

Awareness and Behaviors of Preparatory School Students regarding Sexual and Reproductive Health in Port Said Governorate

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Abstract

Background: Sexual and reproductive health (SRH) considers an important aspect of shaping adolescent health and primary foundation for safe adulthood life. Awareness of SRH is a basic need for healthy adolescent life. **Aim:** To assess awareness and behaviors of preparatory school students regarding sexual and reproductive health in Port Said governorate. **Research design:** descriptive research design was used in this study. **Setting:** The study was carried out in six preparatory schools affiliated to Port Said governorate regions. **Sample:** A stratified multi-stage cluster sample of 207 preparatory school students enrolled in third preparatory grade. **Tools of data collection:** Two tools were used for collecting the data, SRH knowledge assessment questionnaire and student SRH behavior. **Results:** The results revealed that more than half (53.1%) of studied students were female, majority (82.6%) of studied students living in urban area, more than two thirds of studied students (66.7%) had spoken about sexual and reproductive health matters with other. Nearly half of (44.2%) of studied student's source of information was their friends and most of them never search about sexual content on the internet or attend programs about sexual health. **Conclusion:** majority of studied students had unsatisfactory SRH knowledge, more than two thirds of studied students never engaged in sexual and reproductive risk behavior and there was statistical significant relation between studied students total SRH knowledge and total SRH risk behavior. **Recommendations:** There is a crucial need to design and implement school-based sexual reproductive education programs to improve preparatory school student knowledge. Parental communication is important so, designing and applying educational sessions for parent-adolescent communication regarding sexual and reproductive health is vital.

Keywords: Sexual and reproductive health, Preparatory school students

Introduction

Adolescence is a transition phase from child period to adulthood which includes common alterations as bodily, mental, personality and psychosocial development. Adolescence period is parted into three phases: early phase aged 11to14 years, middle phase aged from15 to17 years, and late phase aged from18to21 years (Subrata, 2017).

Adolescence period includes diverse changes that impact family, learning, and social relationships. It begins with the primary physical features of sexual development and completed in terms of adulthood social independence (Margarida, Reis, Ramiro, Pais & Leal, 2014).Adolescence is crucial time for sexual growth and alteration. Adolescents' sexual health needs altered as one's reproductive anatomical structure and

processing structure of the brain change (Aylwin, Toro, Shirtcliff, & Lomniczi, 2019).

Puberty and sexual characteristics development are major milestones in the adolescence stage. This time period is characterized by a variety of growth and developmental patterns. In boys, the genital organs grow larger, appearance of a beard and mustache, the voice changes, and the body takes the adult shape, meanwhile girls start menstruating, breast , genital organs grow larger, and the body changes to a feminine shape ,in addition to develop of pubic and axillary hairs in both sex (Kar, Choudhury & Singh, 2015).

Sexual and reproductive health (SRH) refers to a state of physical, psychological, and social well-being in all aspects of the reproductive system. Positive SRH assumes that individuals can have a comforting and

healthy sex life, the ability to reproduce, and the autonomy to choose healthy sexual life (UNFPA,2020).Sexual health necessitates a positive and respectful attitude toward sexuality and sexual relations, moreover the ability to have comfortable and safe sexual experiences that are free of discrimination and aggression (WHO, 2010).

Sexual and reproductive health is the cornerstone of health and well-being so, knowledge about SRH provides the chance for positive sexually responsive and responsible adults in the future, as well as the ability to keep one's sexuality without harming oneself (Shewasinad, Alelign, Yeshitla,Bunga &Negash ,2017).

Adolescents get SRH information from their schoolmates, family members, school-based program, community organizations (including healthcare clinics), and mass communication. Parents have a strong impact on adolescent sexual attitudes and actions. Communication between parent and young adolescent regarding sexual and reproductive health enhance the adoption of youth healthy behaviors in the future (Cederbaum, Rodriguez, Sullivan& Gray, 2017). Different factors affect teenager SRH communication aspects as gender, sexuality-related social value, norms and stigma. Those certain factors contributed to a culture of silence when asking for information, discussing, and hinder their concern regarding SRH (Svanemyr, Amin, Robles & Greene, 2015).

