

Vaginal and ST Infections: Preventive Intervention among Newly Married Women in Minia University

Fatma Abdel Alim Abdel Ghany Ibrahim*, Nadia Abd Allah Mohammed**.

ABSTRACT: Sexually transmitted infections (STIs) remain a public health problem of major significance in most parts of the world. Vaginal infections-for example- are very common in women of reproductive age and are almost always symptomatic and rarely cause complications. The objective of this study was to raise awareness as preventive intervention regarding vaginal infections and STIs among newly married women in Minia University employee. Quasi-experimental design was utilized in this research. A total of 300 newly married women (\geq three months period after marriage) from Minia University employee were interviewed at their work sites or their homes. Oral consent was taken from each woman and data were collected between the period of May 2007 to Dec 2007. Individual interview questionnaire was developed by the researcher that included two main parts; part one is the assessment of socio-demographic data, sources of information for sexuality concerns, and assessment of relevant protective aspects. The second part included pre/post tests which consisted of 12 questions to assess level of knowledge regarding vaginal infections and STIs. It also included the provision of mini teaching module that covered the main information needed for raising awareness for prevention of vaginal and ST infections such as; definition, types, causes, symptoms and prevention. Results showed that ages of the studied women ranged from 18 to 21 years old, all of them had moderate level of education (diploma). An 88.3%. &11.7% were rural and urban residents respectively. Moreover, the mean score percentages of the pre/post tests of the knowledge about each of vaginal and ST infections were significantly different ($P = 0.001$). It was concluded that the level of awareness was raised regarding vaginal and ST infections among the studied women. Public health education campaigns on vaginal and ST infections prevention for vulnerable groups including; adolescents and youth, illiterate clients, women and men are recommended.

Keywords: Vaginal Infections; Yeast Infection; Bacterial Vaginosis; Trichomoniasis, STIs; Prevention.

INTRODUCTION

Vaginal infections (yeast infection, bacterial vaginosis and trichomoniasis) are very common in women of reproductive age, and are almost symptomatic and rarely

cause complications.⁽¹⁾ Women who previously had vaginal infections often assume they have the same case the next time they experience similar symptoms, and consequently self-medicate with over-

*Lecturer of Community Health Nursing, Faculty of Nursing, El Minia University.

** Lecturer of Maternity and Newborn Health Nursing, Faculty of Nursing, South Valley University.

the-counter drugs without consulting a gynaecologist.⁽²⁾ Although this is commonly done, it is a wrong practice, as similar symptoms may arise but may point to a different type of vaginal infections that requires a different treatment. Once on treatment, course should be completed even if symptoms have gone away to stop microorganisms from flourishing.⁽³⁾

Sexually Transmitted Infections (STIs) present a major public health concern in both industrialised and developing countries. The prevalence of STIs has been shown to vary from one country to another and among different groups within the same country.⁽⁴⁾ However, information about infection rates is hard to come by, especially for many developing countries. No single organization regularly collates STI statistics worldwide, and different countries have different types and levels of reporting systems. It is thought that many reports substantially underestimate the number of new STI cases because social

stigma and other factors prevent people seeking health care.⁽⁵⁾

Sexually transmitted infections are caused by more than 30 different bacteria, viruses and parasites and mostly are spread by sexual contact. Vaginal and ST infections have been associated with a number of adverse pregnancy outcomes including abortion, stillbirth, preterm delivery, low birth weight, postpartum sepsis, neonatal pneumonia, neonatal blindness & congenital infection. In addition, vaginal infections and STIs have been shown to facilitate transmission of HIV.⁽⁶⁾

STIs incidence rates remain high in most of the world, despite diagnostic and therapeutic advances that can rapidly render patients with many STIs noninfectious and mostly cured.⁽⁷⁾ In many cultures, changing sexual morals and oral contraceptive use have eliminated traditional sexual restraints, especially for women, and both physicians and patients

have difficulty dealing openly and candidly with sexual issues. Additionally, development and spread of drug-resistant bacteria make some STIs harder to cure.⁽⁸⁾

