Health Seeking Behaviour of women towards Reproductive Tract Infection: A cross-sectional Study at a Primary Health level in Khashm Al'an, Saudi Arabia

Amal Alakkam[1], *Imad Yaseen[2], Saeed Ur Rahman[2], Nermin Almomani[1], Mohammed Al-Shanawani[3]

ABSTRACT

BACKGROUND: Reproductive tract infections (RTIs) are global burden and major public health concern, particularly in developing countries. If untreated, RTI's can lead to serious consequences such as ectopic pregnancy, cervical cancer and infertility and increase vulnerability to STIs. However, detection of disease and clinical diagnosis is largely dependent on patient's awareness of RTI symptoms and attitude. There is limited publication on the subject in Gulf Arab states. **OBJECTIVES:** To describe the beliefs and health seeking behavior regarding RTIs among women of the reproductive age, and factors associated with poor knowledge and care seeking behavior for RTIs among Saudi women. **METHOD:** A cross sectional study was conducted on total of 250 women who attended a primary health care clinic at Khashm Al'an in east of Riyadh, Saudi Arabia. Through a structured interview, participants gave data about demographics, knowledge of RTI's and care seeking behavior. Data were described in terms of frequencies and percentages. Relationships between nominal variables were explored by using Chi-square test. Statistical significance was set to 5% or less. **RESULT:** There were 62.8% of women who had heard of RTIs. Women, who were younger, educated, and employed or studying had higher awareness and knowledge on RTIs and sought medical care more than others. Women who were more aware, had experience, were younger, literate and not homebound were more likely to seek medical care if needed for RTIs. Television and Internet were significant sources of information for RTIs. **CONCLUSION:** Reproductive health awareness programs should focus on homebound, less educated and elder women. Television and internet are reliable resources for delivering reproductive health messages to the target population.

الملخص

مقدمة: تعتبر التهابات الجهاز التناسلي في النساء عبء عالمي ومشكلة صحة عامة, خاصة في الدول النامية. عدم معالجة التهابات الجهاز التناسلي تؤدي الي مضاعفات خطيرة مثل الحمل خارج الرحم , سرطان عنق الرحم , عدم الانجاب وايضا زيادة القابلية للإصابة بالأمراض المنقولة جنسيا. اكتشاف المرض وتشخيصه سريريا يعتمد علي وعي المريضات بأعراض التهابات الجهاز التناسلي وسلوكهن . النشر عن هذا الموضوع محدود جدا في منطقة الخليج. **الاهداف:** وصف المعتقدات والسلوك فيما يخص البحث عن المعالجة لمريضات التهابات الجهاز التناسلي للنساء في سن الانجاب، ولوصف العوامل المؤدية لضعف المعرفة والبحث عن العلاج وسط المريضات السعوديات . **المنهج:** دراسة مقطعية لعدد 250 امرأة من مراجعات عيادة الرعاية الصحية الاولية بخشم العان بشرق الرياض, بالمملكة العربية السعودية . تم جمع البيانات من المشاركين بواسطة مقابلات منتظمة وقد تم جمع بيانات عن ديموغرافيا المشاركين وعن معرفتهم بالتهابات الجهاز التناسلي وسلوك البحث عن العلاج. وصفت البيانات بالتكرارات والنسب واستخدم اختبار مربع كاي لاكتشاف العلاقات بين المتغيرات الاسمية وحددت الدلالات الإحصائية ب 5 % او اقل. **النتائج:** وجد ان 62,8% من النساء سمعن بالتهابات الجهاز التناسلي . النساء المتعلمات والاصغر سنا واللاتي يعملن او يدرسن اكثر وعيا ومعرفة بالتهابات الجهاز التناسلي ويسعين للعلاج اكثر من الاخريات. النساء المتعلمات والاصغر سنا والاكثر وعيا وتجربة يسعين للعلاج من امراض الجهاز التناسلي. من اكثر الوسائل فعالية في التوعية التلفزيون والانترنت. **الإستنتاج:** يجب ان تركز التوعية بصحة الجهاز التناسلي علي ربات البيوت الاقل تعليما والاكبر سنا. التلفزيون والانترنت من الوسائل التي يمكن الاعتماد عليها في توصيل رسائل التوعية لصحة الجهاز التناسلي للنساء .