Adolescents are vulnerable to a wide range of risky sexual mass communication messages since media use is widely common among adolescent, with approximately half of adolescent operating various websites frequently(Anderson and Jiang, 2018).Adolescent sexual and reproductive health need and services still poorly known, hard - to - reach, or unrecognized in several regions of the world (WHO, 2018).

Adolescent are more susceptible to peer influence and sexual victimization so, they must have the skills and information to negotiate good balanced and non-exploitative sexual relations (Temple-Smith, Moore & Rosenthal, 2015),moreover adolescents awareness about healthy sexual development

help to avoid engaging in risky sexual behaviors (Folayan, Odetoyinbo, Brown & Harrison, 2014). Adolescents require proper information and safe practices regarding sexual and reproductive life, as it is extremely important to enable teenagers for obtaining accurate information and displaying responsible attitudes and behavior through their sexual life (Neme and Oalana, 2019).

Significance of the study

Globally, the world's largest population aged between 10 to 24 years representing approximately 1.8 billion, mainly located in the developing regions specifically Africa, where they could face major discriminatory practices or an insufficient knowledge (United Nations Population Fund, 2015).Egypt's young population is rapidly expanding; adolescents aged 10 to 19 years are near to 17 million, portraying around 19% of the whole population (CAPMAS, 2015).

Sexual and reproductive health knowledge is a basic requirement for a safe and healthy sexual life and considers essential component which guide adolescent choices, behavior models and actions, particularly in regards acquiring knowledgeable protective role (Bergström, Ugarte Guevara, Colombo, &Källestal, 2018). Sexual and reproductive health behavior and actions of adolescent had a significant role on adult's sexual behavior and practices (Neme and Oalana, 2019).There is a burning need to study sexual and reproductive health as rapid urbanization, easy access to sexual material and lack of accurate knowledge which increase the danger for risky sexual behaviors. Furthermore, it is sensitive subject and adopting risky sexual actions in teenage years have long-term impacts in adulthood and the next generation. Considering the importance of sexual and reproductive health the current study was conducted to assess awareness and behaviors of preparatory school students regarding sexual and reproductive health in Port Said governorate.

Aim of the Study:

To assess awareness and behaviors of preparatory school students regarding sexual and reproductive health in Port Said governorate.

Specific objectives

- Identify awareness regarding sexual and reproductive health among preparatory school students.
- Determine information seeking behavior regarding sexual and reproductive health among preparatory school students.
- Detect sexual and reproductive health risk behavior among preparatory school students.
- Examine relation between sexual and reproductive health awareness and behaviors among preparatory school students.

Research Questions:

1. What are the levels of sexual and reproductive health awareness among preparatory school students?
2. What are the levels of sexual and reproductive health risk behaviors among preparatory school students?
3. Is there a relation between sexual and reproductive health awareness and behavior among preparatory school students?

Subjects and Method:**Research Design:**

A descriptive cross-sectional research design was used in the current study.

Study Setting:

The study was conducted in six preparatory schools affiliated to Port Said governorate regions namely El Nasr boys preparatory school representing ELmanakh region , Abo Bakr experimental preparatory school representing Elzohour region , Elqnah preparatory school for girls representing ELarab region , El tahrir preparatory school for girls representing East region , ELgarabah mixed preparatory school representing West region and Ahmed Shawky preparatory school for boys representing Eldawahy region .

Research Subjects

The study subjects compromised of 207 third grade preparatory school students, 110 students were females and 97 were males had recruited after explaining the aim of the study.

Sampling technique: To ensure that all regions of Port Said governorate are adequately represented in the sample a stratified multi-

stage cluster sampling technique was used in recruiting the study sample. - Stage I: there are 8 regions in Port Said governorate; six of these regions were selected by simple random sampling.

- Stage II: preparatory schools was classified by type to 77 Public school and 16 private, in addition to gender classification it was stratified in to 18 school for boys and 23 schools for girls and 36 mixed schools. Approximately proportionate numbers of schools were selected by simple random sampling from each stratum, from public schools 2 schools for boys, 2 schools for girls and 1 mixed School has chosen randomly, moreover from private school 1 school has chosen randomly.
- Stage III: according to classrooms (clusters). One classroom from third-preparatory grade was selected as a cluster from each selected school.
- Stage IV: according to students all the students enrolled in the selected classrooms were included in the study sample. The expected cluster size is between 30 and 40 students.

