Women Perception Related To Genital Tract Infections

Samah Mohamed Abdallah [1], Prof. Dr. Nadia Hamed Farahat [2], Dr. Asmaa Talaat Mohamed[3]

B.Sc. community health nursing[1]., Professor of Community Health Nursing, Faculty of nursing- Ain Shams University [2], Lecturer of Community Health Nursing, Faculty of nursing- Ain Shams. University [3]

Abstract

Background: Genital tract infections are a global health problem for women at reproductive age. These infections threat the women's health and cause of reproductive morbidity due to lack of perception about these infections. **Aim**: Assessing women's perception related to genital tract infections. **Research Design:** A descriptive design was used. **Setting:** The study was conducted at 3 MCH centers at Al-wasta city, Bani- suef Governorate, Egypt. **Sample:** A purposive sample of 389 women. **Tools of data collection:** Two tools were used **first,** self-administered questionnaire tool composed of four parts to assess women's knowledge and practices, **Second** tool perception scale to assess women's perception **Results**: The study finding revealed that the mean ages of women at reproductive age group were 29.67 ± 5.42 years and more than three quarter of them had genital tract infections. The present study revealed that, less than two thirds of women had unsatisfactory knowledge related to genital tract infections. Also; less than half of women with genital tract infections reported healthy practices and the total perception of women were less than half had positive perception toward genital tract infection**. Conclusion:** Finding showed that, highly statistically significant relation between total knowledge with age, education level, occupation and place of residence (p-value <0.001**). A highly statistically significant relation between total knowledge and total practices (p-value <0.001**). **Recommendations:** Develop and implement educational program for women about genital tract infections to increase their awareness at MCH centers, Replication of the study on a larger sample and in different geographical areas in Egypt is recommended for generalization of findings.

Keywords: Genital tract infections, perception, women at reproductive age.

Introduction:

Reproductive Health (RH) is a universal concern, but is of special importance for women particularly during the reproductive years. Reproductive health is a fundamental component of women's overall health status and a central determinant of quality of life. RH is one of the fundamental human rights. "Reproductive health is a state of complete physical, mental, and social well-being and not merely the absence of diseases or infirmities, in all matters relating to the reproductive system and its process," defined by United Nations (UN). **(Gaferi et al., 2018).**

Genital Tract Infections (GTIs) are infections affecting the reproductive tract, mostly ignored by many women. Since large proportions of women, suffer morbidity silently, and are reluctant to seek care. They are defined as the infections of either the lower or upper reproductive tract, or both. The infections may or may not be sexually transmitted and caused by organisms, which may be exogenous, or endogenous. **(Shuangfei. et al., 2019).**

GTIs can be endogenous infections (resulting from the organisms normally existing in the vagina), iatrogenic infections (resulting from abortions, insertion of IUD, child birth, and so on), and sexually transmitted infections RTIs are a major public health problem all over the world. GTI/STIs have a profound impact on sexual and reproductive health worldwide, and rank among the top five disease categories for which adults seek health care. **(Pasi, 2019)**

GTIs may be asymptomatic for some women, while others exhibit symptoms like itching, pain, abnormal vaginal discharge,

dyspareunia, burning feeling with urination or genital ulceration and warts in viral infections. Women are at high risk due to women's vagina are more exposed, poor personal hygiene, using contraceptive intra-uterine device (IUD), poor socio-economic status, diabetes, obesity, pregnancy, extra-marital sexual relations or having multiple partners and non-use of condom are significant contributors to high prevalence of GTIs especially among women. **(Bhasin et al, 2020)**

Genital tract infection (GTI) is common yet neglected global health problem, mainly among reproductive age group of women, the prevalence of RTI in India and countries like Bangladesh, Egypt, and Kenya is in the range of 52-90%. According to the World Health Organization (WHO), each year around 499 million cases of curable STIs occur throughout the world in the age group of 15-49 years, of which 80% cases occur in developing countries. **(Gupta et al., 2020).**

GTIs are a major public health problem all over the world. Sexual and reproductive health has also been omitted from the Millennium Development Goals and remains neglected. According to the WHO, 448 million new STIs occur annually among adults aged 15 to 49 years and many are asymptomatic. The World Bank estimates that STIs (excluding HIV) account for 8.9% of all disease burden in women aged 15 to 45 years, thus stressing the need for control of GTIs, especially STIs in developing countries. Though effective treatment is available, they often go undiagnosed and hence untreated. **(WHO, 2019)**

Perception is a procedure of accepting, choosing, sorting out, deciphering, checking and responding to boosts. This resembles a contribution through put-yield process in which the stimuli can be considered as 'inputs' change of 'contribution' through determination, association and understanding as 'through puts' and a definitive behavior conduct/activity as 'yield'. (**Ali et al, 2018)**