The International Conference on Population and Development (Cairo, 1994) declared that prevention and control of STIs should be an integral part of comprehensive sexual and reproductive health services in order to contribute towards the attainment of the Millennium Development Goals and respond to the call for improved sexual and reproductive health as defined in the programme of action of the United Nations.⁽⁹⁾

At the individual and community levels, stigmatization results in: reluctance of patients to seek early treatment preferring to seek treatment in the private sector, whether provided by medically qualified personnel, pharmacists, traditional practitioners or other types of providers, who offer greater accessibility, confidentiality, and to be less stigmatizing

than public sector facilities difficulty in notifying and treating infections in sexual partners.⁽¹⁰⁾ The underlying factors that also have contributed to failure to control sexually transmitted infections may include ignorance and lack of information perpetuating wrong conceptions of these diseases. Stigmatizations and many of the infections tend to be asymptomatic or otherwise unrecognized until complications and sequelae develop. For women, in particular, the stigmatization associated with infection constitutes an ongoing and powerful barrier to the implementation of prevention and care interventions.⁽¹¹⁾

The suspected high prevalence of sexually transmitted infections and the relative lack of knowledge is imperative that a public health intervention be initiated.⁽¹²⁾ Considering the above background in mind, the present study was conducted with the objective to raise awareness as preventive intervention regarding vaginal and ST infections among

newly married women in Minia University employee.

Subjects and methods

Subjects

A quasi-experimental design was utilized in this study. The total number of participants were 300, those were newly married women; not more than three months of marriage to ensure fresh experience and to avoid societal conflicts during data collection. The sample involved rural and urban residents at Minia governorate- Egypt who were temporary contracted employees in Minia University. The total number of sample was 300 during the period from May 2007 to Dec 2007. At the beginning of the study the directors of employees affairs in all faculties of Minia University were given an explanation about the nature and purpose of the study so that their cooperation and assistance was obtained. Also, during the first contact with the subjects the nature and purpose of the study were explained. After obtaining oral

consent from each woman, Data was collected through interviewing which was conducted either in the morning at work sites or at homes in the afternoon, all according to an appointment. The interviews were conducted over three days weekly for a duration of 8 hours. Confidentiality was maintained at all stages of the study period.

Methods

A specially designed interview questionnaire form was developed by the researchers to collect the pertinent data of the study. The structured questionnaire was included; two main parts; the first part was an assessment sheet concerned with personal and socio-demographic characteristics of the studied women and their husbands such as, age, education, Job, husband age and education; as well as their various source of information regarding sexuality concerns, in addition to assessing relevant protective aspects. The second part consisted of 12 cognitive

questions about vaginal and sexually transmitted infections needed to perform the prepost tests. The questions covered the main information needed in prevention of such infections such as; definition, types, common and general symptoms and prevention. Women responses were categorized as; correct and complete =3, correct and incomplete=2 and incorrect or unknown=1. The total mean score was 36. Mini teaching module was provided after the pre-test. The module presented the main information and tips concerned with vaginal and ST infections, including; the description of different types of vaginal and ST infections, signs, symptoms, care of each and preventive measures that can reduce the incidence and spread of infection. This mini teaching module was prepared by the researchers and according to modules developed through a partnership of the Ohio state university medical center mount carmel health and Ohio health, Columbus Ohio.⁽¹³⁾ and was

introduced to the study sample via booklet in simple Arabic language and was explained using Microsoft PowerPoint presentations. Each interview took from 60 to 90 minutes during which each woman was asked to answer the cognitive questions twice; before (pre-test) and after (post-test) the provision of the mini teaching module. Data obtained was entered using SPSS (Statistical Package for Social Science) and appropriate statistical tests, including student and paired tests were applied. The level of significance was set at 5%.

RESULTS

Table 1 describes the socio-demographic characteristics of the newly married women and their husbands. It is clear that a high number {265 (88.5%)} of participants were rural residents. Women ages ranged between 18 and 21 years, while the majority of their husband ages were between 27 to 29 years {(282) 94%}. Regarding wives, educational level; all

women had diplomas as well as the majority of their husbands {265(88.3%)}.