- The sample was as follows:

		Total
Regions	6	6
Schools	1/region	6
Classrooms	1/school	6
Students	30-40/classroom	About 200

Sample size:

The sample size is calculated to measure satisfactory knowledge (Fariah, Freeth, Khan, & Meads, 2016) among studied students, with a 95% confidence level, and a 4.0 standard error, and a design effect 1.3 for multistage cluster sampling. Using the Open-epi software package for sample size of single a proportion, the required sample size is 185 students. It was increased to 207 to compensate for a non-response rate of about 10%.

TOOLS OF DATA COLLECTION:

Two tools were used to collect the data for the study.

TOOL (I): SRH knowledge assessment

It was self-administered questionnaire sheet; it was composed of two parts

- First part was structured interview sheet, it was developed by the researcher .It included

data related to demographic characteristics of studied students such as age, gender, place of residence, religion, in addition to family structure in terms of with whom student live, father, mother's education, number of family members and ranking of the student between his brothers.

- Second part was SRH knowledge assessment questionnaire. It was developed by (Moustafa & Muhammad, 2018) and modified by researchers after reviewing literature from previous studies (Gaferi, Al-Harbi, Yakout & Soliman, 2018) to suit studied student. It was used to assess SRH knowledge of studied students. It was composed of 20 questions, 6 multiple choices questions with more than one answer about sexual and reproductive health definition, puberty physical and psychological changes in both male and female and puberty age as well as 14 true and false questions about family planning, pregnancy and sexually transmitted disease.

Scoring System:

The correct response scored one, while the incorrect response scored zero. The scores of the items were added up for each area of knowledge and the total was divided by the number of items, yielding a mean score for each part. These scores were converted to percentiles, means and standard deviations were calculated. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if it was less than 60%.

TOOL (II): Sexual and reproductive health behavior

It was developed by (Fariah, et al. 2016) and modified by researchers to suit studied student age as well as pretested for validation by panel of experts. This tool was consisted of two parts.

- First part was used to assess student sexual and reproductive health information-seeking behavior. It was composed of 9 items as the following have you ever spoken to anyone about matters related to sexual health, whom are the people you are talking to about sexual health issues, If you have a problem or questions about sexual and reproductive health, where do you go for help, easiness to get information about sexual health, attending any program or course on sexual health as

part of a mandatory or optional program during their study.

- Second part was sexual and reproductive health risk behavior questionnaire; it was used to assess sexual and reproductive health risk behavior among studied students. It was consisted of 7 items as the following: viewing magazine or books explaining sexual activity, seeing sexual pictures, watching sexual advertisement, watched films showing sexual activity or masturbated.

Scoring System:

The response graded according to items occurrence ranging from "never" happened, "1-2 times", "3-4 times", to "5 or more times". Each item should be graded by selecting only one alternative which mostly describe studied students behavior. Higher SRH activities reflected higher sexual risk behaviors.

Validity and reliability:

Content validity of the tool was done for clarity, comprehensiveness, and relevance. A board of seven experts in community health nursing, obstetric and gynecological nursing with more than ten years in the field experience had evaluated the tools. Cronbach's alpha was used to assess tool's reliability, which was $\alpha = 0.854$ for sexual and reproductive health knowledge and $\alpha = 0.709$ for sexual and reproductive risk behavior.

Pilot Study:

It was conducted on 10% of students with total number 21 students. This was done with the aim of the pilot testing for clarity of tools, evaluating content of the questionnaire, reconstruct the questionnaire and manage time needed to fulfill all study tools. The pilot study sample was excluded from the main study sample.

Fieldwork:

At preparatory phase in order to recruit study participants, Port Said preparatory schools were reviewed and six preparatory schools were picked randomly representing Port Said governorate regions according to sampling technique. Then an official approval from vice minister of education in Port Said governorate were obtained to collect the data. In each school, the researchers met every school manager to clarify the aim of the research and obtain the consent to carry out the study. Subsequently, the school manager referred researchers to manager assistant and social worker to choose appropriate time for collecting the data according to student daily schedule. From each school one classroom

was chosen randomly. The researcher met third grade preparatory school students in their classroom. Studied students had been informed about the aim of the research. Verbal approval was gained from each eligible student prior to willingness to participate in the study; the students received the study tools and requested to fill it out. Each studied student had been asserted that any information provided would be kept private and confidential. The time required for completing the questionnaires ranged from 20 to 30 minutes. The student responses were anonymous; furthermore students were informed that they could withdraw from the research at any time. Each school has been visited from 8:00 AM to 1:00 P.M. The collecting data period lasted three months, from the beginning of March to the end of May 2019.