Women at reproductive age group (15-49 years) are more risky to GTIs. Good sexual and reproductive health is important for women's general health and wellbeing to make choices and decisions about their lives at different stages including menstruation, fertility, cervical screening, contraception, pregnancy, sexually transmitted infections, chronic health problems and menopause. Safe sex practices are important for the sexual and reproductive health of sexually active women of all ages. **(Das & Dasgupta, 2019)**

Community health nurse (CHN) plays an important role in preventing GTIs through counseling and education. CHN must give health teaching to women to prevent having GTIs such as wear loose clothing, choose cotton underwear, hygiene the perineum by soaking for five minutes in lukewarm water to avoid any residue of lotions or other products, modify the unhealthy behaviors and prevent the occurrence as well as recurrence of GTIs to improve their quality of life also; educate women regarding genital infection, recommended treatment, preventive measures and risky behavior change. **(Abdelnaem et al, 2019)**

Significance of the study:

Genital tract infections are considered silent epidemic and are one of the major public health problem in morbidity and maternal mortality rates in developing countries. Studies have found the prevalence of RTI in India, Bangladesh, Egypt, and Kenya is in the range of 52–90 per cent. More than a million women and infants die of the complications of RTI every year. **(Gupta et al., 2020).**

In Egypt GTIs/STIs prevalence among rural women is high 3.0% of females using family-planning unites, 4.0% of females using ante-natal care unites, and 5.4% of substance-use had minimally one GTIs/STI. Also; prevalence in Egypt is up to 3.0% among 15-49years married females and higher in rural areas than in urban ones (33% and 30.2% respectively). (**El-Moselhy, 2020).**

Moreover, a cross sectional study was done to assess frequency of vaginal infections in Upper Egypt among women attending Women

Health Hospital, Assuit University, Egypt (2016), showed that 60.8% of women were diagnosed as vulvo-vaginal candidiasis, 37.1% with bacterial vaginosis and 2.1% with trichomoniasis. Another study conducted at 17 faculties at Mansoura University in Egypt (2017), about awareness of women employees regarding vaginal discharge showed that more than two thirds (69.8%) of the women employees complained of abnormal vaginal discharge before the study time while the incidence of abnormal vaginal discharge at the time of the study was 23.4%. **(Gamelen & Elbialy, 2020)**

Aim of the study:

To assess perception of women related to genital tract infections through the following objectives:-

1- Assessing women's knowledge related to genital tract infections.
2- Assessing women's practices related to prevention of genital tract infections.
3- Assessing women's perception related to genital tract infections.

Research Questions:

1- What is the women's knowledge related to genital tract infections?
2- What are the women's practices related to prevention of genital tract infections?
3- What is the women's perception related to genital tract infections?
4- Is there a relation between knowledge of women related to genital tract infections and socio demographic status?
5- Is there a relation between knowledge of women related to genital tract infections and their practices?

Subjects and Methods:

A. Research design:

A descriptive design was conducted to achieve the aim of this study and to answer the research questions**.** Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when, how questions, but not why questions. A descriptive research design can use a wide variety of research methods to investigate one or more variables.

Setting:

The study was conducted at MCH centers in Bani- suef Governorate that include 7 cities. One city was chosen randomly (Al – wasta city) then the three highest density MCH centers within it were chosen. (El-maemon center which include 1439 case), (child care center include 1168 case) and (keman El-aros center include 1283 case) according to their attendance in 2017. These health units introduce primary health care services to identify the health problems in the work area and provide the target population in the center's services by increasing health awareness and education.

Sample:

A purposive sample was used. 389 women representing 10% from the total attendance rate at 2017 were taken from the three chosen MCH centers in Al-wasta city. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study.

The samples were chosen based on the following Inclusion criteria:

1. Married women.
2. Women at reproductive age group range from 15-49 years.

Tools of Data Collection:

Two tools were used for data collection Tool I:Self-administered questionnaire

Developed by the investigator after reviewing the relevant and recent literature related to genital tract infections to collect the data required and it was written in Arabic language and composed of four parts including:

Part I: Socio-demographic data:

It was consisted of six multiple choices closed ended questions (MCQ) (from 1 - 6) as the following: age, education level, occupation,

Place of residence, monthly income and husband travel outside Egypt.

Part II Obstetric history of women at reproductive age:

It was consisted of three items as the following: obstetric history, genital problems and previous symptoms and management.

Part III: Women's knowledge related to genital tract infections

It was consisted of ten multiple choice questions (MCQ) (from 36 - 45) about genital tract infections as following: meaning, causes, contributing factors, types, symptoms, modes of transmission, complications, are there a cure for its, treatment methods and ways to prevent genital tract infections and question about source of knowledge (from 46) but it excluded from scoring system.

❖ **Scoring system for women`s knowledge**:

For knowledge had three score level Complete and correct =2, incomplete and correct=1, Incorrect =0. The total score of knowledge was 20 point on ten question (from 36 – 45). For each area of knowledge, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. Score of less than 50 % was considered unsatisfactory knowledge and the score equal or more than 50 % was considered satisfactory knowledge on statistical analysis and related literature review.

