	82.1%	10.3%	7.7%	100.0%		
	Single	**N**	105	43	8	156		
		%	67.3%	27.6%	5.1%	100.0%		
Education	**Higher**	**N**	42	73	59	174	**131.394**	**0.001***
		%	24.1%	42.0%	33.9%	100.0%		
	Secondary	**N**	106	48	30	184		
		%	57.6%	26.1%	16.3%	100.0%		
	Literate	**N**	47	14	6	67		
		%	70.1%	20.9%	9.0%	100.0%		
	Illiterate	**N**	77	6	5	88		
		%	87.5%	6.8%	5.7%	100.0%		
Occupation	**Student**	**N**	95	24	5	124	**121.456**	**0.001***
		%	76.6%	19.4%	4.0%	100.0%		
	Worker	**N**	64	84	81	229		
		%	27.9%	36.7%	35.4%	100.0%		
	Housewife	**N**	113	33	14	160		
		%	70.6%	20.6%	8.8%	100.0%		

Table 2 shows significant relationships between sociodemographic characteristics of the studied females and their attitude towards reproductive health. (P = 0.001).

Table 2: Relationships between sociodemographic characteristics of the studied females and their attitude towards reproductive health

			Attitude			Total	X^2	P-value
			-ve	**Neutral**	**+ve**			
Age	**18 – 29**	**N**	11	159	32	202	**157.354**	**0.001***
		%	5.4%	78.7%	15.8%	100.0%		
	30 – 39	**N**	5	41	60	106		
		%	4.7%	38.7%	56.6%	100.0%		
	40 – 49	**N**	64	85	56	205		
		%	31.2%	41.5%	27.3%	100.0%		
Marital Status	**Married**	**N**	41	135	108	284	**125.975**	**0.001***
		%	14.4%	47.5%	38.0%	100.0%		
	Widow	**N**	21	11	2	34		
		%	61.8%	32.4%	5.9%	100.0%		
	Divorced	**N**	10	19	10	39		
		%	25.6%	48.7%	25.6%	100.0%		
	Single	**N**	8	120	28	156		
		%	5.1%	76.9%	17.9%	100.0%		

Education	**Higher**	**N**	12	94	68	174	**258.249**	**0.001***
		%	6.9%	54.0%	39.1%	100.0%		
	Secondary	**N**	4	126	54	184		
		%	2.2%	68.5%	29.3%	100.0%		
	Literate	**N**	8	36	23	67		
		%	11.9%	53.7%	34.3%	100.0%		
	Illiterate	**N**	56	29	3	88		
		%	63.6%	33.0%	3.4%	100.0%		

Table 3 shows significant relationships between studied females' socio demographic characteristics and their practice towards reproductive health. (P = 0.001). Table 3.

Table 3: Relationships between socio demographic characteristics of the studied females and their practice towards reproductive health:

			Practice			**Total**	**X^2**	**P-value**
			Perfect	**Accepted**	**Imperfect**			
Age	**18 – 29**	**N**	79	57	66	202	**27.246**	**0.001***
		%	39.1%	28.2%	32.7%	100.0%		
	30 – 39	**N**	25	40	41	106		
		%	23.6%	37.7%	38.7%	100.0%		
	40 – 49	**N**	42	59	104	205		
		%	20.5%	28.8%	50.7%	100.0%		
Marital Status	**Married**	**N**	78	103	103	284	**63.561**	**0.001***
		%	27.5%	36.3%	36.3%	100.0%		
	Widow	**N**	5	5	24	34		
		%	14.7%	14.7%	70.6%	100.0%		
	Divorced	**N**	3	3	33	39		
		%	7.7%	7.7%	84.6%	100.0%		
	Single	**N**	60	45	51	156		
		%	38.5%	28.8%	32.7%	100.0%		
Education	**Higher**	**N**	70	54	52	174	**48.535**	**0.001***
		%	40.2%	31.0%	29.9%	100.0%		
	Secondary	**N**	40	69	73	184		
		%	21.7%	37.5%	39.7%	100.0%		
	Literate	**N**	23	16	26	67		
		%	34.3%	23.9%	38.8%	100.0%		
	Illiterate	**N**	13	17	60	88		
		%	14.8%	19.3%	68.2%	100.0%		
Occupation	**Student**	**N**	50	35	38	124	**53.694**	**0.001***
		%	40.3%	28.2%	30.6%	100.0%		
	Worker	**N**	67	91	72	229		
		%	29.3%	39.7%	31.4%	100.0%		
	Housewife	**N**	29	30	101	160		

		%	18.1%	18.8%	63.1%	100.0%		

Table 4 shows significant association between level of knowledge offemales and their attitude towards reproductive health. (P = 0.001). Table 4.