Concerning their jobs it was found that 160(53.3%) of the women and 133 (44.3%) of their husbands practiced manual works.

Moreover, a high number of husbands {133 (44.3%)} stayed temporary with their wives.

Table 2 shows the distribution of women according to their source of information regarding sexuality concerns. It is clear that more than or almost half of the newly married women depended upon their mothers and sisters as source of information; 168(56%) and 134(44.7%), respectively. Also it was found that about one third of the newly married women took their information from relatives and friends {33(11%)} and from TV and from satellite 36(12%). Additionally, none of the women under study relied on professional personnel or web search. **Table 3** indicates distribution of newly married women according to the use of relevant protective aspects. The table reveals that 290 (96.72)

of the women changed underpants from 7-9 times/wk. while 10 (3.31) changed it from 10-12 times/wk. Moreover, most of the women {248 (82.7%)} took complete bath 7-10 times/wk and changed bed linen three times weekly {255 (85%)}.

In addition, the majority of them {282 (94%)} did vaginal douche the table also shows that slightly more than half of the newly married women used cotton underpants {167(55.7%)}.

Whereas 284 (94.7%) of them boiled it. Voiding and washing genitalia before intercourse was frequent among women {282(94%)} and the majority {249 (83%)} were not exchanging underpants with relatives or others. Regarding probability of husband acceptance of condom, about two third of responses were uncertain {204(68%)} while {2(0.7%)}, and 94 (31.3) were reported yes and no, respectively. On the other side no one of the newly married women had awareness about female condom. **Table 4** demonstrates comparison of pre/post tests means

regarding knowledge about vaginal infection among newly married women. It is clear from the table the presence of a highly significant difference between the mean scores given to the women in the pre-test (7.84 ± 1.20) and in the post-test (20.85 ± 0.62). **Table 5** shows the knowledge about STIs among newly married women. The comparison between the women's mean score in the pre-test and that in the post-test was highly significantly different ($t = 168.57$ and $P=0.001$). **Figure 1** shows the comparison between the total mean scores of pre/post tests regarding vaginal and ST infections knowledge among newly married women. It was found that the total mean score of the pre-test was 16.86 ± 1.26 while that of the post-test was 35.66 ± 0.96 with highly statistical difference between them ($t=170.15$ and $P=0.001$).

DISCUSSION

WHO.⁽¹⁴⁾ has defined adolescent as persons in the 10-19 years age group,

while youth has been defined as the 15-24 years age group. "Young people" is a combination of these two overlapping groups covering the range 10-24 years. The ages of the study sample in the present research falls in this overlapping group where their ages were between 19-21 years. Young women in particular are more vulnerable than men for biological, social and economic reasons. In some cultures where adolescents, especially girls, marry at a young age, national programmes are needed to recognize that young girls might be at increased risk factors of STIs. They will be regarded as adults by virtue of being married.⁽¹⁵⁾

The study revealed that mothers, sisters, friends and relatives are still the source of information regarding sexuality advice (Table 2). This finding is assured by the commonly used malpractice of doing vaginal douche, wearing non cotton underpants, unawareness of values of males and females condom to minimize

infection (table 3). So, the need for continuous dissemination of professional messages to target and outreach population is vital. These messages must be persuade in communicative channel with different ages categories, females and males in respecting to our culture and social norms.

The study revealed also the presence of significant differences between the pre/post tests regarding vaginal and ST infections, which means improvement of the women's knowledge and the raising of their awareness about STIs (Table 5). These results are supported with that suggesting the need to highlight awareness about STIs during health education through home visits, counseling and community health talks.⁽¹⁶⁾

Another research,⁽¹⁷⁾ implied that strengthening awareness and health/preventive education is crucial. This would also include behavior change communication, addressing the cultural as

well as medical concerns that would serve to enhance the acceptability of community vaginal infections and STIs education. Training of primary health care medical and paramedical personnel in syndromic management and counseling the patient on preventive measures and partner referral are of paramount importance. Bryan⁽¹⁸⁾ stated that unfortunately, the barriers to effective STIs prevention are multiple, including the biological characteristics of STIs, lack of public awareness regarding STIs, inadequate training of health professionals, and sociocultural norms related to sexuality that can lead to misperception of recognized risk and consequences.

