



## RELATION BETWEEN SEXUAL KNOWLEDGE VERSUS ATTITUDES AMONG FEMALE ADOLESCENTS

Nermeen Karam Khalil Nasr<sup>1\*</sup>, Amal Mohamed Eldakhakhny<sup>2</sup>, Bataa Mahmoud Mohammed<sup>3</sup>

1. *Nursing specialist in nursing science, Faculty of Nursing, Zagazig, Sharkia Governorate, Egypt*
2. *Professor of Pediatric Nursing, Faculty of Nursing, Zagazig, Sharkia Governorate, Egypt*
3. *Lecturer of Pediatric Nursing, Faculty of Nursing, Zagazig, Sharkia Governorate, Egypt*

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### ABSTRACT

Background: Adolescence refers to a sensitive stage of life in which adolescents of both sexes experience various changes in their bodies. Adolescents are particularly vulnerable to being misled if they are not properly informed about wide range of life problems. Descriptive comparative study was conducted on a sample of 154 students (77 nursing and 77 arts) at the faculty of nursing and faculty of arts at Zagazig University. Two tools were used; A structured interview questionnaire sheet and female adolescents, attitude scale. The study results revealed that 85.2% of female nursing students, mothers who had finished their secondary education compared to 39.4% of art students, mothers had good sexual knowledge. Also, 50% of nursing students and 35.3% of art students who had high social class had positive sexual attitudes. There was a statistically significant difference between female adolescent, residence and their sexual knowledge for both nursing and art students. It can be concluded that 67.5% and 37.7% of nursing and art students respectively had good sexual knowledge. Concerning to overall attitude scale, there was a statistically significant difference between both nursing and art students' groups. Therefore, the study recommended that Pediatric nurse, Psychiatric nurse, Community health nurse and School health nurse should offer sexual health teaching services for adolescents.

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### Introduction

The aim of the study was to identify the relation between sexual knowledge versus attitudes among female adolescents. Adolescents are vulnerable to being misled if they are not properly informed about wide range of life problems. Accurate and appropriate sex education of adolescents can improve their sexual knowledge and modify their behaviors [1].

Sexual health knowledge includes information regarding sexuality, reproductive and sexual health care problems. Inadequate health information can lead to different health risks such as acquiring sexually transmitted diseases such as HIV infection, and unsafe abortions due to early marriage [2].

Healthy sexual development is a fundamental milestone for all adolescents relying on acquiring knowledge and forming attitudes toward sexuality, taking into consideration that healthy sexuality is affected by cultural, religious and moral values. Healthy sexuality includes maintaining a significant interpersonal relation, interacting with both sexes and expressing love [3] Puberty is a period of life in which children become biologically mature and capable of sexual reproduction, this occurs between the age of 10 to 19 years of age marked by the development of secondary sex characteristics and maturation of reproductive organs [4].

Female genital cutting refers to all the procedures involving partial or total removal of the female external genitalia for non-medical reasons [5]. It was mentioned that this procedure may involve clitoridectomy by performing partial or total removal

of the clitoris and in some cases partial removal of labia minors named as excision and infibulation which involve narrowing of the vaginal orifice by cutting labia minors or labia majors [6].

Menstruation is a female's monthly bleeding from the uterus through the small opening of the cervix and passes out of the body through the vagina, the average of days from 3 to 5 days for most girls, but it may be from two to eight days with others. This bleeding occurs as a result of hypothalamic, pituitary and uterine activity. Hypothalamus secretes gonadotropin releasing hormone, this initiates the anterior pituitary to secrete follicle stimulating hormone (FSH) and luteinizing hormone (LH). After that, the ovarian follicle secretes estrogen and progesterone [7]. Fertilization is the process by which a sperm combines with an oocyte or egg to produce a fertilized zygote. The sperm swims through the vagina and uterus into the fallopian tubes where sperm may find the egg. After that, sperm contains an enzyme which allows it to penetrate the outer layers of the egg, then the interior. The nuclei of these cells fuse to form a zygote. The zygote then begins cell division to form an embryo [8].

Pediatric health nurse has an important role in sexual health teaching for adolescents. She provides adolescents with sexual health counseling before they are engaged in their first sexual experience to help in the decrease of sexually transmitted infections and unplanned pregnancies [9], as well as building confidentiality and being honest about adolescents' information. Using audio computer –assisted self – interview which help in identifying adolescents who had sexual risk behaviors [10]. Therefore, the aim of this study was to recognize the relation between sexual knowledge versus attitudes among female adolescents. The findings of this study help in identifying the extent of sexual health knowledge of adolescents to design effective strategies to minimize the spread of sexual health problems.

