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Knowledge, Attitude, and Practice about Genital Tract Infections, Dashte-Azadegan City, Iran

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KEYWORDS

Genital Tract Infections, Knowledge, Attitude, Practice

A B S T R A C T

Genital tract infections (GTI) is one of the most common problems in clinical medicine, leads to morbidity, costly treatment, and even death. There are evidences to indicate that such infection play an important role in genital cancer. This study aimed to determine knowledge, attitude and practice of women about common genital infections. This research is a descriptive-analytic study performed in the Dashte Azadegan county in 2011. Samples were 400 women aged 15–45 years. Sampling method was cluster sampling. At first, 20 health centers were selected. Then 400 cases were randomly selected for interviews from files existing in these health centers. The data collection tool was a four-part questionnaire: First, knowledge questions (n = 20); Second, attitude questions (n = 12); then, practice questions (n = 16), and finally, questions about demographic information such as age, occupation, education level and the husband. Data was analyzed using the SPSS (version 17.0, SPSS, Inc., Chicago, IL, USA) software package. Statistical tests such as mean, standard deviation, Pearson correlation, ANOVA, and Kruskal-Wallis were applied. The significant level was considered 0.05. Most of participants were 25–35 years (47.8%). About 96% of them were housewives, and 40.3% had elementary education. Findings showed that a significant association was seen among knowledge, attitude, and practice domains ($P<0.05$). Since management of genital tract infections requires regular care, monitoring, and surveillance of the etiology of GTI, it is necessary to focus on improving training by health planners and policy makers. Of course, this should be done according to social and cultural conditions of society, which is effective on developing attitude and practice whether true or false about a certain subject. It is also desirable to involve men in the training process because the effectiveness of such activities will be higher, and sexual health of couples enhances.

Introduction

Genital tract infections (GTI) is one of the most common problems in clinical medicine (Adad *et al.,* 2001), and leads to morbidity, costly treatment, and even death (Nokiani *et al.,* 2008; Heller *et al.,* 2006; Heller *et al.,* 2008). Genital infection with the intracellular sexually-transmitted pathogens *Chlamydia trachomatis*, herpes virus hominis (HVH) and strains of human papovavirus (HPV) is in women often prolonged and asymptomatic, and may be associated with the development of infertility, preterm delivery, low birth weight in newborns, and premalignant and malignant change of the uterine cervix (Nokiani *et al.,* 2008, Hare, 1983). There are evidences to indicate that such infection play an important role in genital cancer (Hare, 1983, Koutsky and Wolner-Hanssen, 1989). However, about 80% of this cancer occurs in less developed countries (Adeoye and Akande, 2007).

Also, infections such as Chlamydiasis, genital herpes and syphilis have biological impact in acquiring and transmitting HIV through facilitating the development of HIV among population with long term and stable sexual contacts (Adeoye and Akande, 2007; Corona *et al.,* 1998, Chirgwin *et al.,* 1991; Abu-Raddad *et al.,* 2008; Joyee *et al.,* 2003). Furthermore, pathogens like Candida albicans, as is the second cause of vaginitis, are resistant to antifungal drugs, which cause to be hard the treatment process (Sodhani *et al.,* 2005).

At present, some infections such as Genital HSV infections are common and largely unrecognized among the segment of population (Sizemore *et al.,* 2006). Recently there has been an increase in genital ulcer disease (GUD) in urban minority in the United States (Chirgwin *et al.,* 1991). There are not same statistics in Iran about all types of genital infections, and limited to specific incidence rates of infections based on only bacteria, viruses and /or fungi.

Considering that women are more sensitive to genital infections than men (Farokh-Zadegan *et al.,* 2004), this study aimed to determine knowledge, attitude, and practice of women about common genital infections. Because however knowledge and consequently attitude and performance higher, personal and sexual health, preventing developing sexually transmitted diseases, and reducing the incidence of genital cancer better.

Materials and Methods

This research is a descriptive-analytic study performed in the Dasht-e Azadegan County, located in Southwest of Iran in the Khuzestan province, in 2011.

Samples were 400 women aged 15–45 years. Sampling method was cluster sampling. At first, 20 health centers were selected. Then 400 cases were randomly selected for interviews from files existing in these health centers. Considering that most of participants were the Arab, Arab trained interviewers were used to complete questionnaires.