Table 4: Relationship between knowledge of the studies females and their attitude towards reproductive health

			Attitude			Total	X^2	P-value
			-ve	NEUTRAL	+ve			
Knowledge	**Poor**	**N**	64	161	47	280	**104.751**	**0.001***
		%	23.5%	59.2%	17.3%	100.0%		
	Accepted	**N**	9	89	43	143		
		%	6.4%	63.1%	30.5%	100.0%		
	Good	**N**	7	35	58	90		
		%	7.0%	35.0%	58.0%	100.0%		

Table 5 illustrates significant relationships between knowledge and attitude of the studied females and their practice towards reproductive health. (P = 0.045). Table 5.

Table 5: Relationships between knowledge and attitude of the studied females from one side and practice towards reproductive health from the other side:

			Practice			Total	X^2	P-value
			Perfect	Accepted	Imperfect			
Knowledge	**Poor**	**N**	73	68	131	272	**9.758**	**0.045***
		%	26.8%	25.0%	48.2%	100.0%		
	Accepted	**N**	48	47	46	141		
		%	34.0%	33.3%	32.6%	100.0%		
	Good	**N**	25	41	34	100		
		%	25.0%	41.0%	34.0%	100.0%		
Attitude	**-ve**	**N**	14	16	50	80	**47.250**	**0.045***
		%	17.5%	20.0%	62.5%	100.0%		
	NEUTRAL	**N**	105	70	110	285		
		%	36.8%	24.6%	38.6%	100.0%		
	+ve	**N**	27	70	51	148		
		%	18.2%	47.3%	34.5%	100.0%		

Table 6 shows that occupation, marital state and education were considered significant predictors of practice of females towards reproductive health with effect of 7.2%. Table 6.

Table 6 predictors of imperfect practice regarding reproductive health among studied groups (step wise linear regression):

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
	(Constant)	72.264	4.914		14.707	.000
	Occupation	-7.958-	1.826	-.256-	-4.357-	.000
	Marital Status	-2.133-	.921	-.125-	-2.316-	.021
	Education	-2.206-	1.026	-.102-	-2.151-	.032
F =13.189		**R^2=7.2%**	**P=0.00**			
Excluded variables: age, knowledge and attitude						

Discussion

Reproductive health is a universal concern, but is of a special importance for women particularly during reproductive year. Reproductive health rights are a relatively new concept. It has been the target of family health programs worldwide since the International Conference on Population and Development (ICPD) held in Cairo in 1994. However, in many countries, sexual and reproductive health needs focusing specifically on younger people who are often neglected [18].

This is similar to findings of **patanwar p.**, **2015**, study in India, which reported low overall knowledge in their study [19]. Another study conducted by **Deo et al, 2005,** [20] among urban girls showed that the majority of them had poor knowledge. Similar findings were reported by a study done in Bangladesh where only 25% of women had good level of knowledge on reproductive health [21]. In the study of **Govender et al., 2019,** [22] in South Africa, although 43.9% of participants scored > 50% for the knowledge about reproductive health this low level of knowledge is in accordance with our results.

According to **Yemaneh et al., 2017,** [23] in Ethiopia, respondents were asked whether they know what reproductive health means and (46.66%) acknowledge that they know reproductive health.

The difference in the findings of different studies regarding the level of knowledge of females towards reproductive health may be explained by differences in the level of education and socio-economic standers among different communities.

Our results come in accordance with those of two similar 2012 studies in Turkey and Malaysia conducted among university students in which the most frequently referred sources of sexual and reproductive health information were the internet and newspaper [24].

Another study conducted by **Farag, 2017** in Egypt, found that the main sources of knowledge about reproductive health were mass media and internet [25].

However, in the study of **Dube & Sharma, 2012,** [6] they reported that 41% of urban and 56% of rural respondents received information about reproductive health from their relatives, whereas 30% urban and 24% rural girls got their information from friends. 29% urban and 20% rural respondents got the information from media like T.V, radio and magazines.

Different findings were found by **Nair et al., 2007 in East Delhi,** [26] which revealed that 41% of the girls received information about menstruation from their mothers, 22% got information from their elder sisters, 21% from their friends and 5% from television and 4% of the girls got information from books.

Another study conducted by **Deo et al, 2005,** [20] had reported mother as the main source of information on menstruation for 27.5% of the

girls. Whereas teacher was the source for information for their rural counterparts (27.01%). However **Adinma et al, 2008 in Nigeria,** [27] in his study revealed that information on menstruation given by mothers is often incomplete and incorrect, usually being based on cultural myths, and therefore probably perpetuating negative and distorted perceptions and practices of menstruation. The difference among these studies may be caused by different socioeconomic status.

Our findings are in contrary with results of a study done by **Gaferi et al., 2018** [10], as they reported that the highest attitude towards components of reproductive health was positive this may be attributed to high level of education in his study. Moreover, In the study of **Wani et al., 2018 in Kashmir,** [28] the majority (80.1%) of the respondents had a favorable attitude toward reproductive health aspects especially family planning.

The results of our study are in accordance with a study conducted by **Kasa et al., 2018 in Ethiopia,** [29] which revealed that (58.8%) of their participants had favorable attitude towards components of reproductive health.