## Materials and Methods

### Research design

Descriptive comparative design was used to identify the relation between sexual knowledge versus attitudes among female adolescents.

### Study setting:

This study was conducted at faculty of nursing and faculty of arts at Zagazig University, Sharkia Governorate, Egypt.

### Study subjects:

The subjects of this study were composed of two main groups:

#### Group I: Nursing group:

A convenient sample of female students from the first year amounted to 77 students who fulfill the following criteria constituted the sample:

- Age: from 18 -19 years.
- Unmarried.
- Free from any chronic diseases.

#### Group II: Art group:

A convenient sample of female students from the first year amounted to 77 students who fulfill the above criteria constituted the sample.

### Tools for data collection

Two tools were used in this study:

#### Tool I: A structured interview questionnaire sheet:

The structured interview questionnaire sheet was developed by the researcher after reviewing the related literature and it consisted of three parts.

##### Part I: Personal characteristics of the studied female students

Including their age, residence, family type.... etc.

##### Part II: Characteristics of the studied female student's parents

Including their age and level of their parents' education, etc.

##### Part III: Female adolescent's knowledge related to sexuality

Including (I) Anatomy and physiology of the female reproductive systems, (II) Physical changes associated with puberty of females, (III) Menstruation and its hygiene, (IV) anatomy of male reproductive system, (V) Physical changes associated with puberty of males, (VI) reproduction, (VII) Sexually transmitted diseases, (VIII) cultural aspects of sex education e.g. Masturbation, female genital cutting, etc.

### Scoring System

The score for each correct answer set a point and a zero for the wrong one or the answer by didn't know. Then the obtained total percent score of female adolescents, knowledge was transformed into a qualitative manner as good for the score 60% and more, poor for the score less than 60%

#### Tool II: Female Adolescent Attitude Scale Toward Sexuality

It was developed by El Shaawat et al., adapted and translated into Arabic by the researcher, and some modifications were done [4]. The scale consisted of 40 statements. It was used to measure female adolescents' attitude toward sexuality. It consisted of positive and negative statements. It consisted of three responses.

### Scoring System

The total attitude score was 120, for the positive statements: agree=3, uncertain=2, disagree=1. For the negative statements disagree=3, uncertain=2, and agree=1. With regard to the level of female adolescents, attitudes were categorized as positive attitude for the score of 60 % and more, and negative attitude for the score of less than 60 %.

### Field work:

Upon securing all official permissions, the process of data collection was started from February 2017 to the end of March 2017. The researcher first introduced herself and explained the purpose of the research briefly to all the adolescents. Each adolescent was interviewed individually in the faculty after taking his/her oral consent. The time consumed for answering the

study questionnaire ranged from 20 – 30 minutes. The researcher performed the fieldwork three times a week (Sunday, Monday and Wednesday).

**Pilot study:**

It was carried on 10% of students aimed at assessing the applicability of the data collection tool, arrangement of items, estimating the time needed for filling the sheets with the collected data and feasibility of the study and acceptance to be involved in the study.

**Administrative design:**

An official permission to conduct the study was directed from the faculty of nursing to the dean of faculty of arts. It was done after obtaining an official permission from the dean of faculty of arts in which the study will be conducted.

**Ethical consideration:**

All the ethical issues were taken into consideration during all phases of the study. The researcher maintained anonymity and confidentiality of the subjects. The inclusion in the study was totally voluntary. The aim of the study was explained to every student before participation, an oral consent was obtained from female adolescents to accept to participate in this study and the research approval was obtained from the ethical committee before starting the study.

**Statistical analysis:**

Collected data was coded, computed and statistically analyzed using SPSS (statistical package of social sciences) and Microsoft Excel software. Qualitative data was presented as frequency and percentage, quantitative data was presented by mean ± SD, the following tests were used to test differences for significance; differences between frequencies (qualitative variables) and percentages in groups were compared by Chi-square test. Differences between parametric quantitative independent groups was done by t test and in non-parametric by Man Whitney. P value was set at <0.05 for significant results.