The data collection tool was a four-part questionnaire as follows:

First, knowledge questions (n = 20); Second, attitude questions (n = 12); then, practice questions (n = 16), and finally, questions about demographic information such as age, occupation, education level and the husband. Scoring the responses was conducted as follows:

About the knowledge domain, responses such as “yes”, “I do not know”, and “no” were received scores 2, 1, and 0

respectively. In the attitude domain, responses as "completely agree", "agree", "without opinion", "disagree", "completely disagree" had scores 2, 1, 0, -1, -2 respectively. As well, regarding practice domain, responses like "always I do", "sometimes I do," never I do not" obtained scores 2, 1, and 0 respectively.

To calculate total individual's score in each domain, scores obtained from each domain were considered as the total score in each domain. Also, the overall mean score of all subjects in the three domains was calculated.

Data was analyzes using the SPSS (version 17.0, SPSS, Inc., Chicago, IL, USA) software package. Statistical tests such as mean, standard deviation, Pearson correlation, ANOVA, and Kruskal-Wallis were applied. The significant level was considered 0.05.

Results and Discussion

Most of participants were 25–35 years (47.8%). About 96% of them were housewives, and 40.3% had elementary education. Their spouses had secondary education (Table 1).

In the knowledge domain, the total mean of scores was 2.64±2.77. The highest rate of correct answers (98%) was related to "Both husband and wife needs to take a medicine for treatment of infections in women", and "After treatment of infection, both husband and wife should always adhere to the principles of health to avoid re-infection". The lowest correct response rate (35.8%) was related to "The prolonged use of antibiotics causes the predisposition to infections in women". The highest and lowest mean knowledge score were respectively 0.9 and 0.02 (Table 2).

About the attitude domain, the total mean of scores was 8.12±5.01. The highest mean score (1.81±0.49) was related to "Timely treatment of infections in women causes individual, spouse, and children's health". The lowest mean score (1.24±0.83) was related to "Diagnosis of infections in women had no benefit except the development of anxiety" (Table 3).

Regarding the practice domain, the total mean of scores was (26.4±3.95). The highest mean score (1.95±0.23) was related to "Using sanitary pads and change them regularly during menstruation". The lowest mean score (0.91±0.79) was related to "Ironing the underwear". According to Pearson correlation coefficient, a significant association was seen among knowledge, attitude, and practice domains ($P<0.05$).

The total mean score of knowledge had not a significant difference in variables as age groups, occupation, education levels, and spouse's education. The maximum mean score of knowledge was observed in the age group 15–24 years and housewives with diploma education which their spouses had diploma education (Table 1).

The total mean score of attitude had a significant difference in variables like education levels and spouse's education (respectively $P<0.007$ and $P<0.009$). The maximum mean score of attitude was seen in participants had guidance education, 25–35 years, and illiterate spouse, as well were private staff.

The total mean score of practice had not a significant difference in variables such as age, occupation, education levels and spouse's education.

Table.1 Comparing the mean of knowledge, attitude, and practice of participants about common genital infections by demographic characteristics (n=400)

Variable		Number	Percent	Knowledge			Attitude			Practice		
				Mean	*SD	*P	Mean	*SD	P	Mean	*SD	*P
Age	15-25	173	43.3	2.71	2.62		7.8	5.18		26.17	3.69	
	26-35	191	47.8	2.61	2.97	0.9	8.14	4.92	0.14	26.5	4.22	0.36
	36-45	34	8.5	2.52	2.47		9.7	5.56		27.17	3.53	
Occupation	Housewife	286	96.5	2.68	2.78		8.09	5.15		26.37	3.92	
	Healthcare jobs	5	1.3	0.2	0.44		7.4	1.51		27.8	4.43	
	Other government agencies	5	1.3	1.8	2.04	0.08	7.8	4.43	0.72	27.6	4.5	0.43
	private institutions	3	0.8	1.66	1.52		11.3	2.51		29.33	0.57	
Education levels	Illiterate	50	12.5	2.72	3.01		9.66	5.61		26	5.36	
	Reading and writing - Elementary	161	40.3	2.59	2.74		8.29	5.09		26.57	3.38	
	Secondary education	97	24.3	2.32	2.87	0.39	8.45	5.43	0.007	26.32	4.16	0.78
	Diploma	81	20.3	3.13	2.63		6.38	4.24		26.24	3.75	
	College education	11	2.8	2.27	2.32		8.36	2.01		27.45	4.34	
Spouse's education	Illiterate	32	8	2.53	3.54	0.95	11.18	6.29		25.53	6.15	
	Reading and writing - Elementary	60	15	2.66	2.71		8.9	6.27		26.46	3.43	
	Secondary education	152	38	2.53	2.47		7.53	4.39	0.009	26.56	3.87	0.62
	Diploma	114	28.5	2.76	2.88		7.89	5.16		26.61	3.64	
	College education	36	9	2.41	2.64		7.52	3.32		25.94	3.58	

