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Self-Care Practices Regarding Prevention Of Reproductive Tract Infection Among Female Adolescent

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Abstract:

Background:*Female adolescent with RTI represents various symptoms like backacheto lower abdominal pain, genital ulcers, vulval itching, inguinal swelling, and abnormal vaginal discharge.* ***The study was aimed to:*** *Assess self -care practices regarding prevention of reproductive tract infection among female adolescent.* ***Research design:*** *A descriptive study design was used.* ***Sample:*** *A convenient sample Of 150 students from faculty of nursing, Makkah. Tools****: First tools****,* ***self****-administered questionnaire sheet to assess female adolescent general characteristics, their knowledge and sel[1]f -care practices for prevention of RTI.* ***Results:*** *The current study finding revealed that 68, 2% of studied adolescents had incorrect total knowledge score regarding RTI while 31, 8% of them had correct total knowledge score, 71, 3% of studied adolescent had unsatisfactory self- care practice regarding prevention of RTI. There was a highly statistically significant relation between total studied adolescent knowledge score and total studied adolescent self –care practices score regarding prevention of RTI(p<0.001).* ***Conclusion:*** *The current study concluded slightly more than three quarter of the studied adolescent had incorrect regarding mode of transmission of RTI and slightly more than two third of them had incorrect knowledge regarding preventive measures. Regarding total knowledge score the currentstudy finding revealed that slightly more than two third of them had incorrect knowledge. Also slightly less than three quarter of the studied adolescent had unsatisfactory self-care practice regarding RTI.* ***Recommendation:*** *The current study recommended that :Application of the nursing preventive strategy for RTI on female adolescent at secondary school through designing and application for an educational program to increase awareness of female adolescent through (videos, booklets, lectures), Further researches are needed to investigate the contributory factors leading to RTIs and the adequate intervention.*

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Introduction:

World health organization (WHO)identifies adolescence as the period in human growth and development that occursafter childhood and before adulthood, from ages 10 to19. It represents one of the critical transitions in the life span and is characterized by a tremendous pace in growth and change that is second only to that of infancy. **(Al-Kotb, Bahnasawy and El Nagar, 2016).**

Lack of adequate knowledge may lead to various diseases among adolescent girls. Reproductive tract infection (RTI) and sexually transmitted infections areconsidered from the most prevalent problems among young girls (Finer and Philbin, 2014).

Adolescent health is shaped by a complex variety of biological and social factors, but risky behavior at this age can often have a disproportionate effect on health across the life span. Many young people initiate sexual behavior in adolescence and experience adverse sexual and reproductive health outcomes. Lack of adequate knowledge may lead to various diseases among adolescent girls. Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections are considered from the most prevalent problems among young girls **(Finer and Philbin, 2014).**

RTI are infections that affect the reproductive tract, which is part of the Reproductive System. For females, reproductive tract infections can affect theupper reproductive tract (fallopian tubes, ovary and uterus)and the lower reproductive tract (vagina, cervix and vulva) **(Bhilwar, 2015).**

RTI include both sexually transmitted infections (STI) and non- sexually transmitted infections. **STI** causedby bacteria, viruses, or protozoa that are passed from one person to another through sexual contact as chlamydia, gonorrhea, chancroid, and human immunodeficiency virus (HIV). Reproductive tract infections RTI which are not sexually transmitted can be caused by disturbances of the normal endogenous flora as bacterial vaginosis or vulvovaginal candi-diasis. Iatrogenic infection caused by unsterilized medical interventions **(Santra et al., 2017).**

Prior studies reflected various factors influencing the occurrence of RTIs mainly socioeconomic status, poor hygiene,intra-uterine device (IUD) insertion, place of residence (urban/rural), male substance abuse, extra-marital sexual relations, andnon-use of condoms **(Singh et al., 2016).**

RTIs if left untreated can lead to complications for adolescent include pelvic inflammatory disease, infertility, ectopic pregnancy, fetal and prenatal death, cervical cancer, emotional distress, marital discord, social rejection, etc **(Kafle and Bhattarai, 2016)**

RTI in many cases are asymptomatic among female adolescent, sotheir detection and diagnosis are difficult. Considering the often asymptomatic nature of RTIs among women, laboratory findingsremain the most accurate method of biomedical diagnosis of RTI (**Bhilwar, 2015).**

RTIs are seen as a ‘silent’ epidemic.Moreover Many people with an STI/RTI donot seek treatment because they are asymptomatic or have mild symptoms and do not realize that

anything is wrong. Others who have symptoms may prefer to treat themselves or seek treatment at pharmacies or from traditional healers **(Nawagi, et al., 2016)**.

