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An exploratory study to identify risk for reproductive tract infections among women in selected areas of Pune city with a view to develop self-instructional module

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Abstract---An exploratory study to identify the risk for reproductive tract infection among women in selected areas of Pune city with a view to develop self-instructional module". Objectives: To identify the risk for reproductive tract infection. 2. To find association between the findings with selected demographic variable. 3. To develop self-instructional module on reproductive tract infection. Material and Method: A quantitative research design used in this study. A study was conducted in selected areas of Pune city, India. Non- probability purposive sampling technique was used. Total 260 sample of married women were included in this study. Self- structure questionnaire was prepared to identify the risk for reproductive tract infection. The collected data were analyses by using descriptive, frequency and percentage statistics and logistic regression analysis. The chi-square is used to see the association between demographic variable and outcome variable of RTI. The self-instructional module was prepared on reproductive tract infection. Result: Data shown the majority of risk factor found i.e. Vaginal discharge 212(81%) followed by difficulty in micturition 128(49%) and itching over perineum 114(43%). Among 260 women 167 women are at high risk for developing the reproductive tract infection. The association of demographic variable with risk factors includes Vaginal discharge, difficulty in micturition and itching over perineum are very well associated. Conclusion: This study revealed a high risk for developing the reproductive tract infection. We recommend that women with single risk factor of reproductive tract infection should seek for the treatment.

Keywords---Risk factor, Reproductive tract infection, Women, Self-instructional module.

Introduction

Reproductive tract infection (RTI) which means it affect the genital tract. There are basically three types of reproductive tract infection which includes endogenous infection, iatrogenic infection and sexually transmitted infection.¹ As per WHO approximately, 340 million new cases of RTIs occur yearly among women in the reproductive age group.¹⁰ According to nationally represented studies, the prevalence rate of reproductive tract infection was 11- 18% among women in India. This prevalence was obtained on the basis of self-reported symptoms.¹² The prevalence obtain from laboratory investigation of reproductive tract infection was 28-30%.¹² The reproductive tract infection not only cause mortality but also many other adverse effect on health like, pelvic inflammatory disease, preterm labor, spontaneous abortion, stillbirth, chronic pelvic pain, etc.² The appropriate management and different approaches are required to reduce the stigma and reproductive tract infection have serious social consequences.²

Need of the study

At present RTI neglect as a significant health issue because of that there is retrogression of women life in the reproductive age (18-45) group.² The prevalence rate of RTI is vary as per the states of India i.e. 19% to 71%.¹⁸ The prevalence rate ranges from 39% to 84% for reproductive tract infection was found in community-based studies done in India.¹² A study was done among women attending a tertiary care centre with special focus on associated risk factors in the year 2018. The total sample size was taken 318 women of 18-45 years. They have taken specific RTIs include chlamydia, gonorrhea, syphilis, bacterial vaginosis, trichomoniasis, and candidiasis. In this study the prevalence found 9.7 %. The prevalence of candidiasis was more common eleven % after that the chlamydia 4.1%, syphilis 4.1%, bacterial vaginosis 1.73 % and trichomoniasis 0.57 %, there not single women found positive for gonorrhea. The most common symptom found vaginal discharge (52.8%) and lower back pain 45.2 %. The limitation of study was they include a specific type of RTI/STIs because of that the prevalence was found less as compare to the other studies related to RTI.⁶ A study was conducted by Ratnaprabha GK et.al on Prevalence & awareness of reproductive tract infections among women in year 2015. The data collected by using structured pre-tested questionnaire. The prevalence found in this study was 29.15%. The most perceive symptom was white discharge 17.45%, then, genital skin infections 14.47%, lower abdominal pain 9 %, and genital ulcer reported in 0.21%. Also they found that the symptom of RTI found high in Muslim women. Only 45.25% women seek for treatment on RTI. This study reveals the women in reproductive age has very poor awareness regarding RTI and also poor treatment seeking behaviour of RTI. ⁷There are many studies done in various part of India to know the prevalence rate of RTI but as a researcher I felt that there is need to identify the risk of reproductive tract infection with self- instructional module. Current study will help the women to identify the risk and also helpful for create the awareness through self-instructional module.

