**Assessment of secondary school female students’ knowledge about Reproductive health in Basra City**

**تقييم معارف طالبات مدارس الاعدادية حول الصحة الانجابية في مدينة البصرة**

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**المستخلص**

**الأهداف**: تهدف الدراسة الحالية الى تقييم معارف طالبات المدارس الثانوية حول الصحة الإنجابية.

**المنهجية**: أجريت دراسة تحليلية وصفية لتقييم مستوى معارف الطالبات حول الصحة الإنجابية لدى 287 طالبة في المدرسة في سن (14-23) سنة تتكون من ست مدارس ثانوية في منطقة الزبير في مدينة البصرة ، تم جمع البيانات عن طريق المقابلة المباشرة باستخدام الاستبيان المبني للحصول على الخصائص الاجتماعية والديموغرافية ومستوى المعرفة المتعلقة بالصحة الإنجابية. بدأت الدراسة من نوفمبر 2018 إلى يناير 2019. يتم تحديد صحة الاستبيان من خلال لجنة من (12) خبيرا وموثوقية من خلال الدراسة التجريبية. تم جمع البيانات من خلال ملئ الطالبات الاستبيان الذي صمم لغرض الدراسة ، التي تتألف من جزأين رئيسيين (الخصائص الديموغرافية الاجتماعية ، ومعرفة الطلاب حول الصحة الإنجابية). تم استخدام التحليل الإحصائي الوصفي والاستنتاجي لتحليل البيانات.

**النتائج**: أظهرت النتائج أن أعلى نسبة من الطالبات (82.5 ٪) كانت في سن (14-18) سنة ، (60.2 ٪) من الطالبات لديهم بين 1-4 إخوة ، (92 ٪) من الطالبات كانوا يعيشون في المناطق الحضرية ، (93.0 ٪) منهم كانوا يعيشون مع والديهم ، (34.8 ٪) من الآباء الطالبات كانوا موظفيين حكوميين ، و (54.4 ٪) من الأمهات الطالبات لديهم دخل مالي ، غالبية عوائل الطالبات لديهم دخل منخفض (34.9 ٪) ، (34.9 ٪) من الطالبات في مستوى جيد من التحصيل الدراسي ، كانت الكتب الخارجية المصدر الأول للمعلومات (62.5 ٪) من المستطلعين. توضح هذه الدراسة أن معارف الطالبات تجاه جميع مجالات الصحة الإنجابية كانت متوسطة بنسبة (0.81) ، في حين أن معارف الطالبات بالأمراض المنقولة جنسياً كانت منخفضة المستوى بنسبة (0.68). كان هناك ارتباط كبير بين معرفة الطالبات وترتيبهم بين الأخوة والاخوات ، والقراءة الخارجية من الإنترنت ، ولم تكن هناك علاقة بين معرفة الطالبات واعمارهن ، ومعيشة الطالبات عند مستوى P≤0.05

**الاستنتاجات**: استنتجت الدراسة الحالية إلى أن معارف الطالبات حول جميع مجالات الصحة الإنجابية كانت متوسطة المستوى.

 **التوصيات**: أوصت الدراسة الحالية بضرورة وضع برامج تعليمية لتحسين معارف الطالبات حول الصحة الإنجابية.

 **مصطلحات البحث**: التقييم ، المعارف ، الصحة الإنجابية.

**Abstract**

**Objectives:** Assess the knowledge of secondary school female students about reproductive health and to identify some demographic variables like age, residency socioeconomic status, birth order. etc. And to find out the correlation of their knowledge.

**Methodology:** A descriptive analytic study was conducted to assess the level of knowledge about reproductive health among 287 school females students in the age (14-23) years from six secondary schools in Al-zubair district in Basra city, the data was collected by direct interview using constructed questionnaire to obtain socio-demographic characteristics and level of knowledge related to reproductive health. The study started from November 2018 to January 2019.Validity of the questionnaire is determined through a panel of (12) experts and the reliability through the pilot study .The data was collected through students self-filling technique by using questionnaire which designed for the purpose of the study , which consist of two main parts (Socio-demographic characteristics , and knowledge of students about reproductive health) .Descriptive and inferential statistical analysis were employed for data analysis .