Main barriers to the health seeking behavior among female adolescent are illiteracy, ignorance, low socioeconomic status, cultural norms and lack of privacy at the health care facilities. This results in poor availability of data on reproductive tract infections among symptomatic and asymptomatic women **(Salhan, 2016).** The nursing personals play important role in medical science especially in identification and prevention of RTIs and evidence suggests that nurses can struggle to care for patients with reproductive tract infections in a non-judgmental way. Due to the severe consequences and other associated morbidities, early detection and treatment of RTIs and STIs is important. **(Maria et al., 2017).**

Prevention of RTIs is the most effective way of reducing the adverse consequences. Preventing them requires that female at risk of acquiring infection must change their hygienic practices and behaviors. It includes the following: improving knowledge on reproductive physiology, improving menstrual and personal hygiene, reducing the use of harmful substances, improving nutrition, providing appropriate help-seeking behavior, improving health services, and changing sexual behaviors and practices **(Kreisel et al., 2017).**

Nurses play a significant role in prevention and detection of **RTI** among female adolescent, in a variety of settings, including communities, schools, and public health and acute care clinics, which affords them many opportunities to improve adolescents' reproductive health and reduce the rates of **RTI,** To ensure that adolescents have access to reproductive health care (which includes both preventive counseling and treatment). All nursing practice sites, nurses need to gain the knowledge and hone the skills required to deliver evidence-based counseling and services to adolescents and parents **(Pandey, Seale, and Razee 2019).**

Nurse are often the primary care givers who can undertake the role of health educator and mentor through proper approaches in identifying and resolving adolescent`s issue, especially if this issues considered strictly private **(Changizi et al.,2014)**

Nurses working in community health settings and university affiliated health clinics and/ or services, should focus on providing female adolescent with clear and complete information about RTIs and their prevention to slow the spread of RTIs. Adolescent females need to be given facts, told which RTIs are common, how RTIs are transmitted, and what symptoms signal an RTI. Also they should be told what the consequences of an RTI are and how transmission of RTIs can be prevented. They also need firm advice about what to do and what not to do, and they need practical examples of how to carry out this advice **(Katz, 2015).**

Significance of the study:

Reproductive tract infection have historically been labeled" a silent" epidemic among female adolescent, contributing to gynecological morbidity and maternal mortality globally.

In adolescent reproductive tract infections (RTIs) and sexually transmitted infections (STIs) are major public health problems in both developed and developing countries, but prevalence rates are apparently far higher in developing countries where STI treatment is less accessible. They are major global causes of acute illness, infertility, long term disability& death with severe medical &psychological consequences for millions of men, women & infants **(Santra et al., 2017).** The global disease burden of RTI is enormous and a major health problem concern worldwide.it was estimated that 340 million people were infected with curable RTIS nearly one million new cases of such infection occur each day (GBD, 2015;

Disease and Injury Incidence and Prevalence Collaborators,2016).

Aim of the study:

This study aimed to assess Self-care practices regarding prevention of reproductive tract infection among female adolescent

Research question:

What are the Self-care practices regarding prevention of reproductive tract infection among female adolescent?

Subjects and Methods

Technical design:

It was used for the study covers thefollowing four main headings.

1) Research design:

A descriptive study design was used .

2) Settings:

The study was conducted at Faculty of Nursing, Makkah

3) Subject:

Sample type:

A convenient sample was used.Age group from 17 to 19 years.

Sample size:

This study included all female students in the 1st year of faculty of nursing,

4)Tool of Data collection:

Tool (I) Self administrative questionnaire, It was modified by theresearcher based on recent literaturereviewing and it consisted of three parts: (**Mohamed et al., 2014).**

Part (I):

1- **General characteristics of female adolescent`s** as(age, religion, parents level of education & occupation, , and place of residence, monthly, income, marital status (questions1-8).

2- **Menstrual history:** it included age of the first menarche, regularity, amount, duration, complains during the menstruation & methods of pain relief (question 11-16).

3- **Complains of RTIs:** as abnormalvaginal discharge, vaginal itching, redness of vulva & burning sensation with urination(question 17-19).