Received on: September 9, 2013 *Accepted on: October 25, 2013*

*Correspondence: dr.imadyaseen@gmail.com

[1]Family Medicine, National Guard Health Affair, King Abdulaziz Medical City, Riyadh; [2]Community Medicine, National Guard Health Affair, King Abdulaziz Medical City, Riyadh; [2]General Surgery Dept, King Khalid University Hospital, Riyadh.

INTRODUCTION

RTI in female usually originate in the lower genital tract as vaginitis or cervicitis and may produce symptoms such as abnormal vaginal discharge, genital pain, itching and burning feeling with urination [1, 2]. A patient will be diagnosed to have RTI if she has any of these diseases: infection that result from overgrowth of organisms normally present in the reproductive tract, infection associated with medical procedures, insertion of intra uterine devices, and sexually transmitted infections (STIs) [3, 4].

Majority of patients with RTI are asymptomatic which is a barrier to effective prevention and treatment [5]. RTI is a global burden and a major public health concern, particularly in developing countries.[2] There are very limited studies on RTI in the Arabian Gulf States [6]. In Saudi Arabia there is a special need to conduct more prevalence studies to assess the magnitude of the problem.

Carcinoma of the cervix ranks ninth in the frequency of carcinomas among Saudi females, with a prevalence rate of 3.6%,[7] caused by Human Papillomavirus [8]. KSA has recorded 1768 Saudi nationals testing HIV positive since 1984 when the Kingdom began monitoring the disease. Nearly 46% of adult patients contracted the virus through the sexual route [9-11]. Information about patients belief and health seeking behavior will facilitate to physicians to give them appropriate health education and helping for appropriate allocation of scarce resources and planning of cost effective health care strategies. There is always a need to create awareness programs and improve public knowledge about RTIs, to support other preventive measures[6]. The Aim of this study is to describe health seeking behavior with regard to RTIs, assess level of awareness and knowledge among Saudi women of child bearing age.

METHODS

This is a cross-sectional study conducted on 250 women at a reproductive age attended primary health services at Khashm Al'an, in east of Riyadh, Saudi Arabia, in June 2013. The data has been collected by using a structured and translated questionnaire used in a study by Rabiu et al [2]. The questionnaire consists of three parts, the first part consists of socio-demographic data, including age, marital status, educational level, and occupation. The second part assesses their belief of reproductive tract infection, while third part assesses health seeking behavior. All questions have been constructed in the same style, and either direct (single or multiple choice], or open ended. A pilot study on the questionnaire was carried out on 20 persons face to face by an expert Arabic nurse and questions were modified for clarity and comprehension.

ETHICAL APPROVAL

Verbal consent from the participants was obtained before they were interviewed by the trained nurse. Moreover, the ethical approval was obtained from King Abdullah International Medical Research Center, Riyadh. Participants were interviewed in privacy and Confidentiality of data assured by coding participant.

STATISTICAL ANALYSIS

Data entry and analysis was done using SPSS version 18. Data was analyzed descriptively with mean, frequencies, and percentages. Further analysis carried out using Chi-square and Odds ratio. P-value was considered significant at ≤0.05.

RESULTS

A total of 250 women completed the questionnaire. Age of participants ranged between 18 and 50 with a mean of 35.1. Of all respondents, (76.8%) were married, (43.6%) illiterate, (17.8%] were university education, (83.2%) house wife, and <10% were divorced or widowed (Table 1).

250 patients, (82.8%) believed sexual intercourse is a mode of contracting RTI's, followed by poor hygiene (77.6%), and only (28.4%) were for unsafe delivery. (Figure 1)

Of the STIs, syphilis was named as a commonly known infection by 32.6% of the patients, while 20.2% of the patients named HIV, and 3.4% named hepatitis and herpes equally.