**Results:** The results show that the highest percentage of girls (82.5%) was in age (14-18) year's age, (60.2%) from student have between 1-4 brothers, (92%)of students was lives in urban area, (93.0%) of them was lives with their parents, (34.8%) of the student fathers was government employing, and (54.4%) of the student mothers have income, the majority of students’ family have low income (34.9%) , (34.9%) of student at good level of attainment, external books were the first source of information (62.5%) of respondents. This study shows that student knowledge toward all domain of reproductive health were moderate level which as the total means (0.81), while student’s knowledge about Sexually transmitted diseases was low level of knowledge which of the total means was (0.68).this study present that there were significant association between the student knowledge and their frequency among brother, and external reading from internet, and there were no significant between the student knowledge and their age, and living of student at P≤0.05 level

**Conclusions**: The present study concluded that student knowledge toward all domain of reproductive health were moderate level.

**Recommendations:** The present study recommended that necessary to establish educational programs to improve students’ knowledge about reproductive health.

**Key Words**: Assessment, Knowledge, reproductive health.

**Introduction**

Adolescence is the period of human growth and development that occurs after childhood and before adulthood, from 10 to 19 years of age (1)

Adolescence is a period of potent developmental and emotional interval. Most of adolescents yet neither have approach to information and education on sexuality, reproduction, contraception and sexual and reproductive health and rights, nor do they have access to preventive and curative service (2).

Teenage pregnancies look as high-risk pregnancies result in unsafe abortions, low birth weight, and high maternal morbidity and mortality. Almost 40% human immunodeficiency (HIV) virus infection is found within teenagers. Study was performing with objective to study the knowledge and attitude regarding menstruation, contraception and sexually transmitted diseases among secondary and higher secondary school girls (2).

Adolescents need to know how to keep themselves from Human immunodeficiency virus (HIV), sexual transmitted diseases (STDs) and early pregnancies, for this sex education is the best way, it should be a lifelong learning process based on the knowledge and skills and positive attitude, it helps the young people to enjoy sex and relationships that are based on qualities such as positive knowledge, cross respect, confidence, conversation and enjoyment (3).

Focusing on adolescent reproductive health is both a challenge and an occasion for health care providers. While adolescence generally is a healthy period of life, many adolescents are less informed, less experienced, and less comfortable accessing health services for reproductive health than adults. Adolescents often loss basic reproductive health information's, knowledge, and access to affordable confidential health services for reproductive health. Many do not sense comfortable in exploring reproductive health parents. Parents, health care workers, and educators frequently are unable to provide entire, accurate, and age-appropriate reproductive health information to young people. This is often due to their own discomfort about the topic or the false belief that providing the information will encourage sexual activity. Adolescents may also experience resistance or even hostility and bad attitudes from adults when young people effort to gain the reproductive health information and services they need. They therefore may be at an increased risk of sexually transmitted infections (STIs), unintended pregnancy, HIV, and other health consequences. For women aged 15 to 19, complications of pregnancy, childbirth, and serious abortion are the major causes of death (4).

Adolescence is an extremely dynamic period characterized by rapid growth and development. Adolescents have restricted knowledge about sexual and reproduction health, and know a few about the natural processes of puberty, sexual health, pregnancy or reproduction. Sex education should be an integral portion of the learning process beginning in childhood and continuing into adult life, because it is lifelong process (3).

Adolescence is also referred as a phase of rapid physical and cognitive growth. This is a sensitive stage of life where both girls and boys experience hormonal changes in their body. Not only their body starts taking adult shape but also they become sexually mature. As a result adolescents at this age are often attracted towards opposite sexes which lead to intimate relationships. Moreover this is also the period where one develops their cognitive power making them capable of abstract and critical thoughts. Adolescence is the period where human starts experiencing sense of self-awareness and emotional independence (5).

Every year, 16 million births happen through adolescent girls aged 15–19 years, mostly in low and middle income countries accounting for 11% of all births worldwide. Of those, 23% experience complications during pregnancy or childbirth. Every year, around 3 million girls aged 15 to 19 undergo sever abortions. Complications during pregnancy and childbirth are the second reason of death for 15-19 year-old girls globally (6).