Part (II):

It was designed to assess female adolescent`s knowledge regarding RTI: as(definition of RTI, causes, signs and symptoms, types, complications and preventive measures) using closed ended questions, multiple choice questions (It wasconsisted of 8 questions).

Knowledge scoring system

Each knowledge question was scored as (2) for correct answer and (1) for in correct answer or I don`t know. The totalscore was ranged from zero to 16 ;students` total score was classified as the following:

- Correct knowledge : (<60%) score (0-9.5)
- Incorrect knowledge: (≥60%) score(9.6- 16)

Part (III):

It was designed to assess adolescent self-care practices regarding prevention of RTI: include (personal hygiene, hygienicmeasures during menstruation, nutrition and practicing exercise) (it consist of 11 question)

Scoring system:
It was scored as two scores for a satisfactory practice or don, and one score for unsatisfactory practice or not don.Total practice score was ranged from zero to 22 classified as the following:

- Unsatisfactory practice : (<60%) score (0 - 13.1).
- Satisfactory practice: (≥60%.**)** score (13.2 - 22).

Validity:
The face and content validity of the study tools was assessed

Reliability:
Study tool were tested for its internal consistency by cronbach s Alpha co efficient test which reveaed 80. 2.

Ethical considerations:
- Informed consent was obtained from eachfemale adolescent after explaining the purpose of the study.
- Tools of data collections were not touching moral, religious, ethical and culture aspect of the female adolescent.
- Each female adolescent had the right to withdraw from the study at any time.
- Human rights were considered.
- Data was confidential and using a coding system for data management.

2 - Pilot study:
A Pilot study was carried out on 10%of female adolescent (15 female adolescent)

Statistical design:

The collected data were organized, tabulated and analyzed using the statistical software package for social science (SPSS version18 program). Data were presented in tables and figures using numbers, percentages, means, standered

The following tests were done:

- Chi-square (X^2) test of significance was used in order to compare proportions between two qualitative parameters.
- p-value was considered significantas the following:
- Probability (P-value)

- P-value ≤0.05 was considered significant.
- P-value ≤0.001 was considered as highlysignificant.
- P-value>0.05 was consideredinsignificant.

- Correlation co efficient (r):to test therelation between study variables.
- P-value was considered significant if(r)≥2.

Results:

Table (1): Illustrates that, age of thestudy sample ranged from 17 to 19 years with mean age 17.98±0.51 years. 66, 7% ofthe study sample lived in urban and 33, 3% of them lived in rural. Regarding Father's level of education 66% of them their fathers had secondary education. Also, 50% of them their mothers had secondary education, In addition, 65.3% of the study sample their mothers were housewife and 34.7% were working, and 88%of them had sufficient income

General characteristics	Studied subjects (N=150)	
Age /year		
– **Range**	17-19	
– **Mean ±SD**	17.98±0.51	
	No.	**%**
Religion		
– **Muslim**	150	100
Residence		
– **Urban**	100	66.7
– **Rural**	50	33.3
Father level of education		
– **Basic education**	-	-
– **Secondary education**	99	66.0
– **University education**	51	34.0
Mother level of education		
– **Basic education**	35	23.3
– **Secondary education**	75	50.0
– **University education**	40	26.7
Mother's job		
– **Worker**	52	34.7
– **Housewife**	98	65.3
Monthly Income		

– **Sufficient**	132	88.0
– **Insufficient**	18	12.0
Marital status		
– **Single**	150	100

Table (2): Illustrates that, age at first menarche of the study sample ranged from 11 to 15 years with mean 13.42±1.41 years. According to regularity of menstrual cycle 62% of the study sample had irregular period. 40% of them hadmoderate amount of menstrual flow. 39.3%of the study samples their menstruation lastmore than 5 days. Also 52.7% of them had lower abdominal pain during menstruation, and 40% of them take analgesic as a method of pain relief.