The present study statement

“An exploratory study to identify risk for reproductive tractinfections among women in selected areas of Pune city with a view to develop self- instructional module”.

Method

Material and Method

In present study, researcher adopted Quantitative approach & Non- experimental exploratory design. It was carried out on 260 participants. The non-probability purposive sampling technique was used, data were collected by using structure questionnaire. Tool validity was done by using the experts suggestion from all the departments of Nursing. Reliability was done by using Cronbach alpha method. Pilot study was done on 30 participants, the study was found feasible. Self-instructional module was developed on reproductive tract infection.

Result: Result was divided into three sections.

Section I: Demographic Data.

(n=260)

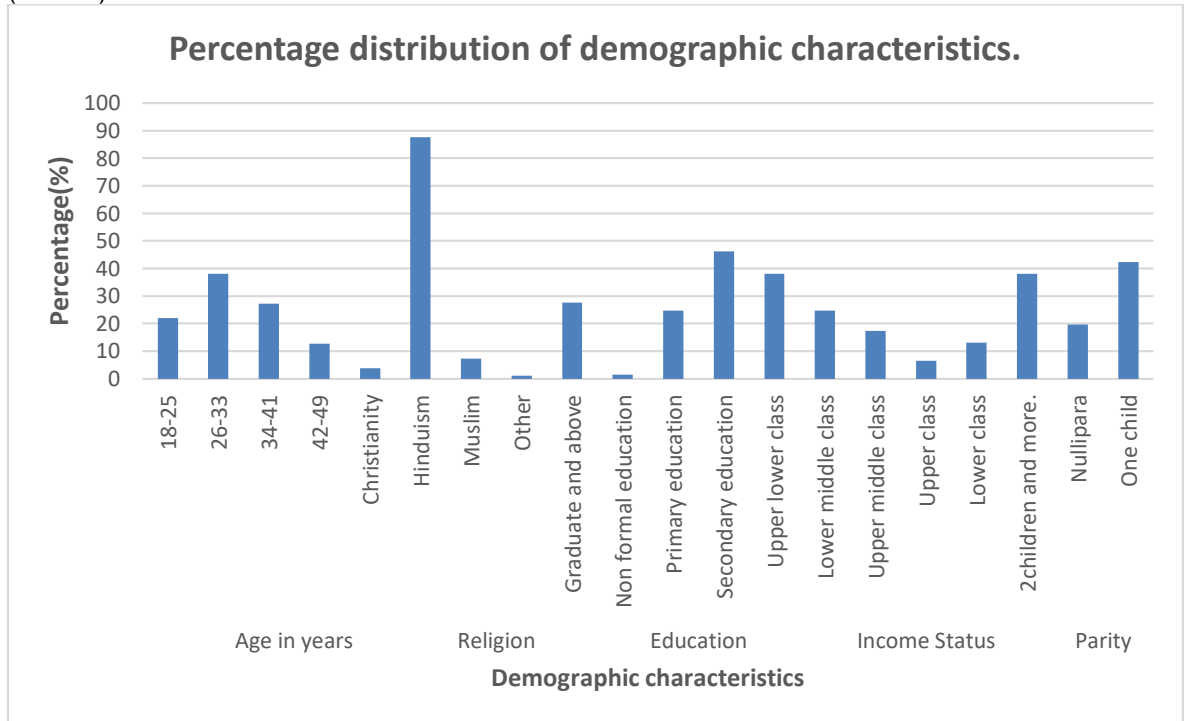


Figure 1 Bar diagram showing percentage distribution of demographic characteristics.

The above Figure no. 1 Shows that among the participants, majority 38.08% of the women are in the age group of 26-33 years, 87.69% were belonging to Hindu religion, 46.15 % women had taken secondary education. Majority 38.08% of women belongs to the upper lower class. In Parity, majority 42.31% women had one child and 38.08% had 2 children and more and 51% were nullipara.