WHO.⁽¹⁵⁾ recommended providing health education on HIV and other sexually transmitted infections through their extensive networks that reach even the most remote villages and communities. Community-based organizations can be vital partners in promoting prevention,

counseling, home care, clinical care and even advanced treatment as well as reducing stigmatization and discrimination to facilitate and enhance an environment for open discussion of these issues. Strengthening collaboration with, and capacity of, these organizations is important to ensure that they work more effectively in partnership with governments and others in the prevention and control of sexually transmitted infections.

CONCLUSION

There was significant raising of awareness about preventive intervention regarding vaginal and STIs among newly married women in Minia University employee.

RECOMMENDATIONS

- Support public health education campaigns on vaginal and ST infections prevention for vulnerable groups including; illiterate clients, women, men, rural and urban residents in upper Egypt
- Integrating of sexually transmitted infections and vaginal infections programmes with adolescent health, family planning, women's health, safe motherhood, immunization, child survival and HIV prevention.
- Education for the prevention of vaginal and ST infections and their complications within reproductive health-care settings.

Table 1: Distribution of the newly married women and their husbands according to their Sociodemographic characteristics

Sociodemographic characteristics	No	%
Resident:		
Rural	265	88.3
Urban	35	11.7
Wife age:		
18 year	35	11.7
20 year	133	44.3
21 year	132	44
Husband age:		
27-29 year	282	94
30- 33 year	18	6
Level of wife education:		
Diploma	300	100
Level of husband education:		
Diploma	265	88.3
High education	35	11.7
Wife job:		
Manual	160	53.3
Professional	140	46.7
Husband job:		
Manual	133	44.3
Professional	167	55.7
Husband stay with wife:		
Permanent	167	55.7
Temporary	133	44.3

n= 300 woman.

Table 2: Distribution of the newly married women according to source of information regarding sexuality concerns.

Source of information*	women		Mean ± S.D
	No	%	
Mothers	168	56	0.56±0.50
Sisters	134	44,7	0.89±0.9
Relatives and friends	33	11	3.3±.94
Professional personnel	0	0	0.00±0.00
TV and satellite	36	12	0.12±0.33
Web search	0	0	0.00±0.00

* Responses are not mutually exclusive

Table 3: Distribution of newly married women according to the use of relevant protective aspects.

Relevant protective aspects	women		Mean ± S.D
	No	%	
Changing underpants:			
7-9 times /wk	290	96.7	7.04
10-12 times/wk	10	3.3	
Complete bath:			
3-6 times/wk	39	13	
7-10 times/wk	248	82.7	6.97
11-14 times/wk	13	4.3	
Changing of bed linen:			
twice/wk	38	12.7	
3 times/wk	255	85	
4 times/wk	7	2.3	2.89
Vaginal douche:			
done	282	94	
not done	18	6	1.06
Using cotton underpants:			
Yes	167	55.7	
No	133	44.3	1.44
Boiling underpants:			
Yes	284	94.7	
No	6	2	
infrequent	10	3.3	1.09
Voided and washed genitalia before intercourse			
Yes	282	94	
No	18	6	1.06
Probability of exchanging underpants with relatives or others:			
Yes	51	17	
No	249	83	1.83
Probability of husband acceptance of condom:			
Yes	2	0.7	
No	94	31.3	
Uncertain	204	68	2.67
Awareness about female condom:			
No	300	100	

Table 4: Comparison of pre/post tests means regarding knowledge about vaginal infection among newly married women