Menstrual history	**Studied subjects (N=150)**	
Age of the first menarche		
– **Range**	11-15	
– **Mean ±SD**	13.42±1.41	
No.	**%**	
Regularity		
– **Regular**	57	38.0
– **Irregular**	93	62.0
Amount		
– **Heavy**	52	34.7
– **Moderate**	60	40.0
– **Low**	38	25.3
Duration		
– **Less than 3 days**	40	26.7
(3-5) days	51	34.0
– **More than 5 days**	59	39.3
Common complains		
– **Lower abdominal pain**	79	52.7
– **Back pain**	50	33.3
– **Nausea and vomiting**	21	14.0
Measures of pain relief		
– **Take a warm bath**	40	26.7
– **Take some analgesic**	60	40
– **Drink warm fluids**	30	20
– **Other things**	20	13.3

Table (3): Reveals that, 25.3% 0f the study sample had complains related RTI and 13.3 % of them complained ofabnormal vaginal discharge, as well as 10%of them asked their mothers about the proper treatment.

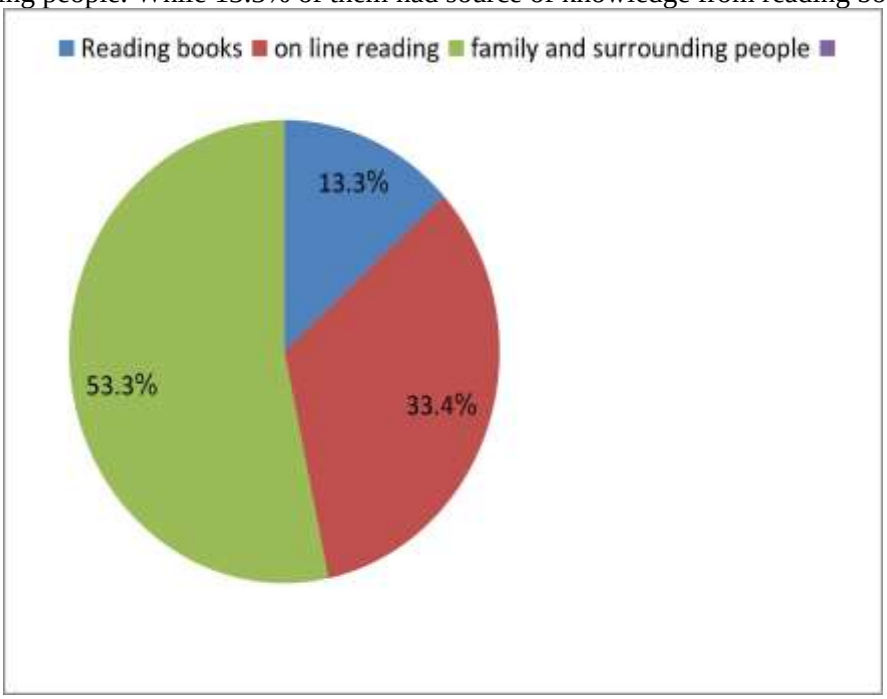
Items	**No.**	**Studied (N=150) subjects** **%**

Do you have complains related of RTI?			
-yes		38	25.3
-No		11	74.7
If yes, what are the types of this complain?		2	13.3
-Abnormal vaginal discharge	20		4.7
-Vaginal itching	7		3, 3
-Vulva redness	5		4
-Burning with urination	6		
How do you deal with this complain?			3.3
-Go to doctor	5		6.7
-Take medication from pharmacist	10		10
-Ask mother	15		5.3
-No thing	8		

Table (4): clarifies that, 66.7% of the study sample had incorrect knowledge about the concept of reproductive tract infection 73.3% - 76.7% of them had incorrect knowledge about causes and mode of transmission respectively. 69.3% of study sample had incorrect knowledge regarding complication of RTI. 64, 7% of them had incorrect knowledge regarding preventive measures of RTI.

Items	**Studied subjects (N=150) No.**	**%**
Concept of RTI		
– **Correct**	50	33.3
– **Incorrect**	100	66.7
Risk factor		
– **correct**	55	36.7
– **incorrect**	95	63.3
Causes		
– **Correct**	40	26.7
– **Incorrect**	110	73.3
Modes of transmission		
– **Correct**	35	23.3
– **Incorrect**	115	76.7
Signs and symptoms		
– **Correct**	54	36.0
– **Incorrect**	96	64.0
Types		
– **Correct**	37	24.7
– **Incorrect**	113	75.3
Complication		
– **Correct**	46	30.7
– **Incorrect**	104	69.3
Preventive measures:		
- **correct**	53	35.3
- **Incorrect**	97	64.7

Fig(1) :clears that 53.3% of the study sample had source of knowledge from family and surrounding people. While 13.3% of them had source of knowledge from reading books.