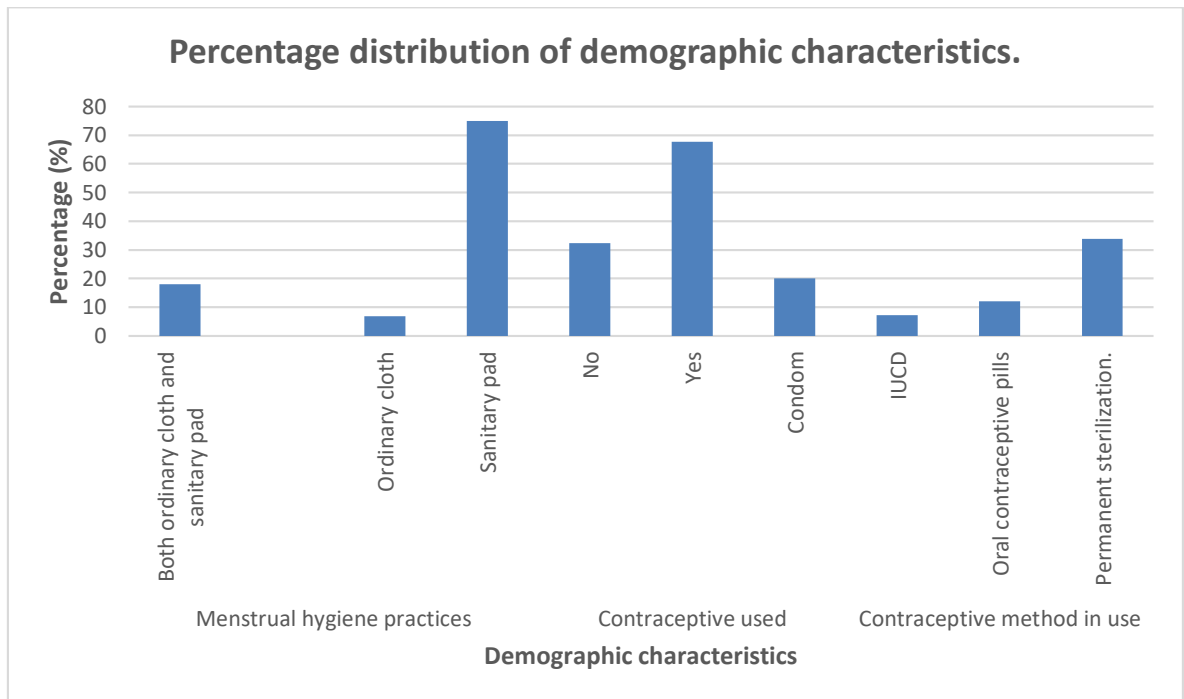


Figure 2 Bar diagram showing percentage distribution of demographic characteristics. (n=260)

The above Figure no.2 shows that 75% women using sanitary pad as menstrual hygiene practices. 67.69% women were using contraception and the majority method of contraception was permanent sterilization i.e. 33.84%.

Section II : Univariate logistic regression analysis between Risk factors and Risk of RTI.

Table 01: Univariate logistic regression analysis between Risk factors and Risk of RTI n=260.

Table 1
Univariate logistic regression analysis between Risk factors and Risk of RTI

		Risk of RTI		Total	OR (95%CI)	p- value	Result
		Yes	No				
Vaginal Discharge	Yes	167	45	212	40.82(13.93-119.63)	<0.001	Significant
	No	4	44	48	1		
Pain	Yes	139	21	160	14.07(7.55-26.20)	<0.001	Significant
	No	32	68	100	1		
Changes in menstruation	Yes	25	1	26	15.07(2.01-113.016)	<0.001	Significant
	No	146	88	234	1		

Difficulty in Micturition	Yes	124	4	128	56.06(19.47-161.41)	<0.001	Significant
	No	47	85	132	1		
Itching over perineum	Yes	111	3	114	53.03(16.08-174.89)	<0.001	Significant
	No	60	86	146	1		
Contraceptive used.	Yes	130	46	176	2.96(1.72-5.11)	<0.001	Significant
	No	41	43	84	1		
Genital lump and pimple.	Present	27	1	28	3.38 (0.43-26.35)	0.25	Not Significant
	Not present	144	88	232	1		