Administrative Design

An official letter was issued from the dean of the faculty of nursing at port-said university to vice minister of education in Port Said governorate then directed to preparatory schools managers, to ensure their cooperation and permission to conduct the research after explanation the aim of the study.

Ethical Consideration:

The scientific research ethical committee at faculty of nursing in Port-Said University consent was attained firstly before starting the study. Permission from Port-Said Education directorate was taken to collect data from preparatory schools. The study aim was explained to preparatory schools manager and assuring that the process of data collection would not disturb the harmony of student schedule. Verbal consent was obtained from the studied students in addition to parents' consent was obtained through school administration. The aim of the study was explained to each participant to be familiar with the importance of his participation and have the right to withdraw from the study anytime. The researchers ensured participants identities and answers kept confidential and used only for study purpose.

Statistical Design

The data was analyzed with the IBM SPSS software package version 20.0. Numbers and percentages were used to describe qualitative data. The Kolmogorov-Smirnov test has been used to confirm the distribution's normality. Quantitative data was presented using the following terms: range (minimum and maximum), mean, and

standard deviation. The significance of the study findings was determined at the 5% level. To compare various groups, the Chi-square test for categorical variables has been used. The t-test has been used for comparing two studied groups for normally distributed quantitative variables respectively. Pearson correlation coefficient to establish a relationship between two normally distributed quantitative variables. Linear Regression is used to identify the most independent factor influencing knowledge and behavior.

Results

Table (1) revealed that more than half (53.1%) of studied students were female; concerning age the mean age was 14.42 ± 0.57 and majority (82.6%) of studied students living in urban area, 88.9% were Muslims. Regarding parent education more than one third (38.2%) of father and nearly half of mother (41.1%) had university education.

Figure (1) illustrated that 16% of studied students had satisfactory level of sexual and reproductive health knowledge; meanwhile 84% of studied students had unsatisfactory SRH knowledge.

Table (2) showed that more than two thirds of studied students (66.7%) had spoken about SRH matters with other. Nearly half of them (44.2%) talked to their Friends and 73.9% found difficulty to get information about sexual and reproductive health issues, 93.7% didn't attend programs or courses about sexual and reproductive health. Nearly half of students (46.4 %) wanted to know about personal hygiene for genitals organs and more than one third (37.7%) wanted to know about pregnancy and childbirth.

Table (3) indicated that more than two thirds of studied students (67.1 %) never engaged in sexual and reproductive health risk behavior, 17.9% engaged in one activity, meanwhile only 15% had more than two sexual risk behaviors.

Table (4) indicated that there was statistical significant relation between studied students total SRH knowledge and sexual and reproductive health risk behavior where ($p= 0.009$).

Table (5) assured univariate linear regression model that affecting overall SRH knowledge as remarked; the most affecting independent factors were ranking of student between their brothers and the mother's education degree ($p=0.009, 0.041$) respectively.

Table (6) showed univariate linear regression model affecting overall sexual and reproductive health risk behavior ,as remarked the most affecting independent factors were number of family members , degree of mother

education ,gender , ranking of the student between their brothers, school type (mixed), and father degree of education ($p < 0.001, 0.001, 0.001, 0.002, 0.022, 0.012$) respectively.