Part V: Practices of women at reproductive age related to genital tract infections including:

A- Cleaning of perineum
B- Practices related to using and cleaning the bathroom
C- Personal hygiene during the menstrual cycle
D- Care of underwear
E- Women health seeking behaviors
F- Behaviors of women during and after intercourse

❖ **Scoring system for practices of women:**

For practice had two score level done=1, not done=0 the total score of practice was 39 point (on 39 questions from 47 – 85). The scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. Score of practices if less than 60% was unhealthy practices and if the score equal or more than 60% was healthy practices. (The score system for questions which were if yes mention or if no mention full point if answered and zero point if not).

Tool II: **perception scale**

It was adopted from **(Chadwell, 2017)** and was modified by the investigator .it was used to assess the women's perception regarding genital tract infections. Included three parts:-

1. Concept and nature of disease.
2. Decisions of women about their health care as health advice seeking and their practices.
3. Their perception about disease prevention.

❖ **Scoring system for perception scale of women:**

For perception had three score level Agree =3, Neutral=2, Disagree =1 the total score of perception was 26 questions with 78 point. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. The score of perception if less than 60% was a negative perception and if the score equal or more than 60% was a positive perception**.**

a) Preparatory phase:

This phase starts prior to the development of the tool by reviewing up the recent and relevant literature of national and international resources (books, magazines, internet and researches) related to the study and for preparation of theoretical part.

b) Content validity:

It was established for assure of content validity by a panel three experts in the community health nursing who revised the tools for clarity, relevance, comprehensiveness, understanding, and ease for implementation and according to their opinion minor modification were applied.

c) Reliability:

The reliability done using the Alpha Chronbach's test was scaled as follows: < 0 - 0.25 weak reliability, 0.25 - 0.75 moderate reliability, 0.75 - <1 strong reliability and 1 is optimum. The reliability for this questionnaire was 0.815.

d) Pilot study:

A pilot study for tools of data collection was carried out on 10% (39 women) in order to test clear, understandable, and feasibility and applicability. For this study, the investigator randomly selected 39 women to participate in the pilot testing of the questionnaire sheet. The sample who shared in the pilot study included in the study sample as there is no modifications.

e) Field work:

Field work of this study was executed in six months from October 2018 to March 2019. During this period all the data were collected from the study subjects. The investigator started by introducing herself to the women, the aim of the study and the component of the tools were explained to the women at the beginning of data collection. The three units selected are working daily except Fridays from 8 AM to 2 PM. The investigator was available Mondays, Tuesdays, and Wednesdays every week at one of the pre-determined MCH centers (two month for every center), during the morning from 9AM to 2 PM by rotation at Bani Seuf Governorate in Egypt. MCH centers were chosen by simple random sample technique. The time required for completion of the questionnaire sheet was ranged from 30 minutes – one hour as there were 24.4% of women did not read or write so, tools filled by the investigator at the waiting room of vaccinations and follow-up of pregnancy.

III. Administrative Design:

An official permission was obtained by submission of a formal letter issued from the Dean of faculty of nursing, Ain Shams University to the director of each of the previously mentioned setting from the Directorate of health in Beni- suef to collect the necessary data for current study after a brief explanation of the purpose of the study and its expected outcomes.

Ethical considerations:

An ethical approval was obtained from the scientific research ethical committee faculty of nursing Ain Shams University to facilitate the performance of the investigator in conducting this research in the study sitting. Consent from regarding agreement from the participating women in the study was taken after explaining the objective of the study to them. The client's confidentiality was kept, the study wasn't being harmful at any of its stages and the clients have the right to withdraw at any time from the study. They were assured that the information collected was being treated confidentially, it was being used only for the purpose of the study and their right to withdraw from the study at any time was guaranteed.

IV. Statistical Design:

Statistical presentation and analysis of the present study was conducted, using the mean, standard Deviation, chi-square and Linear Correlation Coefficient [r] tests by (**IBM SPSS** Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.). Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables. Alpha Chronbach Reliability Analysis was calculated to assess the reliability of the tool through its internal consistency. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Linear rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of knowledge, exposure, and practices scores. Statistical significance was considered at p-value <0.05.

$$\text{Mean} = \frac{\Sigma x}{n}$$

Where Σ = sum & n = number of observations.

Standard Deviation [SD]:

$$SD = \sqrt{\frac{\Sigma \left| x - x \right|^2}{n - 1}}$$

Chi-square

The hypothesis considered that the row and column variables are independent, without indicating strength or direction of the relationship. Pearson chi-square and likelihood-ratio chi-square. Fisher's exact test and Yates' corrected chi-square are computed for 2x2 tables.