Table 01: Shows that, the odds ratio of having risk of reproductive tract infection is statistically significant 40.82 times more risk those who have vaginal discharge as compare to those who don't have vaginal discharge. [OR=40.82(13.93-119.63, $p < 0.001$)]. The odds ratio of having risk of reproductive tract infection is statistically significant 14.07 times more risk those who have Pain as compare to those who don't have Pain. [OR= 14.07(7.55-26.20), $p < 0.01$]. The odds ratio of having risk of reproductive tract infection is statistically significant 15.07 times more risk those who have Changes in menstruation as compare to those who don't have Changes in menstruation. [15.07(2.01- 113.016), $p < 0.01$]. The odds ratio of having risk of reproductive tract infection is statistically significant 56.06 times more risk those who have Difficulty in micturition as compare to those who don't have Difficulty in micturition. [OR= 56.06(19.47-161.41), $p < 0.01$]

The odds ratio of having risk of reproductive tract infection is statistically significant 53.03 times more risk those who have Itching over perineum as compare to those who don't have Itching over perineum. [OR= 53.03(16.08-174.89), $p < 0.01$] The odds ratio of having risk of reproductive tract infection is statistically significant 2.96 times more risk those who have used contraceptive as compare to those who don't Used contraceptive. [OR= 2.96 (1.72 – 5.11), $p < 0.01$] The odds ratio of having risk of reproductive tract infection is statistically significant 3.38 times more risk those who have genital lump and pimple as compare to those who don't have genital lump and pimple. [OR= 3.38(0.43-26.35), $p > 0.25$]

Section III: Association of demographic variable and outcome variable of reproductive tract infection.

Table 2
Association between demographic variable and outcome variable of reproductive tract infection i.e., Vaginal discharge.

		Vaginal Discharge		Chi-square value	P-value	Result
		No	Yes			
Age in years	18-25	9	48	5.08	<0.001	Association
	26-33	25	74			
	34-41	10	61			
	42-49	4	29			
Religion	Christianity	1	9	3.36	0.339	No Association
	Hinduism	45	183			
	Muslim	1	18			
	Other	1	2			
Education	graduate and above	15	57	1.25	0.741	No Association
	non formal education	0	4			
	primary education	12	52			
	secondary education	21	99			
Income status per month	Upper lower class	26	74	9.56	0.048	Association
	Lower middle class	12	52			
	Upper middle class	5	40			
	Upper class	0	17			
	Lower class	5	29			
Parity	2children and more.	19	80	0.85	0.85	No Association
	Nullipara	8	43			
	One child	21	89			
Menstrual hygiene practices	Both ordinary cloth and sanitary pad	11	36	1.23	0.538	No Association
	Ordinary cloth	4	14			
	Sanitary pad	33	162			
Contraceptive used.	No	15	69	0.03	0.862	No Association
	Yes	33	143			

Table 02: Shows that, there was statistically significant association between vaginal discharge and age in years category and income status per month. The p-value is less than the level of significance.

Table 3
Association between demographic variable and outcome variable of reproductive tract infection

		Pain		Chi-square value	P-value	Result
		No	Yes			
Age in years	18-25	20	37	3.67	0.3	No Association
	26-33	44	55			
	34-41	22	49			
	42-49	14	19			
Religion	Christianity	4	6	0.46	0.929	No Association
	Hinduism	89	139			
	Muslim	6	13			
	Other	1	2			
Education	graduate and above	32	40	2.22	0.527	No Association
	non formal education	2	2			
	primary education	21	43			
	secondary education	45	75			
Income status per month	Upper lower class	46	54	12.23	0.016	Association
	Lower middle class	25	39			
	Upper middle class	13	32			
	Upper class	1	16			
	Lower class	15	19			
Parity	2children and more.	38	61	2.61	0.27	No Association
	Nullipara	15	36			
	One child	47	63			
Menstrual hygiene practices	Both ordinary cloth and sanitary pad	20	27	1.69	0.43	No Association
	Ordinary cloth	9	9			
	Sanitary pad	71	124			

Contraceptive used.	No	31	53	0.13	0.72	No Association
	Yes	69	107			

Table no. 3: shows that, there was statistical significant association between pain and income status per month. The p-value is less than 0.05 level of significance.