Table (1): Distribution of the studied students according to socio-demographic data (n = 207)

Socio demographic data	No.	%
School name		
El Nasr Preparatory school for boys	39	18.8
Abo Bakr Experimental Preparatory school	33	15.9
Elqanah Preparatory school for girls	35	16.9
El Tahrir Preparatory school for girls	31	15.0
Ahmed Shawky Preparatory school for boys	33	15.9
El Garabah mixed Preparatory school	36	17.4
School type		
Female	70	33.8
Male	68	32.9
Mixed	69	33.3
Age (years)		
Min. – Max.	13.0 – 16.0	
Mean \pm SD.	14.42 \pm 0.57	
Gender		
Male	97	46.9
Female	110	53.1
Place of residence		
Urban	171	82.6
Rural	36	17.4
The father's education degree		
Illiterate	16	7.7
Read & Write	11	5.3
Primary	15	7.2
preparatory	18	8.7
Secondary	68	32.9
University	79	38.2
The mother's education degree		
Illiterate	12	5.8
Read & Write	19	9.2
Primary	10	4.8
preparatory	13	6.3
Secondary	68	32.9
University	85	41.1
Religion		
Muslim	184	88.9
Christian	23	11.1
Number of family members, including student		
Min. – Max.	2.0 – 7.0	
Mean \pm SD.	4.93 \pm 1.05	
Ranking of the student between the brothers		
Min. – Max.	1.0 – 6.0	
Mean \pm SD.	2.26 \pm 1.06	

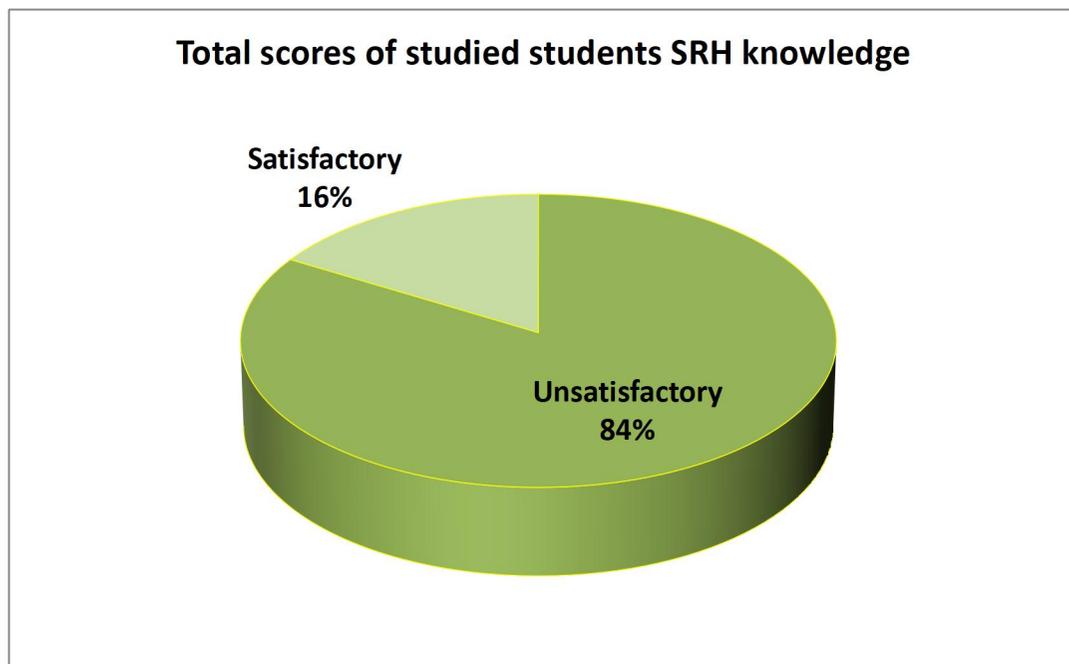


Figure (1): Distribution of the studied students according to total sexual and reproductive knowledge scores (n = 207)

Table (2): Distribution of the studied students according to SRH information-seeking behavior (n = 207)

Information-seeking behavior and needs	No.	%
Have you ever spoken to anyone about sexual and reproductive health matters?		
Yes	138	66.7
No	69	33.3
Whom are the people you are talking to about sexual health issues (n=138)		
Father	7	5.1
Mother	46	33.3
Brother - sister	18	13.0
Other relatives	3	2.2
Health visitor	2	1.4
Doctor	1	0.7
Friends	61	44.2
Do you think it is easy to get information about sexual and reproductive health? (n=69)		
Yes	18	26.1
No	51	73.9
If it is difficult, why is it difficult? (n=51)		
I don't know where to get the information	19	37.3
Parental disapproval	5	9.8
Service providers disagree	1	2.0
Feeling of shy	26	51.0
If you have a problem or questions regarding sexual health, where do you go for help?*		
The clinic / hospital	40	19.3
A qualified doctor	105	50.7
Parents	7	3.4
Friends	2	1.0
health visitor	17	8.2