**Results**

**Table 1.** The Characteristics of the Studied Subjects

Characteristics	Nursing (77)		Art (77)		Significance test
	No	%	No	%	
Age/years					P 0.86
18	30	39	29	37.7	
19	47	61	48	62.3	
Mean ± SD	18.61 ± 0.49		18.62 ± .048		-----
Residence					P 0.48
Rural	68	88.3	65	84.4	
Urban	9	11.7	12	15.6	
Social class					P 0.29
low	31	40.3	25	32.5	
Moderate	36	46.8	35	45.5	
High	10	13.0	17	22.1	
Crowding index					P 0.03**
Over crowded	22	92.0	68	68.0	
Un crowded	55	8.0	32	32.0	

(\*\*) P< 0.05 (significant)

This Table revealed that the mean age of nursing students was 18.61 ± 0.49 years compared to 18.62 ± 0.48 years of art students. Regarding to residence, it was found that 88.3 % of nursing students and 84.4 % of art students were residing in rural areas. Also, it was found that 46.8% and 45.5% of nursing and art students respectively were in moderate class. The same table illustrated that 71.4% of nursing students were living in un crowded houses compared to 54.5% of art students.

**Table 2.** Female Adolescents Knowledge Concerning Female Reproductive Systems:

Items	Nursing (77)		Art (77)		Significance test
	No	%	No	%	
A- Anatomy of female reproductive systems					T. test= 0.65 P= 0.51
1. External structures: *					
-Labia majors& labia minors	77	100.0	54	28.57	
-Vaginal opening	70	90.9	27	35.06	
-Bartholin's gland	27	35.06	2	2.60	
-Clitoris	18	23.38	12	15.58	
-Ovaries^	17	22.08	14	18.18	
-Didn't know	12	15.58	29	37.66	
2-Internal structures: *					T. test= 3.90 P= 0.00**
-Fallopian tubes	29	37.66	12	15.58	
-Labia majors& labia minors^	28	36.36	11	14.29	
-Uterus	27	35.06	15	19.48	

-Ovaries	26	33.77	12	15.58	
- Didn't know	15	19.48	30	38.96	
<b>B-Physiology of female reproductive systems</b>					
<b>6-Functions of female reproductive systems: *</b>					
-Forming oocytes	47	61.04	22	28.57	T. test=1.89 P= 0.060
- Creating a suitable environment for fertilization	45	58.44	32	41.56	
-Creating a suitable place for fetal growth	44	57.14	25	32.47	
--Enable delivery after completing pregnancy	35	45.45	21	27.27	
- Didn't know	11	14.29	25	32.47	
-Prevent receiving sperm^	10	12.99	20	25.97	

\*\* P > 0.05 (significant). T: Mann Whitney t test. (^) wrong answer. (\*) more than one answer.

This Table revealed that 15.58% of nursing students didn't know the external structure of reproductive system compared to 37.66% of art group students. Regarding internal structures, it was found that there was a statistically significant difference between nursing and art group. Concerning the functions of female reproductive system, 61.04 % and 28.57 % of nursing and art students group respectively mentioned forming oocytes.

**Table 3. Female Adolescents, Knowledge Concerning Menstruation**

Items	Nursing (77)		Art(77)		Significance test
	No	%	No	%	
<b>Physical symptoms associated with menstruation*</b>					
-Increase in breast size associated with breast pain	55	71.43	28	36.36	T. test= 0.69 P= 0.49
-Back and abdominal pain	51	66.23	41	53.25	
-Disturbance of digestive system functions	45	58.44	32	41.56	
-Didn't know	10	12.99	25	32.47	
-Decreasing of breast size^	8	10.39	21	27.27	
-Skin sensitivity	5	6.49	19	24.68	
<b>Healthy habits that every female should follow for each cycle*</b>					
-Taking a shower with cold water ^	25	32.47	22	28.57	T. test= 2.6 p= 0.011
-Walking exercise	20	25.97	25	32.47	
-Didn't know	20	25.97	32	41.56	
-Drinking a lot of water	17	22.08	20	25.97	
-Shaving pubic hair	17	22.08	20	25.97	
-Use healthy pads and change continuously	16	20.78	18	23.38	
-Eating plenty of fruits and vegetables	15	19.48	20	25.97	
-Taking a shower with warm water	14	18.18	24	31.17	
<b>Factors affecting irregularity of menstruation*</b>					
-Irregularity of hormones that regulate menstruation	50	64.94	32	41.56	T. test= 2.2 P=0.029**
-Anxiety and tension	45	58.44	29	37.66	
-Diet regimen	24	31.17	15	19.48	
-Reproductive diseases such as polycystic ovaries	21	27.27	14	18.18	
-Regularity of hormones which regulate menstruation ^	18	23.38	20	25.97	
-Disturbance of body organs such as pituitary tumors	10	12.99	20	25.97	
Didn't know.	5	6.49	10	12.99	

\*\* P > 0.05 (significant). T: Mann Whitney t test. (^) wrong answer. (\*) more than one answer

This Table clarified that 71.43% of nursing compared to 36.36% of art group stated the answer "increase in breast size associated with breast pain", when they asked about physical symptoms associated with menstruation, Concerning factors affecting irregularity of menstruation, the findings showed that 64.94% of nursing compared to 41.56% of art mentioned the irregularity of hormones that regulate menstruation, the results revealed that 32.47% and 28.57% of nursing and art students respectively mentioned taking a shower with cold water when they asked about healthy habits that every female should follow for each cycle.