Linear Correlation Coefficient [r]:

$$r = \frac{\Sigma \left(X - \overline{X}\right)\left(y - \overline{y}\right)}{\sqrt{\left\{\Sigma \left(X - \overline{x}\right)2 \right\}\left\{\Sigma \left(y - \overline{y}\right)2\right\}}}$$

Where:
X= Independent variable.
Y= Dependent variable.

Linear Correlation coefficient was used for detection of correlation between two quantitative variables in one group.

>0.05* Non significant <0.05* significant <0.001 High significant.**

Results:

Table (1): shows that, the mean ages of women at reproductive age were 29.67 ± 5.42 years, 38% were secondary /intermediate education, 60.9 % of them were housewives, 65.8% of them were resident in rural area, 67.6 % were not having enough monthly income, and 69.2 % of the study sample their husbands didn't travel outside Egypt.

Figure (1): illustrates that, the source of women's knowledge were 31.9% from member of health team, 20.8% were parents and relatives, 13.6% were from friends.

Figure (2): illustrates that, 65.3% of women at reproductive age had unsatisfactory knowledge related to genital tract infections.

Figure (3): Illustrates that, related to cleaning the perineum 51.9% weren't done while personal hygiene during the menstrual cycle were done by 50.1%, cleanliness of underwear weren't done by 56.3%, as far behavior of women towards seeking health advice and when injured with genital tract infections weren't done by 53.2% and behaviors of women during and after intercourse weren't done by 60.9%.

Figure (4): illustrates that, 45.5% of women at reproductive age reported healthy practices, while 54.5% had unhealthy practices.

Figure (5): illustrates that, 43.4% of women at reproductive age had positive perception, while 56.6% had negative perception.

Table (2): shows that, highly statistically significant relation between total knowledge with age, education level, occupational and place of residence when p-value was <0.001**.

Table (3): illustrates that, highly statistically significant relation between total knowledge and total practices when p-value was <0.001**.

Table (1): Distribution of women at reproductive age according to their socio-demographic characteristics (n=389).

Items	N	%
Age		
15 ≤ 24 years	110	28.3
25 ≤ 34 years	173	44.5
35-49 years	106	27.2
Mean ± SD	29.67 ± 5.42	
Education Level		
Do not read or write	95	24.4
Basic education	75	19.3
Secondary/Intermediate education	148	38
University education	71	18.3
Occupation		
Student	21	5.4
Working	131	33.7
Housewife	237	60.9
Place of residence		
Rural	256	65.8
Urban	133	34.2
Monthly income		
Enough	126	32.4
Not Enough	263	67.6
Husband travel outside Egypt		
Yes	120	30.8
No	269	69.2

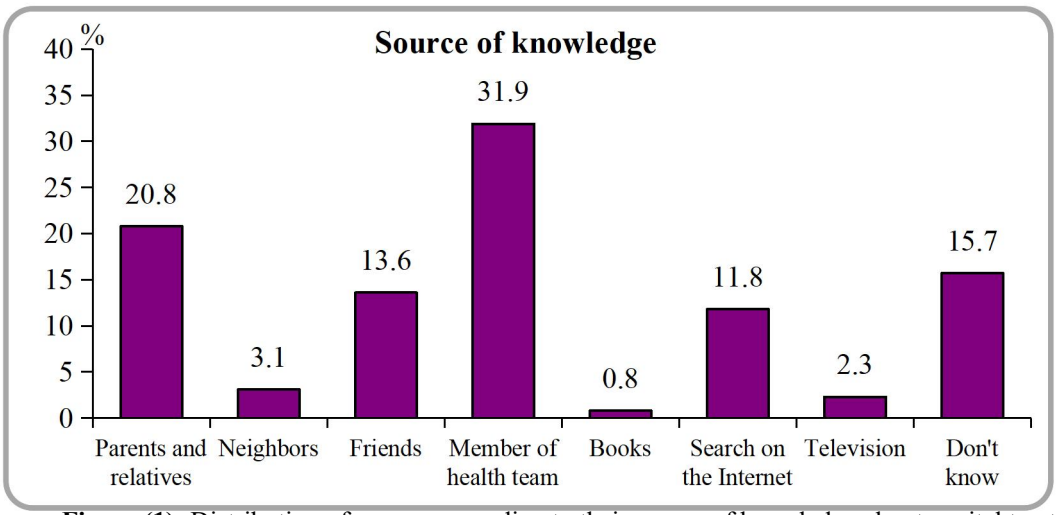

Figure (1): Distribution of women according to their source of knowledge about genital tract infections (n=389).