Our results are in accordance with a study conducted by **Gaferi et al., 2018,** [10] as they revealed that the majority of girls who followed correct hygienic practices during menstruation with respect to the type of towels used were those who used sanitary pads.

In contrary with our study results **Bhattacherjee et al., 2013,** [30] in West Bengal, India, in their study revealed that about 71.3% of their study subjects used sanitary pads as absorbents. The common use of pads may be

a result of high availability and increased awareness from television regarding availability and use of sanitary napkins and therefore there was better awareness of usage of sanitary pads.

In a study in Alexandria, Egypt, published in 1990, about one-quarter of girls avoided bathing during menstruation [31]. This may due to cultural and traditional beliefs in Egypt, menstruation is not considered an appropriate topic of discussion, leading to the lack of accurate and available information which led to bad practice.

Similarly, a study was conducted in Riyadh, Saudi Arabia, 2018, revealed that 62.3% of girls abstained from showering during menstruation, as they believed it might stop the menstrual flow or increase the intensity of pain [32]. In an Iranian study in 2002, [33] among adolescents in Tehran suburbs, where 27% of the girls didn't practice menstrual hygiene at all.

Our results also are in accordance with a study conducted by **Mudey et al.,** 2010 [34] in India, which reported that cleanliness of external genitalia by their study subjects was unsatisfactory.

Our results also come in accordance with a study conducted by **Eshra et al.**, 1989, in Egypt which reported low knowledge level about premarital examination (43.6%) as their participants were villagers and most of them were illiterates [35]. Moreover, in a study done by **Al-Farsi et al., 2014,** [36] in Oman, they reported that, nearly one third of participants did not accept premarital testing. The causes behind this negative attitude were lack of awareness of the importance of premarital care and lack of premarital care centers.

In contrast with our study **Karatay et al.**, 2006, showed in their study that 72,1% of their participants perform vaginal douche following sexual intercourse [37]. Also **Akin et al**., 2018 in Turkey, reported in their study that 54,6% of women perform vaginal douche and the reasons are mostly post sexual contact [38].

Our results are in accordance with a study done by **Khatib N et al**, 2009 in India, in which the minimum 3 antenatal visits made by only 33.6% of pregnant females [39]. Our results also are similar to a study conducted by **Hawley et al., 2014** in American Samoa and **Asundep et al.,** 2013 in Ghana, in which the highest number of their respondents, (64.3%) had visited antenatal care centers less than four times, whereas only 35.7% had visited them four times or more [40].

On contrary with our study another study conducted by **Pradhan et al., 2013** [41], in Nepal reported that the majority of the mothers (69.5%) had completed four ante natal care visits. The difference in results may be due to different socioeconomic state.

Also, **Mugo et al., 2015** [42] in South Sudan reported that women living in rural areas were less likely to use antenatal care services, compared to their counterparts in urban areas. The possible explanation for these results could be the distance to maternal health services and transportation problems may greatly reduce access to antenatal care services in rural areas.

Our results are in accordance with a study of **Wani et al.,** 2018 in Kashmir, [28] as they reported that around three-fourths (72.3%) of participants practiced family planning. About 66.3% of their respondents thought that adoption of family planning method leads to proper care of

children. Among participants who were married around three-fifth (60.3%) of respondents were currently practicing a family planning method. Around two-fifths of respondents were using condoms as a family planning method.

In contrary with the current study results, **Nayak et al.,** 2017 [43] in India, in their study revealed that the commonest contraceptive method used among their participants were condoms (59%) followed by oral contraceptives (23%) while IUCDs were used by only 15.8% of females.

Surprisingly, **Kasa et al.,** [29] in 2018 in Ethiopia, study revealed that three fourth (75.3%) of their study participants ever used contraceptive methods. The main types were the injectable contraceptives (77.2%). They found that the most common reasons for not using were a desire to have a child (53.2%) and preferred method was not available (46.8%).

Our study's results are in accordance with a study done by **Wani et al.,** 2018 in Kashmir, [28] who demonstrated that among socio demographic factors, marital state and income was significantly associated with mean knowledge of females regarding reproductive health. Also, **Lan et al.,** 2009 in Vietnam, [44] in their study reported that overall reproductive tract infections knowledge was higher among married women and this could be attributed to the sensitive nature of the issue and feelings of shame among women, especially unmarried, when talking and asking questions about reproductive matters.

Similar studies on Malaysian university in 2004, [45] in which students showed that married and older students had higher mean knowledge score compared with younger students. As individuals grow older, their sexual curiosity and development lead them to seek for more information relating to sexual issues.

Our results are similar to the results of **Fatusi & Michelle**, (2010), who studied "Adolescents and Youth in Developing Countries". They revealed that there were highly statistically significant differences between the women's socio-demographic characteristics and the total score of knowledge about reproductive health [46].