Hundred sixty two (64.8%) of the respondents had heard of RTIs. Fifty six (22.4%) of the respondents had experienced symptoms of RTIs during the last year. When asked about the source of information, (34.8%] of the patients got their information about RTIs from health care workers, and only (7.6%) got

their information from magazine. Internet was a source of information about RTI for 12.8%, and 32% gained their knowledge from friends and relatives. (Figure 2).

Table 1: Participants Demographics

Characteristic	Number	Percentage
Mean Age 35.1	N=245	(%)
Age in years		
18-30	98	40
31-40	68	27.8
41-50	79	32.2
Marital status	N=250	(%]
Single	34	13.6
Married	192	76.8
Divorced	12	4.8
Widowed	12	4.8
Educational level	N=250	(%]
Primary	38	15.2
Intermediate	27	10.8
Secondary	32	12.8
University	44	17.8
Illiterate	109	43.6
Occupation	N=250	(%]
House wife	208	83.2
Student	16	6.4
Employed	26	10.4

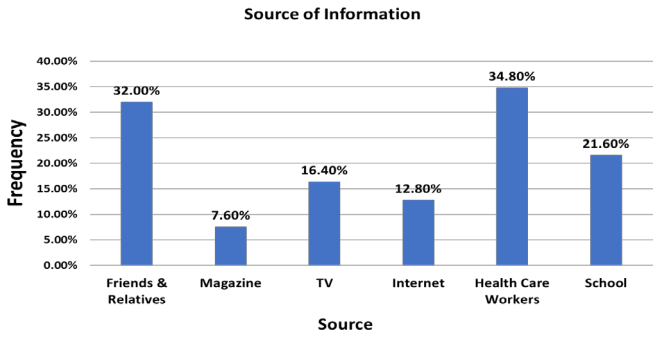


Figure 1: Perceived mode of transmission of STIs among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

The perceived effect of different contraception methods on transmission of RTIs, more than half of the respondents did not know about the effect of contraception methods in contracting RTIs. Where (8.4%] wrongly believe that condom increased the risk of contacting RTIs. And (36%] of the patients believe that IUCD increased the risk of contracting RTIs. (Table 2)

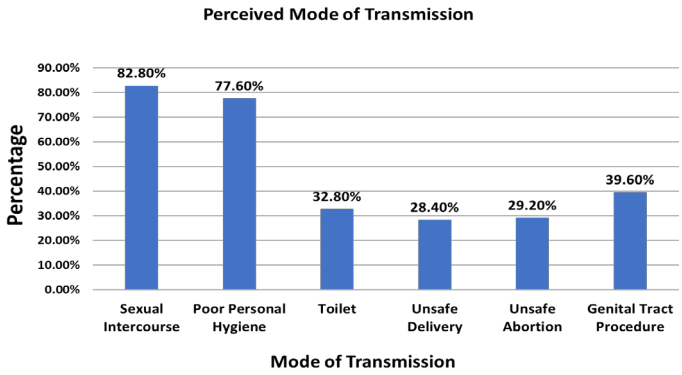


Figure 2: Source of Information about RTIs among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

Symptoms of RTIs, Vaginal discharge and vulval itching were chosen by (92.0%) and (91.2%) respectively of the patients as known symptoms, and (22.4%) checked painful urination. (Table 3)

Table 2: Perceived Effect of Contraception Methods among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013 . (correct answers in Bold)

Type of contraception	N=250	Percentage
Condom		
Increase	21	8.4
Decrease	78	**31.2**
No effect	17	6.8
I don't know	134	53.6
IUCD		
Increase	**90**	**36**
Decrease	15	6
No effect	23	9.2
I don't know	122	48.8
OCP		
Increase	58	23.2
Decrease	17	6.8
No effect	34	**13.6**
I don't know	141	56.4
Implants		
Increase	27	**10.8**
Decrease	3	1.2
No effect	10	4
I don't know	210	84

Regarding complications of RTIs, Cervical cancer had been chosen by (53.6%) of the patients, and chronic pelvic pain by (45.6%) of known complications of RTIs, while (15.2%) thought ectopic pregnancy as known complications of RTIs. (Table 3) 61.8% of the patients sought medical care when they experienced symptoms of RTIs, and (32.6%) of the patients used herbal treatment.