Knowledge	Responses	Pre-test		Post-test	
		No	%	No	%
Factors that enhance vaginal infection	Complete and correct Incomplete and correct Completely incorrect / unknown	0 17 283	0 5.7 94.3	280 20 0	93.3 6.7 0
Types of vaginal infection	Complete and correct Incomplete and correct Completely incorrect / unknown	0 25 275	0 8.3 91.7	290 10 0	96.7 3.3 0
Causes of each type	Complete and correct Incomplete and correct Completely incorrect / unknown	0 6 294	0 2 98	292 8 0	97.3 2.7 0
Symptoms of each type	Complete and correct Incomplete and correct Completely incorrect / unknown	0 76 224	0 25.3 74.7	300 0 0	100 0 0
The main differences among vaginal infections	Complete and correct Incomplete and correct Completely incorrect / unknown	0 0 300	0 0 100	293 7 0	97.7 2.3 0
The time that women should visit a doctor	Complete and correct Incomplete and correct Completely incorrect / unknown	0 4 296	0 1.3 98.7	300 0 0	100 0 0
Prevention of vaginal infection	Complete and correct Incomplete and correct Completely incorrect / unknown	0 175 125	0 58.3 41.7	300 0 0	100 0 0
Total mean score		7.84 ± 1.20		20.85 ± 0.62	
Student t test		$t = 137.2$		$P = 0.001^*$	

*highly significant at $P < 0.001$.

Table 5: Comparison of pre/post tests means regarding knowledge about STIs among newly married women

Knowledge	Responses	Pre-test		Post-test	
		No	%	No	%
Definition of STIs	Complete and correct Incomplete and correct Completely incorrect / unknown	0 296 4	0 98.7 1.3	299 1 0	99.7 0.3 0
Method of transmission of STIs	Complete and correct Incomplete and correct Completely incorrect / unknown	0 300 0	0 100 0	287 13 0	95.7 4.3 0
Types of STIs	Complete and correct Incomplete and correct Completely incorrect / unknown	0 300 0	0 100 0	279 21 0	93 7 0
General and common symptoms and complains	Complete and correct Incomplete and correct Completely incorrect / unknown	0 300 0	0 100 0	291 9 0	97 3 0
Prevention of STIs	Complete and correct Incomplete and correct Completely incorrect / unknown	0 300 0	0 100 0	287 13 0	95.7 4.3 0
Total mean score		9.01 ± 0.11		14.8 ± 0.56	
Student t test		$t = 169.75$		$P = 0.001$	

*highly significant at $P < 0.001$.

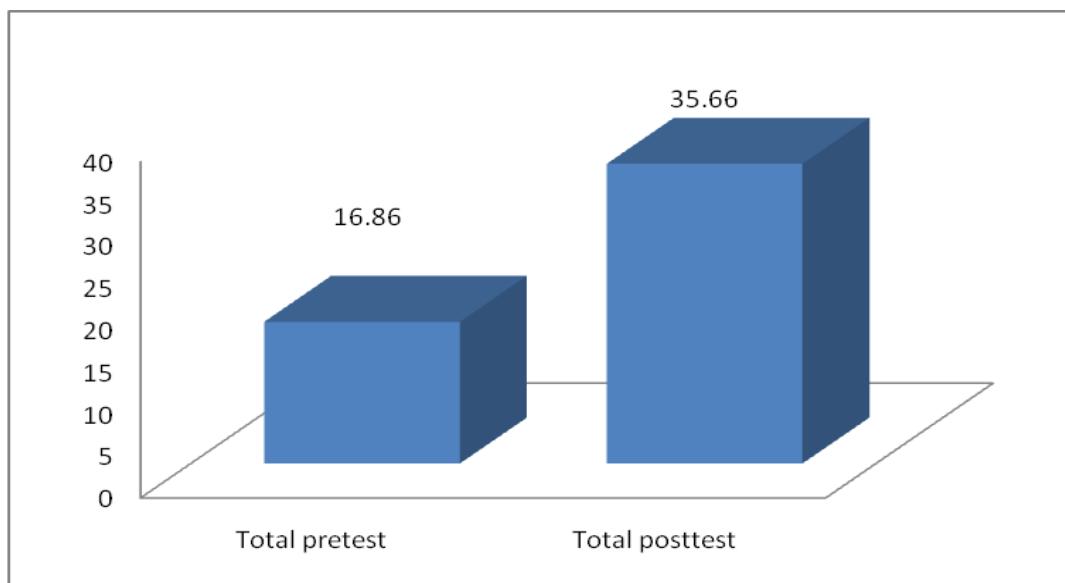


Figure 1: Comparison between the total mean scores of pre/post tests regarding vaginal and ST infection's knowledge among newly married women