Similar findings were found by a study conducted in Ethiopia, 2013, [47] which indicated that the better knowledge about reproductive health and family planning were more among participants with secondary and university education than those who had basic education, and the differences were highly significant. But this finding does not agree with a study that was done in Hospital and Al-Olofi Center, 2014, in Sana'a [48].

Also a study that was done by **A. Abdel Hafez** [49] in 2014 in Egypt, found that participants with higher levels of education appear to know reproductive health issues more than those with basic education. Besides, another study done in West Bengal, 2011, showed that among illiterates (97.7%) weren't aware of contraception and family planning methods and there was an increase in knowledge towards reproductive health among women who had attained high school and middle school education [50].

Our results are in accordance with a study conducted by **Wani et al.** [28] in 2018 in Kashmir, which showed that marital status and length of married life was significantly associated with participants attitude scores towards reproductive health.

A study conducted by **Gambhir et al., 2018,** [51] in Patiala also revealed that socio demographic factors especially marital status was significantly associated with their studied participants attitude scores towards different aspects of reproductive health.

Our results are similar to findings of a study done in Ethiopia [47] in 2013, which showed that being literate was one of the factor associated with more positive attitude towards reproductive health aspects especially contraception.

In contrast with our study **Sherpa SZ**, 2013 in Karnataka, [52] in their study revealed that there was no association between the attitude and their studied females socio demographic characteristics.

The results of the present study are in accordance with the study conducted by **Sankhyan A,** 2019, [53] in assessing the attitude of teachers to reproductive and sexual health education where older teachers between the ages of 45 and 49 years (86.8%), had appositive attitude towards teaching reproductive health to their students, also higher education qualification had a significant effect on their positive attitude towards reproductive and sexual health education.

A study conducted in Tanzania, 2012, [54] showed that practice was significantly influenced by respondent's age and education level, distance to the near health facility, number of living children, husband wife communication on family planning, women's participation in decision making and husband's approval and encouragement.

The results of this study are in accordance with a study conducted by **Kasa et al.,** 2018 in Ethiopia, [29] which showed that, age of the study participants had an association with good practice towards reproductive health. Those reproductive age women's whose age > 30 years were practicing family planning better than those whose age < 20 years. This finding also was consistent with a study conducted by **Mohanan et al**., 2003, [55] done in India. This might be due to the reason that, when age

increases mother's awareness and good practice towards reproductive health aspects may increase. This finding was in line with a study conducted by **Beekle**, **2006**, [56] done in Jimma, Ethiopia.

The same finding was found by a study conducted by **Slave et al.,** 2012, [57] who found that there was statistical significant relation between practices of females regarding reproductive health and their marital state. And this was explained that, married females may have higher level of awareness about proper hygienic practices in order to maintain a healthy reproductive tract that is needed in the childbearing period.

Similar findings were found by **Palamuleni**, 2013 in Malawi, [58] which revealed that age, education, number of children, discussion of family planning with partner and occupation were associated with family planning practice.

Our results are in accordance with a study conducted by **Alizadeh M et al.,** 2013 in Tabriz, **and Envuladu E et al.,** 2014 in Nigeria, [59] which showed that women with higher educational level had healthier practice in terms of reproductive health. This may be due to higher educational level is usually associated with more learning opportunities and perfect practice.

Furthermore, according to **Govender et al.,** 2019 in Kawazulu Natal, South Africa, [22] age was positively associated with adolescent bad practice whereby older participants had good practice than their younger counterparts. Also, the participants with a secondary and higher level of education had fewer repeat pregnancies.

Also, a study conducted in Uganda by **Assimwe et al**. [60] in 2013 in Uganda, found that educational level, household wealth and desire for children were significantly associated with family planning use.

Several studies were in accordance with our study as it demonstrated that women with lower levels of knowledge showed negative attitude related to contraceptive use (risks and proper time and way of contraceptive use), screening, initiation of prenatal care, breastfeeding, smoking during pregnancy and postnatal period, and use of health care services in the area of reproductive health [1].

Similar findings were found by **Jaleta A**, 2017 in west Ethiopia, and **Abajobir AA** in East Gojjam, 2014, [61] in their study which found that participants who had good level of knowledge towards reproductive health services were two times more likely to utilize youth reproductive health services than those who had poor knowledge about reproductive health.

The same findings were found by a study of ***Bobhate & Shrivastava,*** 2011 in Mumbai, [66] as they mentioned that significant association was observed between having good/fair knowledge and good practice regarding reproductive health.

A study conducted by **Shrestha DB *&* Thapa et al,** 2020 [67] in Nepal, showed statistically significant positive correlations between knowledge and attitude towards contraceptive methods and practice of contraception. Attitude and practice were significantly associated (p value=0.05), and it was observed that majority of the people with good knowledge and positive attitude were practicing contraception.

Furthermore, **Farokhzadian J, Shahrbabaki PM.,** [68] **2014** study found a significant relation between knowledge, attitude and practice towards reproductive health. Probably the personal attitude about health practice has an effective role in order to performance health behavior so

teaching programs about reproductive health can increase the level of knowledge, attitude changing and better practice.