Table 3: Knowledge of symptoms and complications among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

	Number of Cases	Percent of Cases
***Knowledge of symptoms**		
Vaginal discharge	230	92.0
Vulval itching	228	91.2
Lower abdominal pain	113	45.2
Painful urination	56	22.4
Genital sore	60	24.0
Pain during menses	33	13.2
Genital/groin swelling	58	23.2
Painful intercourse	46	18.4
***Knowledge of complications**		
Infertility	64	25.6
Cervical cancer	134	53.6
Heavy menses	51	20.4
Ectopic pregnancy	38	15.2
Chronic pelvic pain	114	45.6
Miscarriage	79	31.6
Still birth	50	20.0
Congenital anomaly	49	16.0

Governmental health centers and general hospital were the most visited health facility by the patients for treatment of RTIs, reported by (44.1%) and (40.6%) of the patients respectively. Shame was reported by (57.1%) of the patients as a reason for not seeking medical care.

Awareness of RTIs varied significantly between age groups, education, occupation, and marital status. Young Population (18-30years] where more aware RTIs (Chi-sq=28.75, p-value<0.001). Literacy had an effect on awareness of RTIs; (83%) of the literate group had heard of RTIs compared to only (41.3%) of those illiterate(Chi-sq=46.85, P<0.001).

Being an outsider (student, employed] helped women in hearing about RTI's, as 90.5% of outsider women had heard of RTI (Chi-sq=14.95, P<0.001) (Table 4).

Health Seeking Behavior :

Subjects between 18-30 years old, Literate and subjects who are not homebound (Students, Working] were the most to seek medical care. Those divorced or widowed were less likely to seek medical care than singles and married (Chi sq=19.7, P <0.001) (Table 5).

Experience of RTIs vs behavior:

Subjects who ever experienced symptoms of RTIs were 2.9 times more likely to seek medical care than those who never experienced RTIs.

Awareness of complications vs behavior:

Patients who were able to recognized Ectopic pregnancy as a complication of RTIs were more to seek medical care than those who failed to recognize it (Chi sq= 5.347, P=0.021). For the rest of complications there was no significant difference in seeking medical care.

Table 4: Awareness of RTIs among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

Have you heard of RTI (% within Socio-demographic data]		
	Yes	No
Socio-demographic data		
Age in groups		
18-30	83.7%	16.3%
31-40	60.3%	39.7%
41-50	45.6%	54.4%
Chi-sq=28.753		
P value<0.001		
Educational group		
Illiterate	41.3%	58.7%
Literate	83.0%	17.0%
Chi-sq=46.853		
P value<0.001		
Occupational group		
House wife	59.6%	40.4%
Outsider	90.5%	9.5%
Chi-sq=14.590		
P value<0.001		

Source of Information:
Subjects who got their information from TV, Internet or School were more likely to seek medical care while no significant difference was notice in behavior among those got their information from other sources (Table 8).

Table 5: Health Seeking Behavior among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

	Health Seeking Behavior (% within Socio-demographic data]	
	Number of Sought medical care	Number of Didn't seek medical care
Socio-demographic data		
Age in groups		
18-30	80(81.6%)	18(18.4%)
31-40	50(73.5%)	18(26.5%)
41-50	45(57.0%)	34(43.0%)
Chi-sq=13.2		
P value<0.001		
Marital group		
Never married	23(67.6%)	11(32.4%)
Married	147(76.6%)	45(23.4%)
Divorced	4(33.3%)	8(66.7%)
Widowed	4(33.3%)	8(66.7%)
Chi-sq=19.7		
P value <0.001		
Educational group		
Illiterate	62(56.9%]	47(43.1%]
Literate	116(82.3%]	25(17.7%]
Chi-sq=19.3		
P value<0.001		
Occupational group		
House wife	142(68.3%]	66(31.7%]
Outsider	36(85.7%]	6(14.3%]
Chi-sq=5.2		
P value<0.023		