SD: Standard Deviation
P: P-value

Table.2 Knowledge scores of participants about common genital infections (n=400)

Knowledge questions	Response (percent)			Knowledge scores Mean ±SD
	Yes	No	I do not now	
1. Conventional vaginal discharges of women are low, slimy, colorless, and odorless.	78.8	10.3	8.5	0.9±0.28
2. If amount of vaginal discharges of women suddenly increases, infection should be suspected in women	75.3	16	8.8	0.9±0.28
3. If the color or smell of the discharge changes, infection should be suspected in women.	87.3	4.3	7.8	0.8±0.26
4. Women infections cause redness, itching, sensation of burning in the genital area.	91.8	3.5	4	0.4±0.19
5. Infections in women can cause frequent urination, pain during intercourse, pelvic pain and back pain.	88.3	3.8	8	0.8±0.27
6. Infections in women are usually transmitted by sexual intercourse.	69.3	12.3	18.3	0.18±0.38
7. Infections in women are usually transmitted by public toilets.	46.3	23	30	0.3±0.46
8. Infections in women are usually transmitted through infected bath rooms.	64.5	14.8	19.5	0.2±0.39
9. Infections in women are usually transmitted through infected underwear.	89.8	5.3	4.8	0.05±0.21
10. Infections in women are usually transmitted via dirty hands and long nails.	63	22	13	0.14±0.34
11. If you do not follow the correct procedure for washing the genital area, infections are passed from the anus to the vagina.	65.8	7.5	24.5	0.25±0.43
12. Wearing tight underwear and nylon underpants can cause infections in women.	78	6.3	15	0.15±0.35
13. Infection can be prevented if women follow hygiene.	96.8	1.3	1.8	0.02±0.13
14. If you use drugs like ointment into the vagina prior drug use wash your hands with soap and water.	90	2.3	7.3	0.1±0.6
15. Some infections had no symptoms, and biopsy and examination should be used for diagnosis.	74.8	7.5	16.5	0.17±0.37
16. the long term use of antibiotics can cause the development of genital infections	35.8	16.5	44.5	0.44±0.49
17. If there is infection in women, intercourse should be avoided or used condoms.	84	4.3	11	0.11±0.31
18. Both husband and wife need to take a medicine for treatment of infections in women	98	0.5	1.5	0.15±0.35
19. After treatment of infection, both husband and wife should always adhere to the principles of health to avoid re-infection	98	0.5	1.5	0.02±0.12
20. Diagnosis and treatment of infections in women can prevent their risks.	95	2	1.8	0.02±0.13

Table.3 Attitude scores of participants about common genital infections (n=400)

Attitude questions	Response (percent)					Attitude scores Mean ±SD
	Completely agree	Agree	Without opinion	Disagree	Completely disagree	
1. Preventing infections is more important than cure in women.	76.3	14.5	4.6	2.8	0.3	1.66±0.72
2. Examination and sampling from discharge of women are uncomfortable in women.	16.8	26.3	12.5	34.8	6.5	0.12±1.25
3. Personal hygiene like changing underwear daily is effective in preventing infection.	81.7	14.8	0.8	1.5	0.5	1.77±0.58
4. Using drugs into the vagina for treatment is difficult.	14.8	23.5	17.5	35.3	7.5	0.03±1.22
5. If the husband or wife has an infection, it should be honest said to the spouse.	75.8	18	2	1.8	0.3	1.71±0.62
6. Pelvic exam is embarrassing.	15.3	14.5	11.5	41	16.5	-0.29±1.32
7. Diagnosis of infections in women had no benefit except the development of anxiety	9.8	5	9.8	38.5	33	-0.83±1.24
8. Condom use at the time of infection is uncomfortable.	13	10.3	11	34.3	29.3	-0.58±1.36
9. Awareness of the cause and mode of transmission is very important in preventing infections in women.	70.8	21.3	3.3	2.3	0.3	1.64±0.68
10. However, information about infection more, tendency to prevent further.	74	19	3	1.5	0.8	1.67±0.68
11. Only certain people should think about preventing infections in women.	25	4.3	5.3	28	36.3	-0.47±1.61
12.Timely treatment of infections in women causes individual, spouse, and children's health	83	13.5	1	0.3	0.5	1.81±49