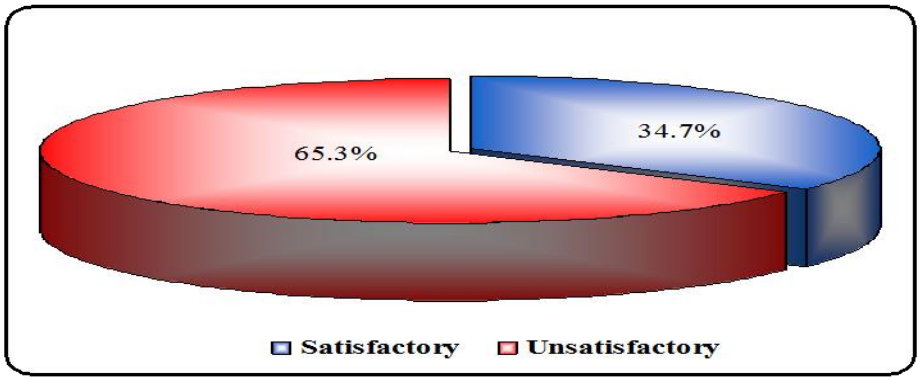

Figure (2): Distribution of women at reproductive age group related to their total knowledge score level about genital tract infections.

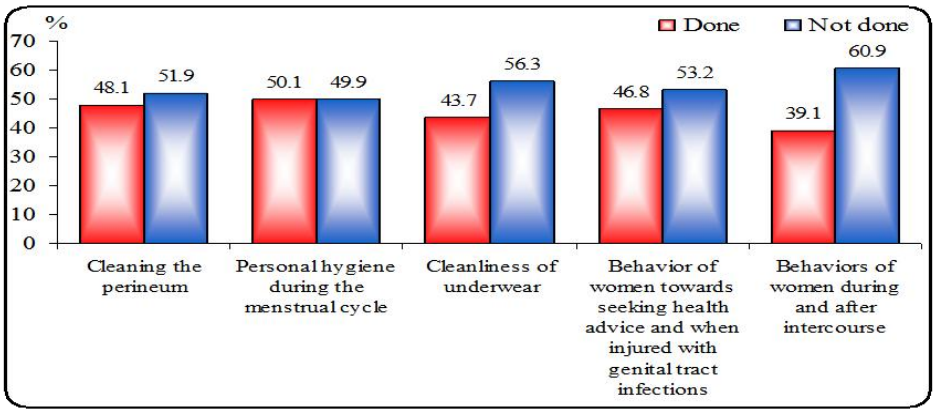

Figure (3): Distribution of women at reproductive age related to their practices (n=389).

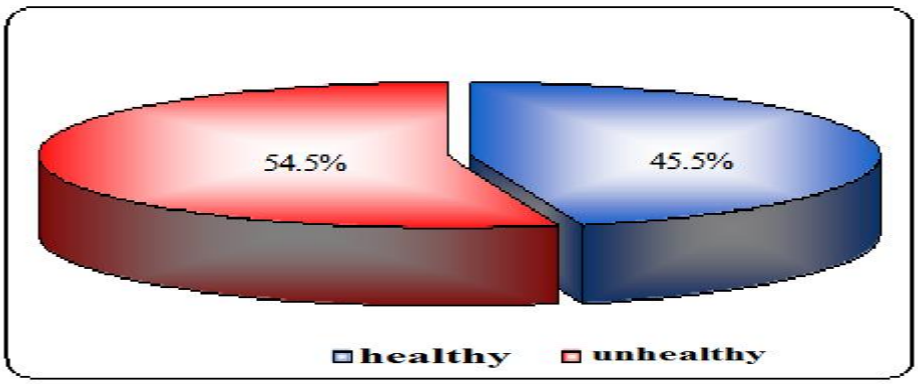

Figure (4): Distribution of women at reproductive age related to their total practices score level (n=389).

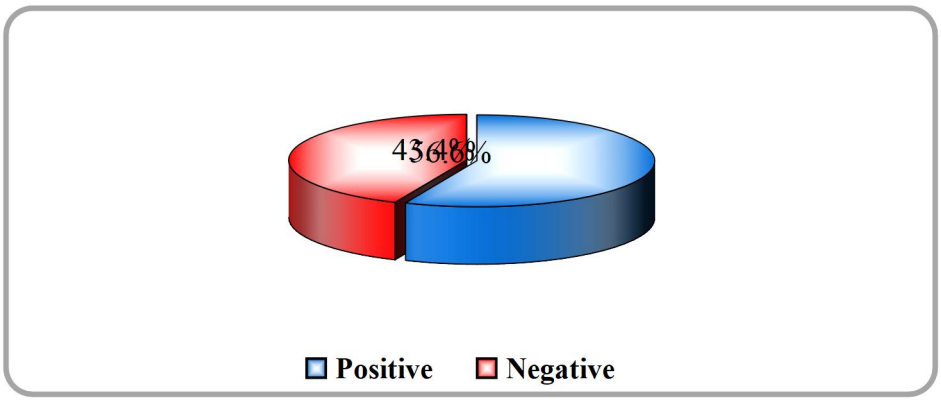

Figure (5): Distribution of women at reproductive age of the genital tract infections related to their total perception score level (n=389).

Table (2): Relation between total knowledge of women at reproductive age and their demographic data related to genital tract infections (n=389).