**Table 4. Female Adolescents, Knowledge Concerning Reproduction**

Items	Nursing (77)		Art (77)		Significance test
	No	%	No	%	

22- Definition*					
-The integration of the sperm with the ovum inside the nucleus of the ovum.	66	85.71	25	32.47	P= 0.08 T= 1.71
-Separation of the semen from the ovum^	11	14.29	19	24.68	
-Penetration of the sperm to female's ovum	10	12.99	15	19.48	
-Didn't know	5	6.49	32	11.56	

\*\* P > 0.05 (significant). T: Mann Whitney t test (^) wrong answer (\*) more than one answer

This Table clarified that 85.71% of nursing students compared to 32.47% of art students defined reproduction as the integration of the sperm with the ovum inside the nucleus of the ovum.

**Table 5.** Female Adolescents, Total Sexual Knowledge

Total knowledge	Nursing (77)		Art (77)		Significance test
	No	%	No	%	
Good	52	67.5	29	37.7	P= 0.00**
Poor	25	32.5	48	62.3	P= 0.00**

\*\*P < 0.05 (significant) Good: score % (60% and more) Poor: score % < 60%

In this Table, it was found that there was a statistically significant difference between nursing and art groups.

**Table 6.** Female Adolescents, Total Sexual Attitude scores of both nursing and art group

Total attitude	Nursing (77)		Art (77)		Significance test
	No	%	No	%	
Positive	61	79.2	38	49.4	P= 0.00**
Negative	16	20.8	39	50.6	P= 0.00**

\*\*P < 0.05 (significant). Positive attitude (60 % and more). Negative attitude < 60 %.

This Table showed that there was a statistically significant difference between two groups.

## Discussion

Adolescence is the period in which physical, psychological and emotional changes occur. Unhealthy development of adolescents such as poverty, crime or unemployment may result in physical and behavior problems for them [11]. Sexual health knowledge includes information regarding various sexual aspects such as reproduction, anatomy and the physiology of male and female reproductive systems. Maintaining a healthy sexuality is considered a fundamental part for all adolescents relying on acquiring knowledge on gender identity as well as peer relations [3].

Regarding the characteristics of studied female adolescents, the current study revealed that all the nursing students who belong to high social class, had good sexual knowledge and more than half of the students from low socioeconomic had poor knowledge. [12] was in agreement with the present study in which a study was conducted about the effects of school poverty on adolescents' sexual health knowledge and concluded that high school students from low socio-economic communities were less knowledgeable about sexual health than their peers from more affluent communities. Female adolescents' sexual knowledge was affected by many factors. In the present study, the findings revealed that female adolescents' residence had a great impact on their sexual knowledge. Three quarters of female adolescents of art group who were residing in urban areas had good knowledge related to sexuality. These findings were consistent with Kalibala et al., (2016) [13] who conducted a study about the relationship between socio demographic characteristics and HIV Indicators among women in Kenya, Tanzania, Uganda, Rwanda, Zambia and Malawi and concluded that HIV knowledge increased among urban compared to rural women. The results of the present study indicated that the knowledge of studied nursing female adolescents regarding female reproductive system was good. These current results were paralleled with [14], who conducted a study regarding college students' sexual knowledge and attitudes. They found that college students were very knowledgeable about human sexuality. Menstruation is an important and natural part of human life. Menstrual hygiene is very essential to the dignity and wellbeing of females and an important part of the basic hygiene, sanitation and reproductive health [15] The findings of the present study revealed that nursing female adolescents' knowledge related to menstruation was good where nearly three quarters of them defined the menstruation and mentioned the physical symptoms associated with menstruation. The results of the present study were paralleled with [16] in which, it was concluded that majority of adolescents had relatively good knowledge of menstruation and menstrual hygiene. The findings of the present study reflected poor knowledge of studied art students concerning reproduction. This was congruent with [17] which was conducted on teenagers and young adults in Sweden, concluding that adolescents have not achieved any sufficient knowledge concerning sexual and reproductive matters.

In the present study, the findings reflected that more than three quarters of female adolescents of nursing group had positive attitudes toward sexuality and [18] was in agreement with this result that assessed the attitudes of high school learners toward sexuality education in Zululand (South Africa) and concluded that learners had positive attitudes toward sexuality education.

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