A study conducted in Bangladesh, 2020, [69] revealed that education, residence, regular SRH discussions, prior knowledge on SRH, mother as the source of SRH information, ever reading about SRH and ever talking with a health professional regarding SRH problems were the significant predictors of a better status of SRH knowledge, attitude, and practice among the participants.

Another study conducted **by El-Gilany A-H,** 2005, [70] in Egypt revealed that logistic regression analysis found that the biggest predictors of practice of the participants regarding reproductive health were presence of mass media at home (OR=12.7), high and middle social class (OR=5.98 and 3.96, respectively) and urban residence (OR=2.98).

Another study conducted by **f Jose MJ**, 2019 in Karnataka, found that multivariate logistic regression analysis showed that occupation and socioeconomic status were the significant predictors of knowledge and practice towards reproductive health. They found that adequate knowledge and a good practice towards reproductive health were significantly higher among housewives (OR=5.9 [CI: 1.5-33]) and gainfully employed women (OR=10.3 [CI: 2.4-35.1]) compared to students. Women from higher socioeconomic status were 4.5 times more likely to have adequate knowledge and a good practice (OR=4.5 [CI: 1.10-9.73]) compared to women from lower socioeconomic status [71].

Conclusion

The level of knowledge among females about reproductive health was relatively low and the majority of females had a neutral attitude toward

reproductive health. Imperfect practice was high among old aged, illiterates and housewives. There were significant relationships between demographic characteries of females and their knowledge, attitude and practice towards reproductive health. Also, there were significant relationships between knowledge and attitude of females towards reproductive health from one side and their practice from the other side.

Recommendations

Based on the results of this study we can recommend the following:

(1) Health care professionals, nurses and teachers must be trained properly to provide reproductive health services at schools and primary health care settings.

(2) Family medicine practitioners should be well-prepared to provide education about reproductive health through training courses and seminars.

(3) Health education activities in the health unit should stress on reproductive and sexual health especially for females coming for any service.

(4) Community leaders (as religious, eminent persons) and mass media should be included in the health education programs.

(5) Motivate females at reproductive age to increase their access and utilization of reproductive health services through low price of service, easy transportation and outreach home visits.

(6) Future studies and research should focus on reproductive health and use the findings to shape policies and programs.

Summary

Access to sexual and reproductive health material is limited in Egypt. Although sexual and reproductive health education is available in schools, it is considered deficient. Social, religious, and cultural norms also make it hard for parents to talk about sexual and reproductive health with their children. Absence of knowledge regarding reproductive health means that women can't make informed and correct choices, with the consequence that they are likely to suffer from sexually transmitted infections and unwanted pregnancies.

The aim of the study was to assess knowledge, attitude and practice of females attending Meet Hebish Elbaharia family medicine unit regarding reproductive health.

A cross sectional study was conducted at Meet Hebish Elbaharia family medicine unit. A pre-designed questionnaire sheet was developed and validated to collect data about socio-demographic, knowledge, attitude and practice of females attending for promotive , preventive and curative health services towards reproductive health.

Results of the current study can be summarized as follow:

- The majority of the studied females had a poor level of knowledge about reproductive health. The internet was the main source of information about reproductive health among the studied females.
- The highest percent of the studied females had a neutral attitude towards reproductive health.
- The majority of studied females didn't have pre-marital examination with the commonest used family planning method by females was "IUD" followed by contraceptive pills.

- Middle aged, highly educated, working and married females had a high level of knowledge and appositive attitude towards reproductive health.
- Imperfect practice was high among old aged, illiterates and house wives females.
- Females with good level of knowledge were associated with positive attitude towards reproductive health.
- Females with poor knowledge and negative attitude had imperfect practice towards reproductive health.
- There were significant relationships between studied females' socio demographic characteristics and their knowledge, attitude and practice towards reproductive health.
- There were significant relationships between knowledge and attitude of females towards reproductive health. Also there were significant association between knowledge and attitude of females from one side and their practice towards reproductive health from the other side.
- Stepwise linear regression detected that total score of socio demographic characteristics of females were the significant predictors for imperfect practice of the studied females towards reproductive health.

Based on the results of the present study, Egyptians females receive insufficient reproductive health education through the formal education in schools and university system. Strategies towards improving females'

reproductive health awareness and quality of reproductive health services should be developed to motivate women utilization of these services.

Family medicine practitioners, health care professionals, nurses and teachers must be trained properly to provide reproductive health services at schools and primary health care settings.