Reproductive health is a crucial part of general health and a central feature of human development. It is a reflection of health during childhood and during adolescence and adult-hood , sets and stage for health beyond the reproductive years for both women and men, and affects the health of the next generation (7) .

Reproductive health is an important component of general health, it is a perquisite for social and economic and imperative because human energy and creativity are the driving forces of development. Adolescents represent a major potential human resources for the over all development of a nation. It is the period between childhood and adulthood, marked by enhanced food requirement and basal metabolic activities and biochemical activities, endogenous processes like hormonal secretions with their influence on the various organ systems. Adolescents comprise 20% of the world’s total population . Adolescents may face troubles due to lack of right kind of information regarding their own physical and or sexual developments (8) .

Sexual and reproductive health in it is broadest sense should encompass the health of all individuals, not only women. Moreover, since men actively participate in sexual behaviors and decisions, their health issues can negatively affect their economic status, marital stability, and the health of women, children and family in general. Moreover, men are still responsible for many decisions related family size, birth interval, use of contraceptive methods, and prevention of STD/HIV. Men also determine their spouses’ attitudes towards different part of sexual and reproductive health (9).

Reproductive health covers all parts of adolescent health. It is an umbrella concept, consisting of several featured, yet related issues such as abortion, child birth, sexuality, contraception and maternal mortality. Biological, social, cultural, economic and behavioral factors play a significant role in determination of reproductive health (10).

Reproductive health addresses the human sexuality and reproductive processes, functions and system at all stages of life and suggests that people are able to have “a responsible, satisfying and safe sex life and that they have the ability to reproduce and the freedom to decide if, when and how often to do so. Reproductive health is a global concern but is a special importance for women particularly during reproductive year. However, men also desires specific reproductive health needs and have power in some reproductive health matters (11).

The concept of reproductive health is a wide concept that covers maternal and child health services, youth, family planning, STIS. Reproductive health is not only the lack of illness and disability, but also the physical, mental and social well-being of the reproductive system, functions and process. So ,it is primary to protect one’s own reproductive system for future fertility (12).

**Methodology:**

A descriptive analytic study was conducted to assess the level of knowledge about reproductive health among 287 school females students in the age (14-23) years from six secondary schools in Al-zubair district in Basra city, the data was collected by direct interview using constructed questionnaire to obtain socio-demographic characteristics and level of knowledge related to reproductive health. The study started from November 2018 to January 2019.Validity of the questionnaire is determined through a panel of (12) experts and the reliability through the pilot study .The data was collected through students self-filling technique by using questionnaire which designed for the purpose of the study , which consist of two main parts (Socio-demographic characteristics , and knowledge of students about reproductive health) .Descriptive and inferential statistical analysis were employed for data analysis .

**Results:**

**Table (4-1): Socio-demographic Characteristics of the Study Sample No= 287**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Variables**  | **Classification** | **F** | **%** |
| **1** | **Age**  | 14-18 years | 237 | 82.5 |
| 19-23 | 50 | 17.5 |
| **2** | **School name** | Leila | 46 | 16.2 |
| Gaza | 47 | 16.3 |
| AlFadila | 50 | 17.4 |
| Al-Shanqitiu | 48 | 16.7 |
| kawakib | 48 | 16.7 |
| Al-Hidaruh AlEarabiuh | 48 | 16.7 |
| **3** | **Number of brothers and sisters** | 1-4  | 90 | 31.3 |
| 5-8 | 173 | 60.2 |
| 9-12 | 25 | 8.5 |
| **4** | **Residency** | Urban | 264 | 93.0 |
| Rural | 23 | 7.0 |
| **5** | **Lives with** | Both parents  | 264 | 93.0 |
| with father  | 5 | 1.7 |
| with mother  | 18 | 5.3 |
| with relatives  | 0 | 0.00 |