Table 4

Association between demographic variable and outcome variable of reproductive tract infection i.e. Changes in menstruation

		Changes in menstruation		Chi-square value	P-value	Result
		No	Yes			
Age in years	18-25	49	8	5.07	0.167	No Association
	26-33	92	7			
	34-41	61	10			
	42-49	32	1			
Religion	Christianity	7	3	15.85	<0.01	Association
	Hinduism	209	19			
	Muslim	17	2			
	Other	1	2			
Education	graduate and above	67	5	3.01	0.39	No Association
	non formal education	4	0			
	primary education	59	5			
	secondary education	104	16			
Income status per month	Upper lower class	89	11	43.14	<0.01	Association
	Lower middle class	63	1			
	Upper middle class	44	1			
	Upper class	8	9			
	Lower class	30	4			
Parity	2children and more.	93	6	3.64	0.162	No Association
	Nullipara	43	8			
	One child	98	12			

Menstrual hygiene practices	Both ordinary cloth and sanitary pad	46	1	4.78	0.091	No Association
	Ordinary cloth	17	1			
	Sanitary pad	171	24			
Contraceptive used.	No	74	10	0.5	0.48	No Association
	Yes	160	16			

Table no. 4 : Shows that, there was highly statistically significant association between Changes in menstruation and religion, income status per month. The p- value is <0.01 which is less than 0.05 level of significant

Table 5

Table no.5: Association between demographic variable and outcome variable of reproductive tract infection i.e., Difficulty in Micturition

		Difficulty in Micturition		Chi-square value	P-value	Result
		No	Yes			
Age in years	18-25	39	18	13.61	0.003	Association
	26-33	48	51			
	34-41	26	45			
	42-49	19	14			
Religion	Christianity	7	3	3.25	0.353	No Association
	Hinduism	116	112			
	Muslim	7	12			
	Other	2	1			
Education	graduate and above	43	29	4.95	0.176	No Association
	non formal education	2	2			
	primary education	26	38			
	secondary education	61	59			
Income status per month	Upper lower class	49	51	12.09	0.017	Association
	Lower middle class	30	34			
	Upper middle class	27	18			
	Upper class	14	3			
	Lower class	12	22			

Parity	2children and more.	48	51	5.02	0.08	No Association
	Nullipara	33	18			
	One child	51	59			
Menstrual hygiene practices	Both ordinary cloth and sanitary pad	22	25	0.76	0.68	No Association
	Ordinary cloth	8	10			
	Sanitary pad	102	93			
Contraceptive used.	No	46	38	0.79	0.37	No Association
	Yes	86	90			

Table no.5: Shows that, there was statistically significant association between Difficulty in micturition and age in years, the p- value is 0.003 which is less than 0.05 level of significant.

Table 6

Association between demographic variable and outcome variable of reproductive tract infection i.e., Itching over perineum.

		Itching over perineum		Chi-square value	P-value	Result
		No	Yes			
Age in years	18-25	37	20	2.68	0.443	No Association
	26-33	55	44			
	34-41	36	35			
	42-49	18	15			
Religion	Christianity	8	2	9.32	0.025	Association
	Hinduism	129	99			
	Muslim	6	13			
	Other	3	0			
Education	graduate and above	46	26	6.04	0.11	No Association
	non formal education	2	2			
	primary education	28	36			
	secondary education	70	50			
Income status	Upper lower class	56	44			
	Lower middle class	31	33			

per month	Upper middle class	25	20	15.35	0.004	Association
	Upper class	17	0			
	Lower class	17	17			
Parity	2children and more.	49	50	5	0.082	No Association
	Nullipara	35	16			
	One child	62	48			
Menstrual hygiene practices	Both ordinary cloth and sanitary pad	22	25	2.09	0.351	No Association
	Ordinary cloth	10	8			
	Sanitary pad	114	81			
Contraceptive used.	No	58	26	8.37	0.004	Association
	Yes	88	88			

Table no.6: Shows that, there was statistically significant association between Itching over perineum and Religion, income status per month, Contraceptive used, the p- value is less than 0.05 level of significance.