References

1. Organization WH. Sexual health and its linkages to reproductive health: an operational approach. 2017.
2. Glasier A, Gülmezoglu AM, Schmid GP, Moreno CG, Van Look PF. Sexual and reproductive health: a matter of life and death. The Lancet. 2006;368:1595-607.
3. Bazarganipour F, Foroozanfard F, Taghavi SA, Hekmatzadeh F, Sarviye M, Hosseini N. Evaluation of female youth educational needs about reproductive health in non-medical students in the city of Qom. Journal of family & reproductive health. 2013;7:67.
4. Dejong J, Shepard B, Roudi-fahimi F, Ashford L, editors. Young People's Sexual and Reproductive Health in the Middle East and North Africa, Population Reference Bureau Learning About Living. Self Esteem Learning; 2010: Citeseer.
5. Hussain R, Khan A. Women's perceptions and experiences of sexual violence in marital relationships and its effect on reproductive health. Health care for women international. 2008;29:468-83.
6. Dube S, Sharma K. Knowledge, attitude and practice regarding reproductive health among urban and rural girls: A comparative study. Studies on Ethno-medicine. 2012;6:85-94.

7. Caldwell JC, Hempel M, Balakrishnan R, Faundes A, Zurayk H, Khattab H, et al. The International Conference on Population and Development, Cairo, 1994. Is its Plan of Action important, desirable and feasible? 1996.
8. Cleland J, Conde-Agudelo A, Peterson H, Ross J, Tsui A. Contraception and health. The Lancet. 2012;380:149-56.
9. Paul VK, Sachdev HS, Mavalankar D, Ramachandran P, Sankar MJ, Bhandari N, et al. Reproductive health, and child health and nutrition in India: meeting the challenge. The Lancet. 2011;377:332-49.
10. Gaferi SM, Al-Harbi MF, Yakout SM, Soliman AT. Knowledge, attitude and practice related to reproductive health among female adolescents. Journal of Nursing Education and Practice. 2018;8:53-65.
11. Das P, Baker KK, Dutta A, Swain T, Sahoo S, Das BS, et al. Menstrual hygiene practices, WASH access and the risk of urogenital infection in women from Odisha, India. PloS one. 2015;10:e0130777.
12. Aragie TG, Abate BB. Utilization of Reproductive Health Services and Associated Factors among Secondary School Students in Woldia Town, Northeast Ethiopia. Journal of Environmental and Public Health. 2021;2021.
13. Nasr-Allah A, Gasparatos A, Karanja A, Dompreh EB, Murphy S, Rossignoli CM, et al. Employment generation in the Egyptian aquaculture value chain: implications for meeting the sustainable development goals (SDGs). Aquaculture. 2020;520:734940.
14. Hamdan A. Women and education in Saudi Arabia: Challenges and achievements. International Education Journal. 2005;6:42-64.
15. Tolba AR, Fahmy NM, Hassan Omran AA, Mohamed AI. Knowledge, Practices and Attitude of Adolescent Females towards External Genital Organs Infection. Egyptian Journal of Health Care. 2018;9:61-70.
16. Brundtland GH. Reproductive health: a health priority. Reproductive health: a health priority1999. p. 17-.

17. Patanwar P, Sharma K. Awareness of reproductive health among the kurmi adolescent girls of Raipur city, Chhattisgarh, India. International Journal of Research in Health Sciences. 2013;1:127.
18. DeoCHGhattargi D. Perceptions and Practices Regarding Menstruation: AComparative Study in Urban and Rural Adolescent Girls. Indian journal of community medicine. 2005;30:33.
19. Haque M, Hossain S, Ahmed KR, Sultana T, Chowdhury HA, Akter J. A comparative study on knowledge about reproductive health among urban and rural women of Bangladesh. Journal of family & reproductive health. 2015;9:35.
20. Govender D, Naidoo S, Taylor M. Knowledge, attitudes and peer influences related to pregnancy, sexual and reproductive health among adolescents using maternal health services in Ugu, KwaZulu-Natal, South Africa. BMC public health. 2019;19:1-16.
21. Gebresilassie KY, Boke MM, Yenit MK, Baraki AG. Knowledge level and associated factors about sexual and reproductive health rights among University of Gondar students, Gondar Ethiopia. International Journal of Sexual and Reproductive Health Care. 2019;2:016-20.
22. Wong LP. An exploration of knowledge, attitudes and behaviours of young multiethnic Muslim-majority society in Malaysia in relation to reproductive and premarital sexual practices. BMC public health. 2012;12:1-13.
23. Rathfisch G, Aydin M, Dereli Pehlivan M, Sivik Bozkurt B, Kaplica I. Evaluation of reproductive health and sexual behaviors of university students: case study from Istanbul. Contemporary nurse. 2012;43:47-55.
24. Ibrahim WA. Knowledge and attitude of the first year student at Faculty of Medical and Applicable Sciences at Yanbu governorate about some