Fig(2): Clears that, 68, 16% of the study sample had incorrect knowledge regarding reproductive tract infections while 31, 84% of them had correct knowledge.

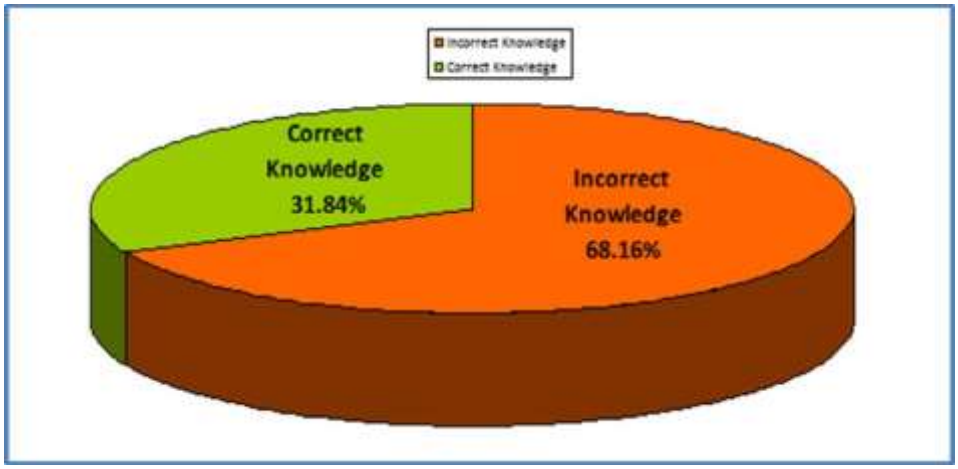


Table (5): reveals that, 50% of the study sample had incorrect technique regarding washing and rinsing of perineum area, 59.3% of them had incorrect technique of dryness of the perineum area. As well as, 80% of the study sample did not use any antiseptic solution for perineal washing. Additionally 46.7% of them irregular perform hand washing before and after entering bathroom, About 53, 3% of them wear cotton underwear clothes, 66.7% of them use disposable sanitary towel and removing towel from back to front as well as 47% of them used from 3 to4 towel per day.Also 82% of them did not take shower during menstruation. 22.7%

of the study sample practiced exercise, andonly 9.3 % of them practiced exercise from 3-5 times per week.

Items	Studied subjects (N=150) No.	%
Technique of washing and rinsing the perineum area	75	50.0
– **correct**		
– **incorrect**	75	50.0
Technique of dryness the perineum area		
– **correct**	61	40.7
– **incorrect**		
Using an antiseptic solution	89	59.3
– **yes**		
– **No**		
Hand washing before and after entering bathroom	30	20.0
-Regular	120	80.0
-Irregular		
-None		
Types of Underwear clothes	66	44
– **Cotton**	70	46.7
– **Synthetic**	14	9.3
– **Others**		
Type of towel using during menstrual cycle		
-Disposable sanitary towel	80	53.3
-Medical cotton and gauze	40	26.7
-Cloth towel	20	13.3
How many towel changed during menstruation per day?	100	66.7
-1-2 towel	40	26.7
-from front to back	10	6.7
towel	53	23.3
-More than 4	71	47.3
Method of towel removing	26	17.3
-from back to front	100	66.7
-Removal by any way	20	13.3
Taking shower during menstrual period		
– **Yes**		
– **No**		
Practice exercise		
– **Yes**		
– **No**		
Number of times of exercises per week		
-From 5-3 times		
-less than 3 times		

	30	20
	27	18.0
	123	82.0
	34	22.7
	116	77.3
	14	9.3
	20	13.3

Fig (3): Shows that, 71.30% of the study sample had Unsatisfactory level of self- care practice regarding prevention of reproductive tract infections while 28, 70% of them had satisfactory level.

Table (6): Illustrates that, 55% of the study sample ate diet rich in vitamin C&D. while, 62, 7 % of them ate protein diet and milk products, Also 50% of them eating diet rich in minerals. 66.7% of the study sample eat (2: 3) meals daily and also prefer fast foods.90% of the study sample prefer caffeinated drinks and 46, 7% of them had two cups daily.