	Total Knowledge						
	Satisfactory		Unsatisfactory		Total	Chi-square	
	N	%	N	%		X^2	P-value
Age (years)							
15 ≤ 24 years	20	18.2	90	81.8	110		
25 ≤ 34 years	55	31.8	118	68.2	173	36.333	<0.001**
35-49 years	60	56.6	46	43.4	106		
Education Level							
Do not read or write	4	4.7	81	95.3	85		
Basic education	5	9.1	50	90.9	55	112.482	<0.001**
Intermediate education	70	39.3	108	60.7	178		
University education	56	78.9	15	21.1	71		
Occupation							
Student	7	33.3	14	66.7	21		
Working	73	55.7	58	44.3	131	39.388	<0.001**
Housewife	55	23.2	182	76.8	237		
Place of residence							
Rural	65	25.4	191	74.6	256	28.663	<0.001**
Urban	70	52.6	63	47.4	133		
Monthly income							
Enough	76	38.2	123	61.8	199	2.186	0.139
Not Enough	59	31.1	131	68.9	190		
Husband travel outside Egypt							
Yes	43	35.8	77	64.2	120	0.098	0.755
No	92	34.2	177	65.8	269		

(∗statistically significant at $p < 0.05$, ∗∗statistically highly significant at $p < 0.001$)

Table (3): Relation between total knowledge of women at reproductive age and their total practices related to genital tract infections (n=389).

Total practices	Total knowledge Satisfactory		Unsatisfactory		Total		Chi-square	
	N	%	N	%	N	%	X^2	P-value
Healthy	118	30.3	59	15.2	177	45.5		
Unhealthy	17	4.4	195	50.1	212	54.5	146.418	<0.001**
Total	135	34.7	254	65.3	389	100.0		

(∗statistically significant at $p < 0.05$ ∗∗statistically highly significant at $p < 0.001$)

Discussion:

Genital tract infections are of significance as they are intertwined with many health related issues. These consequences range from less serious to fatal outcomes for the materno-foetal health, such as, premature delivery, low birth weight, still births, and cervical cancer.

The aim of this study was to assess women's perception related to genital tract infections.

Regarding distribution of women at reproductive age according to socio-demographic characteristics, this study describe that, genital tract infection occurs at 25 to 34years old, the women were more than two fifth which is similarity to **Pete et al, (2019)** in Cameroon, Africa on 80 women, who reported that, age group were 40% from 26- 35 yrs. These results incongruent with **Srinivasa & Padmaja (2016)** in Ananthapuramu district, Andhra Pradesh on 122 women. They report that, more than half of women most commonly affected age were 26-35 years followed by 15-25 years.

Regarding total knowledge of women: The current study illustrated that, a few of women had complete and correct knowledge to meaning of genital tract infections, a little of women had complete and correct knowledge to types, a few had complete and correct knowledge to modes of transmission, a little had complete and correct knowledge to complications, and a few had complete and correct knowledge to ways of prevention. Another study done by **Ratnaprabha, et al (2015)** in Bangalore city on 470 women, who found that, 7.8 % of women had correct answer of causes, 10% correct answer to mode of transmission, 20.6% correct answer of complication, and 55.7% correct answer to cure of reproductive tract infections. **Omar & Ahmed (2017)** on 208 females in Egypt, who reported that, 21.2% of women had good knowledge to contributing factors, 100% of them had poor knowledge to types, 21.2% good answer to symptoms, and 17.8% of them had good answer to ways of prevention.

The Present study showed that, less than two thirds had unsatisfactory knowledge related to genital tract infections which is similar with the study conducted by **Mohamed, (2015)** at makkah al Mukaramah, KSA, who evident that, nearly two third of the studied sample had unsatisfactory knowledge score level about RTIs. This result study in contrast with a study conducted by **Gupta et al (2015)** in India: an interventional study on 410 women, who reported that, 29% women were aware about RTIs. In the investigator point of view that, this difference in present study may be due to socio-demographic profile of the studied population or different in cultures. In the investigator point of view this deficient in knowledge may be attributed to insufficient basic information about this topic.

Regarding to the source of women's knowledge about genital tract infections: The current finding found that, health worker and friends/relatives were the main sources of women's knowledge regarding to GTIs as more than one quarter said that, member of health team, less than quarter was parents and relatives, and less than quarter from friends. Similarly to, a study done by **Ilankoon et al, (2017)** in Colombo District, Sri Lanka on 550 females, who found that, friends and relatives or parents

were lower access to other sources and indicated that health professionals as a source of information than friends and relatives in some communities.

In the investigator point of view that the main sources of information regarding GTIs were member of health team due to government health Centre's were the main facilities where treatment was sought. This may be largely due to the fact that many health centers are located in each local government area close to the people.