Continues----------table-1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Variables** | **Classification** | **F** | **%** |
| **6** | **Father Occupation** | Governmental Employee | 100 | 34.8 |
| Private Sector Employee | 27 | 9.4 |
| Retried | 38 | 13.2 |
| Has income and does not work | 49 | 17.0 |
| Free business | 73 | 25.6 |
| **7** | **Mother Occupation** | Governmental Employee | 20 | 7.0 |
| Private Sector Employee | 7 | 2.4 |
| Retried | 9 | 3.1 |
| Has income and does not work | 156 | 54.4 |
| House wife | 95 | 33.1 |
| **8** | **Socio Economic Status** | low | 183 | 63.6 |
| moderate | 83 | 29.2 |
| high | 21 | 7.2 |
| **10** | **Educational Attainment** | Excellent | 63 | 21.9 |
| Very good  | 64 | 22.3 |
| Good  | 99 | 34.9 |
| Moderate  | 59 | 20.8 |
| Low  | 2 | 0.01 |
| **11** | **Source of External Information** | Reading external books | 88 | 30.6 |
| browsing internet | 179 | 62.5 |
| others  | 20 | 6.9 |

Table 4-1: Shows the demographic characteristics of student who included in present study which of 82.5% at age group from (14-18) years old, high percent of student from AL Fathela school which of 17.4% ,60.2% from student have between 1-4 brothers, 93% of students was lives in urban area, 93.0% of them was lives with their parents, 34.8% of the student fathers was government employing, and 54.4% of the student mothers have income, 34.9% of the student family have low income, 34.9% of student at good level of attainment, 62.5% was reading external books.

|  |  |  |
| --- | --- | --- |
| No | **Items**  | **Assessment knowledge**  |
| **M.** | **S.D.** | **Ass.** |
| **Student’s knowledge about Menstruation** |  |
| **1** | Menstruation is a pathological process | 0.91 | 0.96 | M |
| **2** | Normal cycle length > 35 days | 1.13 | 0.96 | M |
| **3** | Causes of menstruation are hormones | 0.98 | 0.70 | M |
| **4** | Source of menstrual bleeding is vagina | 0.96 | 0.85 | M |
| Total mean | 0.9 |  | M |
| **Student’s knowledge about Infertility**  |  |  |  |
| **5** |  Alcohol can predispose to infertility | 0.72 | 0.79 | M |
| **6** | Is easy for a woman to conceive after 40years | 0.72 | 0.81 | M |
| **7** | Smoking can predispose to infertility | 0.59 | 0.75 | P |
| **8** | Sexually transmitted infection can cause infertility | 0.89 | 0.84 | M |
| **9** | Being underweight or overweight effect on infertility | 0.66 | 0.74 | P |
| **10** | Infertility can only occur after 40 years of age in female | 0.59 | 0.70 | P |
| Total mean | 0.7 |  | M |
| **Student’s knowledge about Sexually Transmitted Diseases** |  |  |  |
| **11** |  Sexually transmitted diseases can be transmitted by Exposure to cough and sneeze from infected persons | 0.42 | 0.61 | P |
| **12** | Transfusion of blood from one person to another | 0.50 | 0.69 | P |
| **13** | Unprotected sexual intercourse | 0.64 | 0.64 | P |
| **14** | Sharing the same plate with infected person may have effect | 0.77 | 0.63 | M |
| **15** | From needles and syringes | 0.76 | 0.74 | M |
| **16** | Transfer from infected mother to her fetus | 0.81 | 0.70 | M |
| **17** | One types of STD is syphilis | 0.90 | 0.75 | M |
| Total mean | 0.68 |  | P |
| **Student’s knowledge about Preventive Methods from Sexual Transmitted Diseases** |  |  |  |
| **18** | Use of condom during sexual intercourse protect against sexual transmitted diseases | 1.00 | 0.06 | M |
| **19** | Don’t share with others sharp or engraving tools | 0.77 | 0.71 | M |
| **20** | Having a single faithful partner | 0.78 | 0.72 | M |
| Total mean  | 0.85 |  | M |
| **Student’s knowledge about Signs of Puberty** |  |  |  |
| **21** | Hair growth | 0.76 | 0.64 | M |
| **22** | Breasts enlarge in puberty  | 0.77 | 0.63 | M |
| **23** | Hips enlargement in puberty | 0.95 | 0.60 | M |
| **24** | Start of menstrual cycle | 0.87 | 0.60 | M |
| **25** | Increase secretion of sweat glands and fat accumulation in certain areas of the body | 0.94 | 0.58 | M |
| Total mean | 0.86 |  | M |