DISCUSSION

This study showed that most of the participants 40% are 18-30 years age group, which is part of the active reproductive age group and more prone to RTIs. Nearly 65% of the respondents had heard of RTIs which is low percentage, compared to a study conducted in Nigeria that showed (77.2%) of respondents were aware of RTIs, maybe because RTIs are considered to be endemic in Nigeria [2]. Eighty two point eight percent (82.8%) of the respondents thought that sexual intercourse is the mode of contacting RTIs, (77.6%) of the patients thought that poor hygiene is a mode of contracting RTIs. Mazrou et al. mention that (46%) of adult HIV patients contracted HIV through the sexual route [9-11]. In Lima, Peru, knowledge of sexual intercourse as one way of transmitting RTI was high and in Nigeria, they were attributing more significance to toilet rather than sexual intercourse as a mode of acquiring RTIs [2,12].

When inquiring about naming of RTIs; Syphilis was named by (32.6%), Gonorrhea by (31.5%), HIV by (20.2%), and Candida by (4.5%). While in Nigeria, (23.4%) mentioned Gonorrhea, (16.0%) and (9.9%) mentioned Syphilis and Candida respectively [2]. The most common response of all known symptoms was vaginal discharge (selected by 92.0% of patients) and vaginal itching (91.2%). It is worthy to note that genital sore was poorly perceived as a symptom of RTIs.

Table 7: Effect of experience of RTIs on seeking medical care behavior among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

	Sought medical Care	Did not seek medical care	Total
Experienced RTIs	48 (85.7%]	8 (14.3%]	56
No Experience of RTIs	130 (67.0%]	64 (33%]	194
Total	178	72	250
Odds Ratio= 2.9 (95% C.I. = 1.3, 6.6]			

Because of its association with increased incidence of HIV/AIDS, there is need to raise the community awareness of the importance of the symptom as it relates to HIV transmission. In a study in rural Lebanon, lower abdominal pain (41.1%), painful coitus (40.7%), and vaginal itching (38.5%] were the leading symptoms experienced. Only (24.5%) had experienced vaginal discharge [1]. Although none of the respondents had mentioned Human Papilloma virus in naming RTIs; cervical cancer was the first perceived complication of RTIs followed by chronic pelvic pain and the least perceived by all of the responses was ectopic pregnancy. This is

different from the study in Nigeria, where they found infertility in the top of the list of complication of RTIs, while poor perception for cervical cancer and other complications [2]. There was a significant association between awareness and younger age group (18-30) years age. This is similar to West Bengal study, (56.9%) where knowledge about RTIs was more in (20-29) age group [13].

Regarding prevalence of symptoms, (22.4%) of respondents had experienced at least one symptom in the previous 12 months. This finding is much lower than that reported from a study in West Bengal, where (66.1%) of women of reproductive age reported symptoms related to the reproductive tract [13].

Table 8: Relation between source of information and behavior among women attendees at PHC level at Khashm Al'an, Riyadh, June 2013

Source of Information	Sought Medical Care N(%)	Didn't seek Medical Care N(%)	Chi sq & p value
TV	37 (90.2%)	4 (9.8%)	8.67 p<0.003
Internet	30 (93.8%)	2 (6.3%)	9.10 p<0.003
School	46 (85.2%)	8 (14.8%)	6.57 p<0.01
Friends	59 (73.8%)	21 (26.3%)	0.37 p<0.54
Magazine	16 (84.2%)	3 (15.8%)	1.69 p<0.19
Health workers	68 (78.2%)	19 (21.8%)	3.15 p<0.076

In this study, the majority of the respondents (61.8%) sought medical care if they would perceive to have an RTI. This is may be due to that cervical cancer is known to result from RTIs and to prevent such dreaded complications women tend to seek medical care rather than face the consequences. It also indicates that intervention to reduce morbidity arising from RTIs should be directed mainly towards preventing RTIs rather than cure as most of the respondents will seek treatment when symptomatic. The younger age group and literate sought medical care more than others. Governmental Health Centers were the main facilities where treatment was sought accounting for (40.4%) and (37.2%) for general hospitals are free and accessible. In Nigeria study (31.5%) accounted for Governmental Health Centers [4], and is different from what is reported in West Bengal where most respondents (41.5%) patronized private hospitals [13].