Concerning total practices among the women: the current study showed that, less than half of women with genital tract infections reported healthy practices, this finding goes in the same line with **Mohamed et al., (2018)** in Egypt, who conducted that, more than half of the married women had unhealthy vaginal hygienic practices**.** In the investigator point of view might be attributed to that the women hadn't the enough and correct knowledge about hygienic practices that negatively effects on their practice level. Another study conducted by

Concerning to their total perception score level: The current study showed that less than half of women at reproductive age were positive perception, this finding in comparison with **Gamelen & Elbialy (2020)** in Egypt on 170 rural women, who reported that, distribution of the studied groups in relation to their total belief scores throughout the study period. It was clear that pre- program, 31.8% and 29.4% of both the study and control groups respectively had positive beliefs of reproductive tract infections. This difference may be due to variation between study sample and setting and area of residence. Another study done by **Abd EL-Menim et al (2019)** in Benha, Egypt on 250 female, who demonstrates that, 77.2% of students had a positive level of total attitude score before the educational program.

Regarding statistical relationships between women's total knowledge score level and their socio-demographic characteristics, the result revealed that there was highly statistical significant relation between total knowledge with age, education level, occupational level and place of residence (urban > rular) when p-value was <0.001**. This finding is in agreement with **Mohamed et al.,(2018)** in Egypt, who have similarly found that, statistical significant relation between total knowledge with place of residence as they reported that, poor knowledge about genital tract infections among rural women. Also, this finding is in agreement with **Shetty et al.,(2017)** in Mangalore on 336 women, who reported that awareness of the study participants on RTIs increased with the level of education they possessed,this could be due to mass media or good interpersonal relations with community members, and proximity to medical colleges that may have influenced them. **Abdelnaem et al.,(2019)** El- Minia University, Egypt on 214 female students added that, after 3 months of study there was a highly statistically significant relation between the students' total knowledge score with their age and academic level (P<0.005, 0.01).

Regarding to correlation between total knowledge and total practices of women at reproductive age and their total perception, the findings showed that, there was positively correlation between total knowledge, total practices and total perception. This result is in the same line with ***Gamelen & Elbialy, (2020)*** in Egypt, who stated that, correlation between total score of knowledge, practice and health beliefs about RTIs of the studied groups pre and 3 months post the program The table illustrated that, there was significant positive correlation between the total knowledge, practice and belief scores pre and three months post program for both the study and control groups (p<0.05), this means that increased practice score was associated with increased knowledge score and positive beliefs.

In the investigator point of view that, some of women aware by genital tract infection and hygiene practices because media done adverting about free investigation for pregnant as syphilis, virus B and AIDs through health unit this help increase awareness of women about genital tract infection also, Knowledge intention long time impact of change perception and change of behavior. It possible for practice

in community and women an agency of change in community.

Conclusion:

The previous study was concluded that:

The present study revealed that, less than two thirds of women had unsatisfactory knowledge related to genital tract infections, less than half of women with genital tract infections reported healthy practices. Additionally, less than half of them were positive perception toward genital tract infection.

The current study illustrated that, highly statistically significant relation between total knowledge and total practices when p-value was <0.001**. Additionally, showed that highly statistically significant relation between total knowledge and total perception when p-value was <0.001** and explained that highly statistically significant relation between total practice and total perception when p-value was <0.001**.

Recommendations:

The following recommendations can be suggested:

- Develop and implement educational program to educate women in primary health care setting about new screening procedure and its importance for GTI/STI screening through work shop / booklet and include men in the educational program and increase awareness of couple and public about genital tract infection through mass media and internet.

- Replication of the study on a larger sample and in different geographical areas in Egypt is recommended for generalization of findings.

References:

Abd EL-Menim, S. O. Huda Abdalla Moursi, Ahlam Elahmady Mohamed Sarhan (2019). Effect of Educational Program on Vulvitis Prevention Among Nursing Students. American Journal of Nursing Science 2018; 7(6): 254-267 http://www.sciencepublishinggroup.com/j/ajns doi: 10.11648/j.ajns.20180706.19

Abdelnaem S.A, Shadia Hamido Mohasib,2 Hoda Abd Elazim Mohamed3 (2019). Effect of self-care guidelines on knowledge and quality of life among faculty of nursing students with vaginal infection .Obstetrics & Gynecology International Journal. Volume 10 Issue 1 – 2019.

Ali M. Norelhouda Elshabory , Hanan Elzeblawy Hassan . Nehad Zahra, Hayam Alrefai (2018). Perception about Premarital Screening and Genetic Counseling Among Males And Females Nursing Students. IOSR Journal of Nursing and Health Science (IOSR-JNHS) Volume 7, Issue 1

Bhasin S, Ankita Shukla and Sapna Desai (2020). Services for women's sexual and reproductive health in India: an analysis of treatment-seeking for symptoms of reproductive tract infections in a nationally representative survey. BMC Women's Health (2020) 20:156

Chadwell, A.R. (2017): U.S. Young Adults STDs, Risk Perception, Risk Behaviors, and Health Information. Doctoral Dissertation, Walden University.