**Table (2) Assessment of student’s knowledge about reproductive health**

|  |  |  |  |
| --- | --- | --- | --- |
| Items |  |  |  |
| **Student’s knowledge about Premarital Counselling** | M | SD | Ass. |
| **26** |  Thalassemia test | 0.89 | 0.53 | M |
| **27** | Screening for Hepatitis type B | 0.78 | 0.63 | M |
| **28** | Detection for hypertension | 0.81 | 0.70 | M |
| **29** | Screening for thalassemia and hepatitis type B | 0.81 | 0.75 | M |
| **30** | Detection for any genetic diseases | 0.84 | 0.70 | M |
| Total mean  | 0.83 |  | M |
|  **Student’s knowledge about Preconception Counselling** |  |  |  |
| **31** | Avoiding tobacco and other drugs | 0.87 | 0.70 | M |
| **32** | seeking further information about pregnancy and care of the children | 0.88 | 0.69 | M |
| **33** | Life styles change (healthy weight) | 0.78 | 0.72 | M |
| **34** | Eating more healthily | 0.79 | 0.70 | M |
| **35** | Took folic acid | 0.73 | 0.77 | M |
| Total mean | 0.81 |  | M |
| **Student’s knowledge about Conditions of Pregnancy** |  |  |  |
| **36** | Hormone necessary for the occurrence and continuation of pregnancy is testosterone  | 0.73 | 0.74 | M |
| **37** | The pregnancy with age more than 35 years occur without complication | 0.73 | 0.75 | M |
| **38** | There are no health contraindications for anemic woman to become pregnant | 0.64 | 0.73 | P |
| **39** | Extreme underweight in a pregnant woman may adversely affect her and her baby | 0.71 | 0.75 | M |
| Total mean | 0.7 |  | M |
| **Student’s knowledge about Ingredients of Healthy Pregnancy** |  |  |  |
| **40** | Presence of birth defects in the couple’s family does not increase the possibility of appearance of these defects among their children | 0.85 | 0.80 | M |
| **41** | Regular antenatal checkup is essential during pregnancy | 0.89 | 0.75 | M |
| **42** | Folic acid deficiency has no relation with congenital anomalies | 0.91 | 0.72 | M |
| **43** | Laboratory investigations are necessary when the health condition necessitates this and as long as the woman is not pregnant so there is no need to carry out these investigations | 0.96 | 0.69 | M |
| **44** | Proper diet, rest & mild exercise is essential during pregnancy | 1.03 | 0.69 | M |
| Total mean | 0.87 |  | M |
|  **Student’s knowledge about The Role of Primary Health Care Center in Pregnant Health** |  |  |  |
| **45** | Hypertension with pregnancy may increase risks on pregnancy | 0.94 | 0.69 | M |
| **46** | Diabetes Mellitus may have health impact on the pregnant woman and her baby | 0.90 | 0.68 | M |
| **47** | There is no causal relationship between nutrition in general and the health of the mother and/or her fetus | 0.91 | 0.74 | M |
| **48** | Breast feeding should start soon after birth of the baby | 0.86 | 0.72 | M |
| Total mean | 0.9 |  | M |
|  **Student’s knowledge about Tetanus Vaccine** |  |  |  |
| **49** |  People who are not completely immunized and have wounds should receive a tetanus immunization | 0.94 | 0.75 | M |
| **50** | Tetanus is acquired through contact with the environment; it is not transmitted from person to person | 0.75 | 0.72 | M |
| **51** | The agent responsible for tetanus is found throughout the environment, usually in soil, dust, and animal waste | 0.72 | 0.72 | M |
| **52** | Tetanus is an infectious disease caused by contamination of wounds | 0.72 | 0.71 | M |
| Total mean | 0.8 |  | M |