Information-seeking behavior and needs	No.	%
teachers	87	42.0
Others	1	0.5
Have you attended any program or course on sexual or reproductive health as part of a mandatory or optional program in your study?		
Yes	13	6.3
No	194	93.7
Do you think that sexual and reproductive education will increase the incidence of sexual practices?		
Yes	38	18.4
No	169	81.6
What kind of information would you like to know about your sexual and reproductive health?*		
The personal hygiene of genitals organs	96	46.4
Sexual contact	67	32.4
Pregnancy and childbirth	78	37.7
Sexual problems	59	28.5
Menstruation period	68	32.9
Do you think the information available on the internet is reliable?		
Trusted	64	30.9
Untrustworthy	77	37.2
Not sure	66	31.9

* More than one answer

Table (3): Distribution of the studied students according to sexual and reproductive health risk behavior (n = 207)

Items	Never		1-2 times		3-4 times		5 or more times	
	No.	%	No.	%	No.	%	No.	%
Did you view any sexual content on television	169	81.6	38	18.4	0	0.0	0	0.0
Did you see any sexual pictures	192	92.8	12	5.8	3	1.4	0	0.0
Did you see any sexual content on your smartphone(advertisement)	173	83.6	32	15.5	2	1.0	0	0.0
Did you see magazine or books explaining sexual activity	206	99.5	1	.5	0	0.0	0	0.0
Did you watched films showing sexual activity(porn)	180	87.0	26	12.6	1	0.5	0	0.0
Did you search about sexual content on internet	205	99.0	2	1.0	0	0.0	0	0.0
Did you masturbated	200	96.6	6	2.9	1	0.5	0	0.0
None	139				67.1			
One activity	37				17.9			
≥2 activates	31				15.0			
Total score	0.64 ± 1.17							
% score	3.04 ± 5.59							

Table (4): Relation between Overall knowledge and sexual and reproductive health risk behavior of studied students (n = 207)

Sexual and reproductive health risk behavior	Overall knowledge				χ^2	P
	Unsatisfactory (n = 147)		Satisfactory (n = 60)			
	No.	%	No.	%		
None	107	72.8	32	53.3	9.513*	0.009*
One activity	19	12.9	18	30.0		
≥2 activates	21	14.3	10	16.7		

 χ^2 : Chi square test*: Statistically significant at $p \leq 0.05$ **Table (5):** Univariate Linear regression analysis for the parameters affecting overall SRH knowledge (n = 207)

	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
School type	-2.794	1.765	-0.110	1.584	0.115	-6.273	0.685
Age (years)	-3.247	2.539	-0.089	1.279	0.203	-8.253	1.760
Gender	-1.197	2.893	-0.029	0.414	0.680	-6.901	4.507
Place of residence	-0.987	3.810	-0.018	0.259	0.796	-8.498	6.525
The father's education degree	-0.142	0.938	-0.011	0.152	0.880	-1.991	1.707
The mother's education degree	-1.912	0.932	-0.142	2.053*	0.041*	-3.749	-0.076
Religion	-2.329	4.593	-0.035	0.507	0.613	-11.384	6.726
Number of family members, including you	2.629	1.361	0.134	1.932	0.055	-0.053	5.312
Ranking of the student between the brothers	3.519	1.338	0.181	2.631*	0.009*	0.882	6.157

B: Unstandardized Coefficients

Beta: Standardized Coefficients

*: Statistically significant at $p \leq 0.05$ **Table (6):** Univariate Linear regression analysis for the parameters affecting sexual and reproductive health risk behavior (n = 207)

	Unstandardized Coefficients		Standardized Coefficients (Beta)	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
School type (mixed)	1.090	0.473	0.159	2.307*	0.022*	0.158	2.022
Age (years)	0.539	0.686	0.055	0.785	0.433	-0.814	1.892
Gender	-2.573	0.759	-0.230	3.388*	0.001*	-4.071	-1.076
Place of residence	-0.647	1.026	-0.044	0.631	0.529	-2.671	1.376
The father's education degree	-0.630	0.249	-0.174	2.528*	0.012*	-1.121	-0.139
The mother's education degree	-0.862	0.247	-0.237	3.495*	0.001*	-1.348	-0.376
Religion	-0.155	1.239	-0.009	0.125	0.900	-2.598	2.288
Number of family members, including you	1.350	0.358	0.255	3.770*	<0.001*	0.644	2.056
Ranking of the student between the brothers	1.147	0.358	0.218	3.204*	0.002*	0.441	1.852