Conclusion

In conclusion, majority (>50%] of women had little or no idea about the role of contraceptives in preventing RTIs. Most of the women (>90%] rated discharge and itching as common symptoms of RTI however >50% of women have little or poor knowledge of complications of RTI. Relatively younger (18-30 years], literate and those with more access to outside world were more aware about RTIs than otherwise. Those who had awareness, experienced, were younger (18-30 years), educated, or were not housewives, were more likely to seek medical care when needed. Television, Internet and education institutes were more effective source of information about RTI, for seeking medical care if needed.

This study recommends community based awareness programs on RTIs that target the less educated, middle aged (31-50) and housewives. More effort should be made by the Health care providers especially physicians and health educators in counseling patients to prevent RTIs. More focus should be made on complications of RTIs and modes of prevention in the content of awareness. Finally, more use should be made of mass media, i.e. television, radio, and internet, for raising awareness about RTIs. This study was done in one center only due to limited sources so results could not be generalized for all Saudi women. Further study at multi level health centre or community based will be needed.

References

1. Deeb ME, Awwad J, Yeretzian JS, Kaspar HG. Prevalence of reproductive tract infections, genital prolapse, and obesity in a rural community in Lebanon. Bulletin of the World Health Organization. 2003;81(9):639-45.
2. Rabiu KA, Adewunmi AA, Akinlusi FM, Akinola OI. Female reproductive tract infections: understandings and care seeking behaviour among women of reproductive age in Lagos, Nigeria. BMC women's health. 2010;10(1):8.
3. Wasserheit JN. The significance and scope of reproductive tract infections among third world women. International Journal of Gynecology &

Obstetrics. 1989;30:145-68.
4. Wasserheit JN, Haaga J. Reproductive health in developing countries: expanding dimensions, building solutions: National Academies Press; 1997.
5. Aral S, Germaine A, Holmes K, Piot P, Wasserheit J. Reproductive tract infections: global impact and priorities for women's reproductive Health. Reproductive tract infections: global impact and priorities for women's reproductive health. 1992.
6. Madani TA. Sexually transmitted infections in Saudi Arabia. BMC Infectious Diseases. 2006;6(1):3.
7. Manji M. Cervical cancer screening program in Saudi Arabia: Action is overdue. Annals of Saudi Medicine. 2000;20(5/6):355-7.
8. Gerhardt CA, Pong K, Kollar LM, Hillard PJA, Rosenthal SL. Adolescents' knowledge of human papillomavirus and cervical dysplasia. Journal of pediatric and adolescent gynecology. 2000;13(1):15-20.
9. Madani TA, Al-Mazrou YY, Al-Jeffri MH, Al Huzaim NS. Epidemiology of the human immunodeficiency virus in Saudi Arabia; 18-year surveillance results and prevention from an Islamic perspective. BMC Infectious Diseases. 2004;4(1):25.
10. Al-Mazrou YY, Al-Jeffri M, Fidail A, Al-Huzaim N, El-Gizouli S. HIV/AIDS epidemic features and trends in Saudi Arabia. Ann Saudi Med. 2005;25(2):100-4.
11. Faisal K, Sami AH, Husn F, Riyadh AK, Dayel AS, Javed A. Human immunodeficiency virus infection in Saudi Arabian children: Transmission, clinical manifestations and outcome. Annals of Saudi Medicine. 2006;26.
12. Hernández L, Winch P, Parker K, Gilman R. Understandings of reproductive tract infections in a peri-urban pueblo joven in Lima, Peru. BMC women's health. 2006;6(1):7.
13. Dawn A, Biswas R. Reproductive tract infection: an experience in rural West Bengal. Indian journal of public health. 2005;49(2):102.