Table.4 Practice scores of participants about common genital infections (n=400)

Practice questions	Response (percent)			Practice scores Mean ±SD
	Always I do	Sometimes I do"	Never I do not	
1. Going to the physician for periodic examinations	37.5	47.5	12	1.26±0.66
2. Changing underwear every day	85.3	13.8	0.3	1.86±0.35
3. washing underwear with hot water	79	17.8	2.3	1.78±0.46
4. Drying underwear, towels and bathroom fixtures in the sun	91.3	7.3	0.3	1.92±0.27
5. Ironing the underwear	27.3	35.8	35.8	0.91±0.72
6. Using underwear made of cotton or cotton with bright colors	63	33.3	2.5	1.61±0.53
7. Using a personal bath and towel	86.5	10.5	2.3	1.85±0.41
8. Washing and disinfecting bath before going to the bathroom	52	37.5	8.5	1.44±0.64
9. Washing the genital area from front to back	83.3	11.8	2.3	1.83±0.43
10.Using sanitary pads and change them regularly during menstruation	94.8	4.5	0.3	1.95±0.23
11. Washing the genital area before sexual intercourse	66.8	29.3	2.3	1.66±0.52
12. Washing genital area and urinating after intercourse	86.5	11	0.8	1.87±0.35
13. Avoid intercourse during treatment based on the physician order.	82	14.5	2.5	1.8±0.45
14. If each couple is suspected of infection, condoms must be used.	70.8	16.5	9	1.64±0.64
15. full use from medication as physician order by the spouse in case of infection	80.5	12	4	1.79±0.49
16. Following treatment Even at the time of menstruation	77.5	10	8.3	1.72±0.61

The maximum mean score of practice was observed in 36–45 age groups, with diploma, which employed in private centers and their spouse had associate degree education.

Morbidity and complications due to genital infections are one of the most frequent reasons for patient visits to obstetrician-gynecologists (Storti-Filho *et al.,* 2011). Therefore, changing behaviors is an effective activity to decrease the number of patients suffered from genital infections. At first, correct training should be given to people in this field, and then their attitude and behavior are assessed (Farokh-Zadegan *et al.,* 2004).

In this study, the majority of participants had good knowledge and attitude about genital infections, but in few cases as "The prolonged use of antibiotics causes the predisposition to infections in women" percentage of correct response was lower. Results showed that knowledge of females are increasing about this issue, especially in young women. Studies also have emphasized on adequate and desirable knowledge of women, but attitude and practice of them are not enough and satisfactory (Farokh-Zadegan *et al.,* 2004; Souki *et al.,* 2004). At the current study, unlike research conducted in Kerman (Farokh-Zadegan *et al.,* 2004), no significant difference was seen between demographic factors and the total mean score of knowledge.

In the attitude domain, percentage of correct answers was changeable. However, most women had good attitude about preventing genital infections. Findings indicated that there was a significant association between the total mean of attitude and education levels. In the other words, women's attitude can be influenced by their education and spouse's education, consistent with other research (Farokh-Zadegan *et al.,* 2004).

Regarding the practice domain, most of participants received high and acceptable scores. Only in cases like "Going to the physician for periodic examinations" percentage of the correct practice was low. This can be likely due to social, cultural, and economic specific conditions in this county, particularly in the Arab population.

Results demonstrated that there was an association among scores of knowledge, attitude, and practice. In the other words, however knowledge and consequently attitude and performance higher, personal and sexual health, preventing developing sexually transmitted diseases, and reducing the incidence of genital cancer better. Many studies have emphasized on the role of knowledge in changing the behavior and taking appropriate and health sexual behaviors. For example, knowledge about not having multiple sexual partners, using the condom, and screening for sexually transmitted diseases may be beneficial particularly in reducing vaginal infections caused by human papilloma virus (HPV) (Shew *et al.,* 2006).

Since management of genital tract infections requires regular care, monitoring, and surveillance of the etiology of GTI (Nilsen *et al.,* 2007), it is necessary to focus on improving training by health planners and policy makers. Of course, this should be done according to social and cultural conditions of society, which is effective on developing attitude and practice whether true or false about a certain subject. It is also desirable to involve men in the training process because the effectiveness of such activities will be higher, and sexual health of couples enhances.

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