REFERENCES:

1. Bearinger L H, Sieving R E, Ferguson J, Sharma V. Global perspectives on the sexual and reproductive health of adolescents: Patterns, prevention, and potential. *Lancet*. 2007; 369(9568):1220-31.
2. Bernstein S, Hansen C J. Public choices, private decisions: Sexual and reproductive health and the Millennium Development Goals. New York: U.N. Millennium Project, 2006.
3. Berman S, Kamb M. Biomedical Interventions, in SO Aral. Douglas J M, Lipshutz J A eds., Behavioral Interventions for Prevention and Control of Sexually Transmitted Diseases: New York, Springer Science and Business Media, LLC, 2007 p. 60–101.
4. Cunningham F G, Williams J W, Leveno K J, Hauth J C, Gilstrap L C, Bloom S L, Wenstrom K D, Williams Obstetrics 22nd ed, 2005.
5. Dallabetta G, Field M , Lage M, Islam Q M. STDs: Global Burden and Challenges for Control: Control of Sexually Transmitted Diseases. A handbook for the design and management of programs: Durham, North Carolina, Family Health International/ The AIDS Control and Prevention Project(AIDSCAR), 2006, p. 23–52.
6. Low N, Broutet N, Adu-Sarkodie Y. Global control of sexually transmitted infections. 2006. *Lancet* 368:2001-16.
7. Manhart L E, Holmes K K. Randomized controlled trials of individual-level, population-level, and multilevel interventions for preventing sexually transmitted infections: What has worked?. *J Infect Dis.* 2005. 191

- Suppl 1: S7–24.
- 8. Peeling R, Holmes K, Mabey D, Ronald A. Rapid tests for sexually transmitted infections (STIs): The way forward. *Sex Transm Infect*. 2006; 82 (Suppl V):v1-v6.
 - 9. Troplope-Kumar K, Guyatt G. Syndromic approach for treatment of STIs: time for a change.. *Lancet*. 2006 Apr 29;367(9520):1380-1
 - 10. UNICEF, UNDP, World Bank, World Health Organization. Mapping the landscape of diagnostics for sexually transmitted infections: Key findings and recommendations, 2004.
 - 11. World Health Organization. Global prevalence and incidence of selected curable sexually transmitted infections. Geneva. Cited Available from:www.who.int/hiv/pub/sti/who_hiv_aids_2001.02.pdf, 2001.
 - 12. World Health Organization. Guidelines for the management of sexually transmitted infections. WHO Library Cataloguing-in-Publication Data. World Health Organization.Geneva, Switzerland, 2003.
 - 13. The Ohio State University Medical Center, Mount Carmel Health and OhioHealth, Columbus, Ohio. Cited 2008 Available from: www.healthinfotranslations.org. World Health Organization. Sexually transmitted and other reproductive tract infections: A guide to essential practice. Available from: www.who.int/reproductivehealth/publications/rtis_gep/rtis_gep.pdf, 2005.
 - 14. World Health Organization. Global Strategy for the Prevention and Control of Sexually Transmitted Infections, 2006–2015; WHO: Geneva, 2006. Available from: www.who.int/reproductivehealth/publications/stisstrategy/stis_strategy.pdf. 2007
 - 15. World Health Organization. Sexually transmitted infections fact sheet no. 110.2007 (cited January 2, 2008), Available from:www.who.int/mediacentre/factsheets/fs110/en/index.html
 - 16. Garg S, Singh M M, Nath A, Bhalla P, Garg V, Gupta V K, Uppal Y. Prevalence and awareness about sexually transmitted infections among males in urban slums of Delhi. *Indian J Med Sci* 2007;61:269-77
 - 17. Bryan C. Microbiology and Immunology on Line: University of South Carolina School of Medicine infectious disease, chapter eight Sexually Transmitted Diseases, 2008.
 - 18. World Health Organization.Global strategy for the prevention and control of sexually transmitted infections: 2006-2015.