General characteristics	**Total knowledge**	
	R	**P value**
Age	0.328	0.003*
Father education	0.344	0.001**
Mother education	0.344	0.001**
Mother job	-0.023	0.798
Monthly income	0.210	0.017*

Table (7): Shows that, there were no statistically significant relation betweentotal knowledge of study sample and their mother`s job (p>0.05), a highly significant relation between total knowledge of them and their father`s and mother`s education(p<0.001). as well as, a significant relation between total level of knowledge of them and their age and monthly income (p≤0.05).

General characteristics	Total self-care practiceR	P value
Age	0.268	0.002*
Father education	0.426	0.001**
Mother education	0.189	0.039*
Mother job	0.378	0.001**
Monthly income	0.227	0.050*

Table (8): Shows that, there were a highly significant relation between total self -care practice of the study sample and their father and their mother` job (p<0.001), Also, a significant relation between totalself- care of them and their age, mother` education and monthly income (p≤0.05). Shows that, there were highlysignificant relations between total levels of self-care practice the study sample andtheir total level of knowledge (p<0.001).

Total level of knowledge	Total No	Total level of self-care Satisfy (N=70)	Unsatisfied (N=80)	R P-value
Satisfy	43	34	9	
Unsatisfied	107	36	71	

Discussion:

Adolescent health is shaped by a complex variety of biological and social factors, but risky behavior at this age can often have a un equal effect on health across the life span **(Finer and Philbin,2014).**

Reproductive tract infections (RTI) are recognized as a public health problem and ranking the second cause of loss of healthy life among females of reproductive age in developing countries after maternal morbidity and mortality. Infections of the reproductive tract causes serious health problem worldwide, with an impact on female adolescent, their families and communities, RTI infections which affect the reproductive tract, part of the reproductive system**. (Bond, 2020)** .

The aim of the present study was to assess student self-care practices regarding prevention of reproductive tract infectionamong female adolescent. This aim was significantly achieved through the present study question which was: what are the self-care practices regarding prevention of reproductive tract infection among female adolescent.

As regard general characteristics, theage of the studied group of female adolescents ranged from 17 to 19 years withmean age 17.98±0.51 years. Two third of sample lived in urban, regarding mothers' level of education, half of the study sample their mothers had secondary education and slightly than one quarter had basiceducation. In addition, slightly less than two third of the study sample their mothers were housewife.

The findings of the current study agree with, **(Abd El-Salam et al., 2018)**, who studied

"The efficacy of learning package regarding vaginal infection and associated risk health behaviors among female university students", illustrated that the majority of the female students` age group from (18-20) years old**.**

This result is in line with **(Ahmed and Omar, 2017)** who studied "Effectiveness of planned educational program on vaginitis and its preventive measures on adolescent female nursing student's knowledge" showed that the mean age of the participant students was 19.2±0.53 years; most of them were living in urban areas with nuclear family. Regarding mother's education, nearly more than half of them had completed their secondary education while majority of themwere housewives.. The similarity between the studies is due to the same characteristicsof the study sample

Regarding distribution of the studiedstudents according to their complains of **RTI,** the current study revealed that most symptoms were abnormal vaginal discharge and vaginal itching.

This finding agreed with (**Paneru,2012)** who conducted a cross sectional study to identify prevalence and factors associated with RTIs among female of reproductive age which revealed that, most commonly reported symptoms were watery vaginal discharge.

On the same line the study of**(Chaudhary et al., 2019)** who studied "prevalence of reproductive tract infections in female attending a tertiary care center in Northern India with special focus on associated risk factors" found that, the mostcommon symptom was genital discharge

the problem of **RTI/STD** morbidity in female is largely due to ignorance, low level of awareness regarding sexual and reproductive health and other social factors like low female literacy, cultural factors andtaboos - all withholding the women from seeking health care for **RTI/STDs.** Tribal communities are always been distinct with their unique culture, traditions, believes andpractices**. (Quansar et al., 2018)**

Regarding knowledge of female adolescent about reproductive tract infections, the current finding results revealed that two third of the study sample had incorrect knowledge about the concept regarding **RTI,** slightly less than three quarter of the study sample had incorrect knowledge about causes of **RTI**. Also Slightly less than two third of the studysample had incorrect knowledge about signs and symptoms and complications of RTI.This may be due to, adolescent female were shielded from information about reproductive organs and their problems until the time of their marriage.