aspects of reproductive health. Tanta Scientific Nursing Journal. 2017;13:90-104.
25. Nair P, Grover VL, Kannan A. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. Indian journal of community medicine. 2007;32:156.
26. Adinma ED, Adinma J. Perceptions and practices on menstruation amongst Nigerian secondary school girls. African journal of reproductive health. 2008;12:74-83.
27. Wani RT, Rashid I, Nabi SS, Dar H. Knowledge, attitude, and practice of family planning services among healthcare workers in Kashmir–A cross-sectional study. Journal of family medicine and primary care. 2019;8:1319.
28. Kasa AS, Tarekegn M, Embiale N. Knowledge, attitude and practice towards family planning among reproductive age women in a resource limited settings of Northwest Ethiopia. BMC research notes. 2018;11:1-6.
29. Bhattacherjee S, Ray K, Biswas R, Chakraborty M. Menstruation: experiences of adolescent slum dwelling girls of Siliguri city, West Bengal, India. Journal of Basic and Clinical Reproductive Sciences. 2013;2:85-91.
30. El-Shazly M, Hassanein M, Ibrahim A, Nosseir S. Knowledge about menstruation and practices of nursing students affiliated to University of Alexandria. The Journal of the Egyptian Public Health Association. 1990;65:509-23.
31. Moawed S. Indigenous practices of Saudi girls in Riyadh during their menstrual period. EMHJ-Eastern Mediterranean Health Journal, 7 (1-2), 197-203, 2001. 2001.
32. Pour EM, Ousati, Ashtiani F. Attitudes of female adolescents about dysmenorrhea and menstrual hygiene in Tehran suburbs. 2002.
33. Mudey AB, Kesharwani N, Mudey GA, Goyal RC. A cross-sectional study on awareness regarding safe and hygienic practices amongst school

going adolescent girls in rural area of Wardha District, India. Global journal of health science. 2010;2:225.
34. Eshra D, Dorgham L, El-Sherbini A. Knowledge and attitudes towards premarital counselling and examination. The Journal of the Egyptian Public Health Association. 1989;64:1-15.
35. Al-Farsi OA, Al-Farsi YM, Gupta I, Ouhtit A, Al-Farsi KS, Al-Adawi S. A study on knowledge, attitude, and practice towards premarital carrier screening among adults attending primary healthcare centers in a region in Oman. BMC Public Health. 2014;14:1-7.
36. Karatay G, Özvarış Ş. Bir sağlık merkezi bölgesindeki gecekondularda yaşayan kadınların genital hijyene ilişkin uygulamalarının değerlendirilmesi. Cumhuriyet Üniversitesi Hemşirelik Yüksekokulu Dergisi. 2006;10:7-14.
37. Sunay D, Kaya E, Ergun Y. Vaginal douching behavior of women and relationship among vaginal douching and vaginal discharge and demographic factors. J Turk Soc Obstet Gynecol. 2011;8:264-71.
38. Khatib N, Zahiruddin Q, Gaidhane A, Waghmare L, Srivatsava T, Goyal R, et al. Predictors for antenatal services and pregnancy outcome in a rural area: a prospective study in Wardha district, India. Indian journal of medical sciences. 2009;63:436.
39. Asundep NN, Jolly PE, Carson A, Turpin CA, Zhang K, Tameru B. Antenatal care attendance, a surrogate for pregnancy outcome? The case of Kumasi, Ghana. Maternal and child health journal. 2014;18:1085-94.
40. Hawley NL, Brown C, Nu'usolia O, Ah-Ching J, Muasau-Howard B, McGarvey ST. Barriers to adequate prenatal care utilization in American Samoa. Maternal and child health journal. 2014;18:2284-92.
41. Pradhan P, Bhattarai S, Paudel I, Gaurav K, Pokharel P. Factors contributing to antenatal care and delivery practices in village development

committees of Ilam district, Nepal. Kathmandu University Medical Journal. 2013;11:60-5.
42. Mugo NS, Dibley MJ, Agho KE. Prevalence and risk factors for non-use of antenatal care visits: analysis of the 2010 South Sudan household survey. BMC pregnancy and childbirth. 2015;15:1-13.
43. Nayak A, Ramakrishnan K, Venkateswar K, Vijayshree M. Assessing the knowledge, attitude and practice of contraception in rural India: a necessary step in achieving population control. Int J Reprod Contracept Obstet Gynecol. 2017;6:3328-31.
44. Lan PT, Lundborg CS, Mogren I, Phuc HD, Chuc NTK. Lack of knowledge about sexually transmitted infections among women in North rural Vietnam. BMC Infectious Diseases. 2009;9:1-9.
45. Low W. Impact of sexual health course on Malaysian university students. Med J Malaysia. 2004;59:443-9.
46. Fatusi AO, Hindin MJ. Adolescents and youth in developing countries: Health and development issues in context. Journal of adolescence. 2010;33:499-508.
47. Tilahun T, Coene G, Luchters S, Kassahun W, Leye E, Temmerman M, et al. Family planning knowledge, attitude and practice among married couples in Jimma Zone, Ethiopia. PloS one. 2013;8:e61335.
48. Al-Dubhani AM, Fadel KA, Al–Haddad AM, Bayoumi SS, Sharkawy SA. Impact of Education Program about Family Planning among Yemeni Women on their "Knowledge and Attitude" in Sana'a city. Journal of Education and Practice. 2014;5:78-86.
49. Hafez AA. Factors affecting the family planning methods used by the currently married women in rural Egypt. American journal of research communication. 2014;2:324-41.