B: Unstandardized Coefficients

Beta: Standardized Coefficients

*: Statistically significant at $p \leq 0.05$

Discussion

Adolescent period characterized by rapid growth, attaining physical changes and sexual maturity but adolescent still had less basic information about sexual and physical changes in this period and acquiring information is considered taboo. Worldwide adolescent aged between 10 to 19 years accounting for 17 percent of the world's total population. Sexual and reproductive health is a challenge subject as several adolescents are less experience, and poor accessing for sexual and reproductive health services than adults **Tegegn, Yazachew & Gelaw (2016)** so, the present study was developed to assess awareness and behaviors of preparatory school students regarding sexual and reproductive health in Port Said governorate.

Regarding total sexual and reproductive health knowledge scores the current study showed that the majority of studied students had unsatisfactory knowledge and less than fifth had satisfactory knowledge. This may be due fear and shyness of adolescent to ask about those matters, lack of parents awareness regarding sexual reproductive issues and adolescent need, difficulty to initiate discussion with parents due to cultural structures constrains, and taboo, in addition to the majority of the current studied students found difficulty to get information about sexual reproductive health and most of them didn't attend programs or courses about sexual reproductive health.

This results was consistent with similar cross-sectional study in Tololar, Nicaragua on 225 students from both sex aged 11-19 years found that the general sexual and reproductive health knowledge was poor **Bergström, et al.,(2018)**, also in the same line a descriptive cross-sectional study which carried out in three randomly public schools in Fayoum Governorate, Egypt which declared that more than two-thirds of the studied participants had poor reproductive health knowledge **Kamal Elden, Khairy & Elsebaei (2019)**, moreover matching with cross sectional study on 293 students the result showed that more than two third of adolescents have limited knowledge on sexuality **Rahma (2019)**. In addition, study conducted in preparatory school for girls located in Alexandria Governorate, Egypt revealed that none of the participated students

had satisfactory knowledge in general before program intervention **Moustafa & Muhammad (2018)**. The study results was in consistent with a study on adolescent aged 10-19 in Ibadan, Oyo State, Nigeria which indicated high level of knowledge about reproductive health issues among adolescents **Titiloye & Ajuwon (2017)**. Therefore there's a crucial need to design school-based sexual reproductive education programs to improve preparatory school student knowledge.

According to the current study results, more than two-thirds of the studied students had discussed sexual matters with other. This could be due to adolescent curiosity and desire to know about sexual and developmental changes, as well as the difficulty in accessing information about SRH issues, in addition to peer preference to discuss SRH issues with the same age group although they may not have correct information regarding this matters, parents acceptance to discuss SRH issues. Family size found to be positively associated with SRH issues discussion as proved by **Kumsa (2015)** who assured that parents with small family size had good opportunity to discuss SRH issues with their children.

Similar to the foregoing current study results a study by **Shewasinad, Aleign, Yeshitla, Bunga & Negash (2017)** conducted among preparatory and high school students in Bench Maji Zone revealed that about one third of studied students discussed at least one SRH issues with their parents. Similar results were reported that more than one third of respondents had discussed at least one SRH issues with their parents **Shiferaw, Getahun & Asres (2014)**. In addition to **Chane & Cherie (2018)** study in Northeast Ethiopia on preparatory school students reported that majority of the study participants reported that they had discussed SRH matters.

According to sexual and reproductive health information behavior the current study findings showed that nearly half of studied student's source of sexual health information was their friends followed by their mother. This may be due to adolescent preferred peer discussion as this age stage peers influence overtakes the parents, spending less time with their parents rather than their friends, reduced parent adolescent communication. Moreover, parents fear to discuss sexual reproductive

issues which may encourage adolescent early sexual activity this interpretation is supported by **Busi & Chea (2017)** who declared that parents embraced to discuss SRH matters with their sons.