These findings were in agreement with (**El-Beih et al., 2013)** who conducted A descriptive cross sectional survey of female attending the gynecological outpatient and family planning clinics ofthe Lagos State University TeachingHospital, mentioned that over all knowledge of symptoms and complications of **RTI** among female students were poor so these female need to increase their knowledge about **RTI** through continuouseducational program.

Also according to the study conducted by **(Rizwan, Rath, Vivek 2015)** who conducted study on RTI and STI among married female in rural Haryana To assess knowledge, attitude and practices of **RTI/STIs** on female reported that slightly less than half of the participant had not heard about RTIs, No one knew the actual cause of RTIs and many did not know the effect of RTIs female health. This may be attributed to insufficient basic information of the study sample about this topic.

The current study finding was disagree with The study of **(Farokhzadian,Shahrbabaki, mozaffari, 2014)**which aimed to assess knowledge, attitude and practice of female about

prevention genital tract infections, showed most of subjectshad a highly knowledge about genital tract infections. This may be due to differentiation of sampling characteristics and tools between studies.

Concerning with total knowledge score about RTI the current study finding revealed that slightly more than two third ofthe study sample had incorrect knowledge regarding RTIs, while slightly less than one third of the study sample had correctknowledge.

This finding matching with the study conducted by **(El-Beih et al., 2013)** who studied health practices among female university students at Benha university Regarding Prevention of Reproductive Tract Infections which, reported that the majority of the studied students had unsatisfactory knowledge score level about RTIs among female adolescent. This may be explained by the fact that these female adolescent didn`t receive enough information about **RTI** and also due to lack of their awareness regarding **RTI.**

The current study finding is in the same line with, the study conducted at faculty of nursing, El –Minia university by **(Abdelnaem, Hamido, Abd Elazim 2019)** to evaluate the effect of self-care guidelines on knowledge, quality of life and practices, among faculty of nursing students with vaginal infection, which revealed that The majority of studied students lacked the essential knowledge regarding vaginalinfection, The similarity between two studies may be due to the same characteristics and culture of the study sample.

The current study finding showed that, there were a significant relation between total knowledge score of study sample and their age and their monthly income, As well as a highly significant relation between total level of knowledge ofthem and mother`s education.

There were no significant relationbetween total level of knowledge of the study sample and their mother`s job.

The finding of the study conducted by **(Abdelnaem, Hamido, Abd Elazim 2019)** agree with the current study finding which revealed that, there was a highly statistically significant relation between the student's total score knowledge regarding RTI with their age.

Also, results of **(Mahmoud and Mossad, 2019)** revealed that, there is a statistically significant relation between studied student's total knowledge with their age and mother's education. While they reported there was no statistically significant relation between student's total knowledge with their mother occupation, and income.

However, the study by **(El-Beih et al., 2013)** did not identify any relationship between the mother`s education of the students and level of knowledge. This may be explained by the limited number of the students whose mothers had high levels of education in his study..

Self –care has a key role in preventing RTIs infections. Early recognition of RTI, irritating appropriate treatment and taking necessary precautions are essential in protecting and improving female adolescenthealth. Nurse have the responsibility to educate adolescent related to various aspects about RTI and keep them free from it. **(Santra and Kumar, 2017).**

As regard self-care-practices for prevention of reproductive tract infections, the current study revealed that half of the study sample had incorrect technique regarding washing and rinsing of perineum.Also, less than two of the study sample had in correct technique regarding dryness of the perineum area. Most of the study sample did not taking shower during menstruation. In addition to, slightly more than three quarter of sample did not practiceany physical exercises.

The current study finding is in agreement with **(Al-Kotb et al., (2016)** who studied prevention for genitourinary tract infection among female adolescent student` s and reported

that the majority of students used incorrect washing and wiping technique to wash genitals of who had a symptomatic genitourinary tract infection.

The current study finding is disagree with the study by **(Sevil et al., 2013)** who investigated a study to evaluate the relationship between genital hygiene practices and genital infection in a group of university students, they found more than two-thirds of studied students had correct technique for the genital area cleaning. Thismay be due to increase knowledge of the study sample about correct technique forgenital area cleaning.

The current study finding is matchedwith **(Hasanein and Diab, 2015)** who studied "Menstrual Disorders and Hygienic Self Care Practices among Adolescent Girls in Preparatory year", finding that there was inadequate level of self-care practices among adolescents during menstruation, this may be due to lack of awareness about hygienic measures during menstruation.