Table 7

Association between demographic variable and outcome variable of reproductive tract infection i.e., Genital lump and pimple.

		Genital lump and pimple.		Chi-square	P-value	Result
		Not – present	Present			
Age in years	18-25	52	5	1.45	0.69	No Association
	26-33	87	12			
	34-41	62	9			
	42-49	31	2			
Religion	Christianity	9	1	2.93	0.4	No Association
	Hinduism	201	27			
	Muslim	19	0			
	other	3	0			
Education	graduate and above	64	8	2.59	0.46	No Association
	non formal education	3	1			
	primary education	60	4			

	secondary education	105	15			
Income status per month	Upper lower class	89	11	9.61	0.05	Association
	Lower middle class	57	7			
	Upper middle class	44	1			
	Upper class	16	1			
	Lower class	26	8			
Parity	2children and more.	92	7	3.09	0.21	No Association
	Nullipara	46	5			
	One child	94	16			
Menstrual hygiene practices	Both ordinary cloth and sanitary pad	42	5	2.39	0.3	No Association
	Ordinary cloth	18	0			
	Sanitary pad	172	23			
Contraceptive used.	No	74	10	0.17	0.68	No Association
	Yes	158	18			

Table no.7 : Shows that, there was statistically significant association between income status per month and genital lump and pimple, the p-value is 0.05 which equal to 0.05 level of significance.

Discussion

The discussion of the current study was based on the result obtained after the statistical analysis of collected data. It is described in the view of objectives of the current study. In this study, researcher identify the risk of reproductive tract infection among women, and it shows that those women have vaginal discharge, difficulty in micturition and itching over perineum are at high risk of reproductive tract infection. These findings were supported by the research done by Vanitha durai et.al . This was the cross-sectional study carried out among 330 women. The result shows that the higher risk of RTI in women with anaemia odds ratio 2.1, followed by incomplete defecation Odds ratio .3.6, dysuria (OR5.4), burning urination Odds ratio 15.9 & frequency of urination have Odds ratio 3.3.This study concludes that the women with anemia, difficulty in micturition are at greater risk for reproductive tract infection.The findings were also supported by D. sharma. The result of this study shows, the symptom suggestive reproductive tract infection was present in 98 women from that the commonest symptom reported by women were vaginal discharge which is 52% followed by itching around vulva which is twenty third and burning urination which is 19.4%. The study done by jaleh, Naderi et.al. It shows, the most perceived symptoms were vaginal discharge which is 28.3% after that itching which is 25.8% and low back pain which is 20.5%. The study done by Gupta AK.et al. The sample size was 410 and random sampling were used for selecting samples. Only half 52% sample sought for medical care. Due to stigma the most of women not seeking the treatment. The prevalence of self- reported reproductive tract infection found 41%. The prevalence

among currently pregnant women was 51 % and 31 % from those who were not pregnant at the study time. The commonest infections were foulsmelling discharge i.e. 30 %, lower abdominal pain i.e. 14% and genital itching i.e. 11%.

Conclusion

To identify the risk for reproductive tract infection is very important to prevent further adverse health outcome like pelvic inflammatory diseases, ectopic pregnancy, infertility, spontaneous abortion, chronic pelvic pain etc. among women. If women can identify the risk of RTI so she can prevent further occurrence of infection. This study concludes that, vaginal discharge (OR-40.8), difficulty in micturition (OR-56.06) and itching over perineum (OR-53.03) are the commonest risk factors for the reproductive tract infection. There was statistical association between vaginal discharge and age in years, income status per and also between difficulty in micturition and age in years and itching over perineum with religion and contraceptive used. If there is presence of any one risk factor of Reproductive tract infection it will indicate the risk for reproductive tract infection to the women. The result of this study shows that the women under the age group 18-49 years have higher risk for reproductive tract infection so there is need to make awareness and Create treatment seeking behavior among women with risk of reproductive tract infection. The self-instructional module will be helpful to create awareness of reproductive tract infection and also the appropriate management and different approaches are required to reduce stigma of reproductive tract infection. At the end this study concludes the greater risk for reproductive tract infection among women and need for creating awareness related to the reproductive health care among women.

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