|  |  |  |  |
| --- | --- | --- | --- |
| Items  | M | SD | Ass. |
| **Student’s knowledge about Dysmenorrhea (pain during menstrual cycle)** |  |  |  |
| **53** |  Dysmenorrhea is a pain in the pelvic or in the lower abdomen | 0.75 | 0.72 | M |
| **54** | Diarrhea occur during dysmenorrhea | 0.78 | 0.71 | M |
| **55** | There is three types of dysmenorrhea | 0.88 | 0.71 | M |
| **56** | Pelvic inflammatory diseases rarely cause dysmenorrhea | 0.96 | 0.69 | M |
| **57** |  Primary dysmenorrhea start with menstrual periods | 0.97 | 0.74 | M |
| Total mean  | 0.87 |  | M |
| **Student’s Knowledge about Breast feeding** |  |  |  |
| **58** |  Breast feeding help in contract of uterus and return in his normal position | 1.04 | 0.77 | M |
| **59** | Breast feeding is one mean of family planning | 0.87 | 0.71 | M |
| **60** | Breastfeeding protects a child from infectious diseases and allergies | 0.72 | 0.67 | M |
| **61** | Bottle feeding is having the same healthy benefit as the same with breast feeding | 0.80 | 0.67 | M |
| **62** | Duration to continue breastfeeding is 1 year | 0.84 | 0.72 | M |
| Total mean  | 0.85 |  | M |
| Mean of means  | 0.81 |  | M |

Less than 0.6 = Poor knowledge (P.); moderate knowledge (M) = 0.7-1.2; high knowledge (H) = 1.3

Table 2: shows the assessment of student knowledge toward all domain of reproductive health which as the total means of all item knowledge were moderate level (0.81), while the domain related Student’s knowledge about Sexually transmitted diseases was low level of knowledge which of the total means was (0.68)

**Table (3): Summary of total mean of the Students knowledge regarding Reproductive Health**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No**  | **Domains of knowledge** | **M** | **SD** | **Ass.** |
| 1 | Student’s knowledge about Reproductive health | 0.9 |  | M |
| 2 | Student’s knowledge about causes of infertility in men and women | 0.7 |  | M |
| 3 | Student’s knowledge about Sexually transmitted diseases | 0.68 |  | p |
| 4 | Student’s knowledge about preventive methods from sexual transmitted diseases | 0.85 |  | M |
| 5 | Student’s knowledge about signs of puberty  | 0.86 |  | M |
| 6 | Student’s knowledge about premarital screening: | 0.83 |  | M |
| 7 | Student’s knowledge about pre-gestational screening: | 0.81 |  | M |
| 8 | Student’s knowledge about Conditions of pregnancy | 0.71 |  | M |
| 9 | Student’s knowledge about Ingredients of healthy pregnancy | 0.87 |  | M |
| 10 | Student’s knowledge about the role of primary health care center in pregnant health: | 0.9 |  | M |
| 11 | Student’s knowledge about the importance of vaccine: | 0.8 |  | M |
| 12 | Student’s knowledge about the Role of primary health care in providing the information and assistance in care of newborn baby | 0.8 |  | M |
| 13 | Student’s knowledge about Important of breast feeding for mother and baby: | 0.9 |  | M |
|  |  | 0.81 |  |  |

Less than 0.6 = Poor knowledge (P.); moderate knowledge(M) = 0.7-1.2; high knowledge(H) = 1.3

Table 3: shows the summary of student knowledge which as moderate level.

**Table 4: Association between student Knowledge and their age, number of brothers, frequency of student among their brother, living, and external reading**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  **Variables**  | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.****P≤0.05** |
| **Age**  | **Between Groups** | 8.417 | 57 | .148 | 1.009 | .467NS |
| **Within Groups** | 33.520 | 229 | .146 |  |
| **Total** | 41.937 | 286 |  |  |  |
| **Number of brothers** | **Between Groups** | 19.922 | 57 | .350 | .996 | .491NS |
| **Within Groups** | 80.356 | 229 | .351 |  |
| **Total** | 100.279 | 286 |  |  |
| **Frequency of student among brother** | **Between Groups** | 20.738 | 57 | .364 | 1.430 | **.036****S.** |
| **Within Groups** | 58.280 | 229 | .254 |  |
| **Total** | 79.017 | 286 |  |  |
| **Living**  | **Between Groups** | .139 | 57 | .002 | .653 | .971NS |
| **Within Groups** | .857 | 229 | .004 |  |
| **Total** | .997 | 286 |  |  |
| **External Information** | **Between Groups** | 83.987 | 57 | 1.473 | 1.390 | **.048****S.** |
| **Within Groups** | 242.814 | 229 | 1.060 |  |
| **Total** | 326.801 | 286 |  |  |  |

Table 4: present that there were significant association between the student knowledge and their frequency among brother, and external reading from internet, and there were no significant between the student knowledge and their age, and living of student at P≤0.05 level.