As regard self-care practice during menstruation, this study is agreed with **(Shalabi et al., 2018)** found more than one third of girls didn't do any house hold activities during menses.

On the other hand the study by**(Sevil et al., 2013)** found that the majorityof the students bathe during menstruationand more than half of students used'perfume' for malodor during menstruation.Eating healthful, balanced diet prevents RTI infections and keep vaginalnatural secretions. Many nutrientscontribute to vaginal health. Eating ahealthful, nutrient-rich diet can improve all body systems. Certain nutrients, antioxidants, and probiotics may have particular benefits for vaginal health.
(Neggers et al., 2013)

As regard to nutrition among female adolescent, slightly more than half of the study sample ate diet rich in vitamin **C&D**, slightly less than two third of them ate protein diet and milk product, half of them ate (2:3)meals per day. Most of them preferred caffeinated drinks.

According to total level of self -care practices slightly less than three quarter of the study sample had un satisfactory self - care practices regarding prevention of reproductive tract infection, while slightly more than one quarter of them had satisfactory self –care.this may be due to lack of knowledge and awareness about proper self –care measures regarding prevention of RTI..

On the same context the study of **(Abdelnaem, Hamido, Abd Elazim 2019**) found that The majority of studied students had unsatisfactory practices score regarding vaginal infection among students that consequently had negative impact on theirquality of life**.**

This finding matching with the studyconducted by **(El-Beih et al., 2013)** revealed that Majority of students had unsatisfactory practices regardingprevention of RTIs was prevailing among the studied students

The current study finding revealedthat there were a highly significant relation between Total level of self-care practice of the study sample and their Total level of knowledge.

The finding of the present study is in agreement with the finding of the presentstudy is in agreement with **(Bobhate and Shrivastava, 2015)** who **s**tudied "Acrosssectional study of knowledge and practices about reproductive health among female adolescents in urban Mumbai" mentioned that, there was significant association between knowledge and practice regarding reproductive tract infection.

Also, this in line with **(El-Beih et al., 2013)**, showed that a strong positivecorrelation was detected between students' total knowledge score level and total practice score level.

Furthermore, the study of **(Abdelnaem, Hamido, Abd Elazim 2019**) showed that there was highly statistically significant relation between total knowledge of the students with their practices.

The current study finding revealed that there were a highly significant relation between each of "Total level of self-care practice and general characteristics of studysample.

This finding agreed with **(Abdelnaem, Hamido, Abd Elazim 2019**) reported that there was a highly statistically significant relation between the students' total practices score with their age. The current study Findings is in agreement with **(Mahmoud and Mossad, 2019)** who found that there was statisticallysignificant relation between students' hygienic practices and level of their mother education. This might be explained that, increasing students' age may have higher level of awareness about proper hygienic practices in order to maintain a healthy reproductive tract.

Contrasts to the current studyfindings, **(Mahmoud and Mossad, 2019)** study showed that, there was no statisticallysignificant relation between students' total practice level and their mother's education. this differences may be due to the difference between two studies regarding tothe methodology.

Preventing **RTIs** is the most effective way of reducing the adverse consequences. Preventing the spread of RTIs requires that females at risk for acquiring infection must change their hygienic practices and behavior**.** It includes; improving knowledge of reproductive physiology, improving menstrual and personal hygiene, reducing the use of intra- vaginal substances, improving nutrition,providing appropriate help seeking behavior**,** improving health services**,** and changing sexual behaviors & practices **(Ahmed and Omar, 2017).**

conclusion

Based on the finding of the present study,it can be concluded that:

The finding of the present study answered the research question as, slightly less than three quarter of the studied adolescent had unsatisfactory self-care practice regarding prevention of RTI, while slightly more than one quarter of them had satisfactory self -care practice.

Recommendations:

Based on the result of the study, the following recommendations areproposed:

1- Application of nursing preventive strategy for RTI on female adolescent at secondary school through :
   a- Designing &application of educational program to increase awareness of female adolescent regarding prevention of RTI
   b- Improve Evidence Based practices information to prevent RTI through facebook group and what`sApp.
2- Periodic health assessment & health education needs assessment for female university students.
3- Add RTI and methods of prevention to the student's curriculum.
4- Further researches are needed to

-investigate the contributory factors leading to RTIs and the adequate intervention.

-As well as to develop strategy to improve factors face adolescents to use reproductive health services.

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