50. Hussain N. Demographic, socio-economic and cultural factors affecting knowledge and use of contraception differentials in Malda District, West Bengal. Community Med Health Educ. 2011;1.
51. Gambhir P, Khaira R, Singh A, Raj H. A cross-sectional observational pilot study regarding status of contraceptive prevalence ratein family planning programme in rural practice area of government medical college Patiala. Journal of Dental and Medical Sciences. 2018;17:35-40.
52. Sherpa SZ, Sheilini M, Nayak A. Knowledge, attitude, practice and preferences of contraceptive methods in Udupi district, Karnataka. Journal of family & reproductive health. 2013;7:115.
53. Sankhyan A, Sheoran P, Kaur S, Sarin J. Knowledge and attitude regarding reproductive and sexual health among school teachers: a descriptive survey. International journal of adolescent medicine and health. 2019.
54. Lwelamira J, Mnyamagola G, Msaki M. Knowledge, Attitude and Practice (KAP) towards modern contraceptives among married women of reproductive age in Mpwapwa District, Central Tanzania. Current Research Journal of Social Sciences. 2012;4:235-45.
55. Mohanan P, Kamath A, Sajjan B. Fertility pattern and family planning practices in a rural area in Dakshina Kannada. Indian Journal of Community Medicine. 2003;28:15.
56. Beekle A, McCabe C. Awareness and determinants of family planning practice in Jimma, Ethiopia. International Nursing Review. 2006;53:269-76.
57. Salve S, Dase R, Mahajan S, Adchitre S. Assessment of knowledge and practices about menstrual hygiene amongst rural and urban adolescent girls–A comparative study. Int J Recent Trends Sci Technol. 2012;3:1-3.

58. Palamuleni ME. Socio-economic and demographic factors affecting contraceptive use in Malawi. African journal of reproductive health. 2013;17:91-104.
59. Alizadeh M, Dastgiri S, Taghavi S, Khanlarzadeh E, Khamnian Z, Jafarabadi MA, et al. The relationship between social determinants of health and pregnancy outcomes: a retrospective cohort study in Tabriz. Journal of Clinical Research & Governance. 2014;3:152-7.
60. Envuladu E, Agbo H, Lassa S, Kigbu J, Zoakah A. Factors determining the choice of a place of delivery among pregnant women in Russia village of Jos North, Nigeria: achieving the MDGs 4 and 5. International Journal of Medicine and Biomedical Research. 2013;2:23-7.
61. Asiimwe JB, Ndugga P, Mushomi J, Ntozi JPM. Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. BMC public health. 2014;14:1-11.
62. Bennett IM, Culhane JF, McCollum KF, Mathew L, Elo IT. Literacy and depressive symptomatology among pregnant Latinas with limited English proficiency. American Journal of Orthopsychiatry. 2007;77:243-8.
63. Organization WH. Defining sexual health: report of a technical consultation on sexual health, 28-31 January 2002, Geneva: World Health Organization; 2006.
64. Jaleta A, Assefa A, Amentie M. Youth friendly reproductive health service utilization and associated factors among youths in Metekel zone, north west Ethiopia. International Journal of Ophthalmology & Visual Science. 2017;2:59-64.
65. Abajobir AA, Seme A. Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community-based cross-sectional study. BMC health services research. 2014;14:1-11.

66. Bobhate PS, Shrivastava SR. A cross sectional study of knowledge and practices about reproductive health among female adolescents in an urban slum of Mumbai. 2011.
67. Shrestha DB, Khadka M, Khadka M, Subedi P, Pokharel S, Thapa BB. Hepatitis B vaccination status and knowledge, attitude, and practice regarding Hepatitis B among preclinical medical students of a medical college in Nepal. PloS one. 2020;15:e0242658.
68. Farokhzadian J, Shahrbabaki PM. Survey of women's knowledge, attitude and practice regarding prevention of common genital tract infection. Procedia-Social and Behavioral Sciences. 2014;136:381-4.
69. Zakaria M, Karim F, Mazumder S, Cheng F, Xu J. Knowledge on, Attitude towards, and Practice of Sexual and Reproductive Health among Older Adolescent Girls in Bangladesh: An Institution-Based Cross-Sectional Study. International Journal of Environmental Research and Public Health. 2020;17:7720.
70. El-Gilany A-H, Badawi K, El-Fedawy S. Menstrual hygiene among adolescent schoolgirls in Mansoura, Egypt. Reproductive health matters. 2005;13:147-52.
71. Jose MJ, Fathima FN, Joseph ST, Fernandez AC, Siangshai S, Vadakkan N, et al. Knowledge regarding reproductive health among women of reproductive age group in three sub-centre areas of a primary health center, Sarjapur, Bengaluru, Karnataka: a cross sectional study. 2019.