**Table 5: Statistical Differences between Student Knowledge and their residency, father works, family income, attainment, and external information**

|  |
| --- |
|  |
|  | **Variables**  | **Mean** | **N** | **SD** | **t. test**  | **df** | **Sig.****P≤0.05** |
| 1 | **Residency** | 48.4843 | 287 | 13.03675 | 61.661 | 286 | .019HS. |
| **knowledge** | 1.0035 | 287 | .05903 |
| 2 | **Father works** | 1.1429 | 287 | .49875 | -61.321 | 286 | .269NS |
| **knowledge** | 48.4843 | 287 | 13.03675 |
| 3 | **Family income** | 48.4843 | 287 | 13.03675 | 57.603 | 286 | 899NS |
| **knowledge** | 4.0418 | 287 | 1.04363 |
| 4 | **attainment** | 2.3589 | 287 | 1.24321 | -59.732 | 286 | .850NS |
| **knowledge** | 48.4843 | 287 | 13.03675 |
| **knowledge** | 2.5575 | 287 | 1.06895 |

Table 5: shows that there were significant statistical differences between student knowledge and their residency, and there were no statistical differences between knowledge and student father works, family income, and student’s attainment in their education.

**DISCUSSION:**

The present study showed that the majority of the respondents 237 (82.5%) are at age group (14-18years), and (92%) of them live in urban area.

The majority of participants (62.5%) reported that the major source of information from reading of external books, these results was in disagreement with the results of a study done by Mattebo, Elfstrand, Karlsson, and Erlandsson , (2015) who stated that 78% of participants were receive information from their friends (13).

The findings of this study showed that the participants have moderate knowledge about menstruation (menstruation means ,normal cycle length, causes of menstruation, and source of menstrual bleeding).This result is inconsistent with Fehintola et al.,(2017) who stated that more than half of participants have good knowledge about menstruation (14).

The study findings revealed that the students have moderate knowledge about infertility (Alcohol can predispose to infertility, is easy for a woman to conceive after 40years, Smoking can predispose to infertility,,, etc) ,consistent with Adesiyun et al., (2014) who stated that the knowledge of participants regarding infertility were moderate (15) **.** The possible explanation for these could be that this students need more assistance in this subject.

Regarding sexually transmitted diseases, the participants have poor information regarding STDS (Sexually transmitted diseases can be transmitted by Exposure to cough and sneeze from infected persons, Transfusion of blood from one person to another, Unprotected sexual intercourse,,,etc), . This result is consistent with Ali, (2013) who stated that more than a half of adolescent girls had poor awareness regarding (AIDS) (8).

the participants reported that they have moderate knowledge about prevention methods (Use of condom during sexual intercourse protect against sexual transmitted diseases, Don’t share with others sharp or engraving tools, Having a single faithful partner), .This is inconsistent with Nwatu, Young, Adikaibe, Okafor, and Onwuekwe, (2017) who stated that knowledge of appropriate preventive measures and practices for STIs and HIV, more than a quarter of the students were not aware that having a single faithful partner was an effective method of prevention while only three quarters of have good knowledge of all preventive measures assessed (16).

This results show that the participants have moderate knowledge about signs of maturity (Hair growth, Breasts enlarge in puberty, Hips enlargement in puberty,,,etc), .This findings consistent with petter ,(2013) who stated that Female students were more likely to have moderate knowledge regarding the physical changes of girls (17). This proves that the girls have aware about physical changes during puberty.

The study revealed that the girls have moderate knowledge about premarital counselling (Thalassemia test, Screening for Hepatitis type B, Detection for hypertension,,,etc),.This result inconsistent with kmail, (2011) who stated that the participants have good knowledge about premarital screening (18) .This because to educational lessons that studied for adolescent in their schools.