In line with the foregoing, the results of **Soltani, Sattari, Parsa & Farhadian (2017)** who reported that friends are the predominant means of gaining sexual and reproductive health information then followed by adolescent mothers also agree with the results of **Rahimi-Naghani, S., et al. (2016)** that considered friends are the main source of puberty and sex-related issues knowledge. **Flores & Barroso (2017)** revealed that mothers in many studies cited as predominantly source of SH issues; they consider the main sex educators at home, and more comfortable while discussing sexual issues too. In contrast **Neme & Olana, (2019)** study found that more than half of studied participants indicated that they acquired sexual reproductive information from school, followed by peers as well as **Mekonen, Dagne, Yimam, Yimam & Reta (2018)** study in Woldia town, Northeastern Ethiopia declared that school was the second source of SRH issues. This age group affected by their peer information which reflected on their sexual concepts, orientation, and behaviors in the future therefore, establishing parent adolescent communication regarding sexual and reproductive health is vital to promote healthy sexual and reproductive knowledge.

The matters of sexual behavior are rarely discussed in Islamic countries; therefore, unfavorable sexual behaviors continue to exist like watching pornography and searching about sexual content on the internet. Here, the current study finding investigate risk sexual behaviors among studied students the result showed that more than two thirds of studied students had never engaged in sexual reproductive health risk behavior, minority watched pornography films showing sexual activity and were masturbated, only one fifth has more than two sexual risk behavior. This may be due to this sensitive issue student shy to talk about it, stigmatized, forbidden sexual behavior, living in conservative society that hardens sexual behavior discussion. Another reason availability of pornography on the internet, watching online pornography was the most

common sexual activity which further proved by **Wéry & Billieux (2016)**. Across sectional study in Tanta, Egypt reported that the age of starting masturbation was 12-17 years **Kabbash, Ali, Kabbash & Abo El-Naga (2017)**. In Bangladesh **Al Mamun, Arafat, Ambiatunnahar & Griffiths (2018)** study showed that adolescent at least once accessed to pornography.

On the other direction of the current study results **Abdullahi, Adekeye, Mahmoud & Akor (2013)** found that more than half of studied participants in high schools watched pornography through their phones in Ilorin, Nigeria. Moreover, in different culture and other urban society risk sexual behavior is more common as shown in a cross-sectional survey revealed that majority of Australians aged 15 to 29 years had viewed pornography **Lim (2017)** also, in Lagos State, Nigeria, a study declared that more than two third of adolescents engaged in online sexual behavior **Kunnuji (2011)**. In **Harper & Hodgins (2016)** study declared that presence of link between watching pornography and masturbation. Adopting risk sexual behavior causing sexual problems in adult future life so, it is recommended to develop and implement effective preventive strategies about sexual risk behavior to raise awareness regarding danger consequence and decrease such risk behavior.

The current study finding indicated that there was statistical significant relation between studied students total sexual and reproductive knowledge and sexual and reproductive risk behavior. The possible explanation for the discrepancy may be knowledge provides the foundation for human behavior and attitudes. This result agrees with **Rahma (2019)** that declared there was a significant relationship between knowledge about sexuality and adolescent sexual behavior. In the same line study in India revealed there was positive relationship between sexual knowledge, attitudes and sexual behaviors **Dutt & Manjula (2017)**. On the other hand **Lou & Chen (2009)** study which revealed no significant correlation was found between sexual knowledge and sexual behavior of adolescents.

Conclusion

In the light of the current study findings, it is concluded that majority of studied students

had unsatisfactory sexual and reproductive health knowledge, more than two thirds of studied students never engaged in sexual and reproductive health risk behavior. Additionally, there was statistical significant relation between studied students total SRH knowledge and total sexual and reproductive health risk behavior.

Recommendations

According to the findings of existing study, there's a crucial need to design and implement school-based sexual reproductive education programs to improve preparatory school student knowledge. Parental communication is an effective tool for promoting sexual and reproductive health so, designing and applying educational sessions about parent adolescent communication regarding sexual and reproductive health matters is crucial. Implementation of health promotion programs for different age groups on sexual maturation changes, needs and sexual risky behavior during adolescence period. Further studies should be conducted to determine danger effect of sexual and reproductive risk behaviors on sexual health.

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