Das, S. & Dasgupta A., (2019). Community based study of reproductive tract infections among women of the reproductive age group in a rural community of Eastern India. Int J Community Med Public Health. 2019 Jan;6(1):330-336.

El-Moselhy, E.A. Lotfi F. Issa, Mohamed Abdelsattar, Manal G. Abdelati, Ramadan M. Eldhshan, Abdullah A. Mekky, Hesham H. Amin,Mohamed A. Bashir, Bahaa M. Badr7MD, and Ahmed S. Al Saadawy (2020). Sexually Transmitted Infections: Risk-Factors among Married Female Patients' in Assiut, Egypt. AIMJ October 2020doi:10.21608/aimj.2020.38500.1295

Gaferi S.M, Manal F. Al-Harbi, Sahar M. Yakout, Aziza T. Soliman.(2018). Knowledge, attitude and practice related to reproductive health among female adolescents. Journal of Nursing Education and Practice.

https://doi.org/10.5430/jnep.v8n8p53. 2018, Vol. 8, No. 8.

Gamelen,H.& Elbialy, A. (2020). Effect of Preventive Program about Reproductive Tract Infections on Knowledge, Beliefs and Practices among Rural Women Based on Health Belief Model. nternational Journal of Novel Research in Healthcare and Nursing Vol. 6, Issue 1, pp: (748-764).

Gupta AK, Anita Thakur, Tripti Chauhan, Nidhi Chauhan (2020). A study to determine socio demographic corelates of reproductive tract infection amongst women of reproductive age group. International Journal of Reproduction, Contraception, Obstetrics and Gynecology Gupta AK et al. Int J Reprod Contracept Obstet Gynecol.9(8)

Ilankoon MPS., Goonewardena C.S.E, , Fernandopulle RC, Perera P.P.R,(2017). Women's Knowledge and Experience of Abnormal Vaginal Discharge Living in Estates in Colombo District, Sri Lanka. International Journal of Women's Health and Reproduction Sciences Vol. 5, No. 2.

Mohamed, H.A, Lamadah S.M, El-Khedr , S.M (2015). Knowledge, attitude and practices of adolescent females regarding reproductive health at makkah al Mukaramah. Life Science Journal 2015;12(3)**.**

Mohamed,H.I, Nagat, S. Shalaby, Nermine, N. El-Maraghy and Zeinab, A. Baraia (2015). Prevalence of Vaginal Infection and Associated Risk Health Behaviors among Married Women in Ismailia City, Int.J.Curr.Microbiol.App.Sci (2015) 4(5): 555-567.

Mohammed F.F., Galal Ahmed El Kholy; Soad Abd-Elsalam Ramadan; Amira Refaat Said (2018). Knowledge and practice of women with lower genital tract infections. M.S. Banha university.

Omar A.M & Ahmed E.M (2017). Effectiveness of planned educational program on vaginitis and its preventive measures on adolescent female nursing student's knowledge.EgyptNurs J 14:1–8

Pasi, G. (2019). To assess the knowledge of female staff nurses regarding reproductive tract infection in selected hospital of indore (M.P.). PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-8 | Issue-4 |

Pete P.M.N, Rodrigue Mabvouna Biguioh, André Gael Bita Izacar, Sali Ben Béchir Adogaye, Cecile Nguemo (2019). Genital hygiene behaviors and practices: A cross-sectional descriptive study among antenatal care attendees. Journal of Public Health in Africa 2019; volume 10:746.

Ratnaprabha GK et al.,(2015). Prevalence and awareness of reproductive tract infections among women in select underprivileged areas of Bangalore city.

Shetty SM. KG Kiran, Sanjeev Badiger, Vinayak J Kempaller (2017). Awareness of Women on Reproductive Tract Infections in Rural Field Practice Areas of a Medical College in Mangalore. National Journal of Community Medicine │Volume 8 │Issue 9 │Sept 2017.

Shuangfei Xu. Chuanning Yu, Ying Zhou, Junqing Wu, Tieling Bai, Junxian Zhang and Yuyan Li,(2019). The Prevalence of Reproductive Tract Infections in a Chinese Internal Migrant Population, and Its Correlation with Knowledge, Attitude, and Practices: A Cross-Sectional Study. International Journal of Environmental Research and Public Health 2019, 16, 655.

Srinivasa Kumar PV& Padmaja P. (2016). Reproductive Tract Infections Clinicoepidemiological Study Among Women Attending Tertiary Health Care Center, Ananthapuramu District, Andhra Pradesh. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 15, Issue 4.

World Health Organization. (2019). More than 1 million new curable sexually transmitted infections every day. Geneva, Switzerland.

Gupta M K,Reshmi R S,Kumar D, Visengrawala F. (2015). Empowerment and engagement of SHGs against RTI/STI in Karnataka, India : an interventional study. International journal of research in medical sciences 2015 ;3(3):680-687.