The study conducted moderate knowledge about preconception counselling of the participants (avoiding tobacco and other drugs, seeking further information about pregnancy and care of the children, Life styles change (healthy weight),,,etc).This is inconsistent with Nascimento , Borges, Fujimori et al.,(2015) who stated that there was a small proportion of adolescents who have some preconception information (19) . The researcher proves that the study done of unmarried adolescent, on another hand may didn’t hear about this items, so they haven’t enough of information about this mater .

Regarding the conditions of pregnancy the participants reported moderate knowledge about this topic (Hormone necessary for the occurrence and continuation of pregnancy is testosterone, The pregnancy with age more than 35 years occur without complication, There are no health contraindications for anemic woman to become pregnant,,,etc), .This result is inconsistent with that Basyouni, and Aly, (2015) who showed that the participants have poor concerning about this subject (20) . This proves that lack of awareness and neglect of family members to talk about the importance of this subject.

Concerning the ingredients of healthy pregnancy the study showed that the students have moderate knowledge about this item (Presence of birth defects in the couple’s family does not increase the possibility of appearance of these defects among their children, Regular antenatal checkup is essential during pregnancy, Folic acid deficiency has no relation with congenital anomalies), .This result is inconsistent with that Basyouni, and Aly, (2015) who showed that the participants have little information about this subject (20) . The researcher believes that health education topics didn’t included within the curriculum of adolescent students.

The study showed that the participants reported moderate knowledge regarding this item.this finding is inconsistent with Basyouni, and Aly ,(2015) who stated that the participants have inadequate knowledge about this item (20). This proves that the adolescent didn’t visit the antenatal care because they are unmarred and ignore their family the necessity of the antenatal care.

Concerning the tetanus vaccine the students showed that they have moderate knowledge about this vaccine (People who are not completely immunized and have wounds should receive a tetanus immunization,,,etc), .This result of the study disagreement with Orimadegun, et al., (2014) who showed that Almost two- thirds (64.7%) of the respondents had poor knowledge about tetanus vaccine (21). This can be due to less awareness that given by primary health care when given this vaccine, on another hand failure to receive the dose of this vaccine leads to insufficiency of recognition about it.

 The study showed moderate information regarding dysmenorrhea (Dysmenorrhea is a pain in the pelvic or in the lower abdomen, diarrhea occur during dysmenorrhea,,,etc) .This finding is agreed with samerai, (2009) who stated that the adolescent girls have moderate knowledge concerning this object (22) . This due to information from family and other resources.

Regarding the participants knowledge about breast feeding were moderate (Should breastfeeding be continued during TB, AIDS and Hepatitis B.students, Breast feeding is one mean of family planning, Breastfeeding protects a child from infectious diseases and allergies ).This result is disagreement with atipovic et al., (2017) who showed that Secondary school students’ knowledge of breastfeeding is insufficient (23) . This proves that this topic have sensitive for family to discuss with their girls about it’s important.

This study presented that the total mean for each domains of knowledge which as all domains was moderate level in student knowledge. Consistent with kmail, (2011) who represent that the total mean of knowledge was moderate among students regarding reproductive health (18).

The results present that there were significant association between the student knowledge and their frequency among brother, and external reading from internet, and there were no significant between the student knowledge and their age, and living of student at P≤0.05 level. Consistent with Siabani , Charehjow , & Babakhani , (2018) who stated that the source of information significantly associated with participants’ level of knowledge (24) .

The result shows that there were significant statistical differences between student knowledge and their residency, and there were no statistical differences between knowledge and student father works, family income, and student’s attainment in their education. Consistent with Siabani et al., (2018) who stated that family income of the participants significantly positively associated with participants’ knowledge (24).

**Conclusions**: The present study concluded that:

Student knowledge toward all domain of reproductive health were moderate level and poor level of knowledge about sexual transmitted diseases.

**Recommendations:** The present study recommended that:

1-Establish educational programs to improve students’ knowledge about reproductive health.

2-The necessity of the integration between science curriculums and other curriculums in showing the reproductive health concepts because the awareness of the reproductive health concepts does not confine to the science curricula.

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