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A comparative study to determine the knowledge regarding selected aspects of reproductive tract infections among married women in selected urban and rural areas of Mangalore taluk with a view to prepare an information booklet

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Abstract: *Reproductive tract infection (RTI) is a broad term that includes sexually transmitted infections as well as other infections of the reproductive tract that are not transmitted through sexual intercourse. Young married women, particularly in the rural Indian communities, had low knowledge about RTIs/STIs and its mode of transmission and had a high prevalence with low treatment-seeking behavior. The study recommended education and outreach are needed to reduce stigma and lack of knowledge related to RTIs/STIs.* ***Methods:*** *A descriptive survey approach and a comparative design were used in the study to determine the knowledge on selected aspects of reproductive tract infections among married women of urban and rural areas of Mangalore talk. Convenience sampling was used to select the sample for the study and a pilot study was conducted to find out the feasibility of the study. Data collected from the sample were analyzed by descriptive and inferential statistics. The final sample size was 100.****Result:*** *The findings of the study showed that the mean percentage knowledge score of urban married women (73.13%) was comparatively higher than that of the mean percentage knowledge score of rural married women (50.80%) regarding reproductive tract infection.* ***conclusion:*** *The researcher was pleased after having conducted the study, which was altogether a new experience. The participants were co-operative and willingly participated in the study. An information booklet has been provided to the participants to improve their knowledge regarding selected aspects of reproductive Tract Infections.*

Key Words: *Reproductive tract infection; urban and rural married women, knowledge.*

1. INTRODUCTION:

Reproductive health is defined as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity in all matters relating to the reproductive system and to its function and processes. Reproductive tract infection (RTI) is a broad term that includes sexually transmitted infections as well as other infections of the reproductive tract that are not transmitted through sexual intercourse[1].Reproductive tract infections (RTIs) include three types. They are sexually transmitted infections (STIs), endogenous infections and iatrogenic infections. WHO in 2001 reported that global disease burden of RTIs, including STIs, is a major public health concern. In 1999, an estimated 340 million people were infected with curable STIs, such as gonorrhoea (62 million), Chlamydia (92 million), syphilis (12 million) and trichomonas (174 million). Nearly one million new cases of curable STIs occur each day. Non-sexually transmitted RTIs are even more common[2].The control of reproductive tract infections (RTIs) is an urgent health priority in many countries. The annual incidence of RTI/STI in India is estimated at 5% or approximately 40 million new cases occurring every year. National Family Health Survey-2 has also reported that 39.2% women in India have one or more reproductive infections[3]. RTIs result in numerous serious consequences, particularly in women. Pregnancy-related complications, as well as congenital infections can result from RTIs. Pelvic Inflammatory Diseases can develop, and can cause infertility, ectopic pregnancy, chronic pain, miscarriage, preterm labour and increased risk of HIV transmission[4]. A population-based study was conducted to examine the prevalence rates and risk factors for RTIs among 4,039 married women of reproductive age in a rural area of Shandong province in China. The study showed that the prevalence of Trichomoniasis, bacterial vaginosis (BV) and candidiasis as diagnosed by clinical test was 2.8, 5.9, and 3.1% respectively. The infection rates of Trichomoniasis, BV and candida were 2.9, 6.6 and 3.9 respectively. The infection rate of gonorrhoea and syphilis were low[5].

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2. LITERATURE REVIEW:

The investigator reviewed the various related literature for the present study and organised them under the following headings: Literature related to:

- **Incidence and prevalence of reproductive tract infections**

  A recent study conducted on prevalence and correlates of bacterial vaginosis among young women of reproductive age in Mysore revealed that of 898 women, 391 (43.5%) were diagnosed with one or more endogenous reproductive tract infections and 157 (17.4%) with one or more sexually transmitted infections[6].

  A study was conducted to assess the prevalence of reproductive tract infections among 446 recently married women in Veerapandi panchayat of Salem District, Tamilnadu and estimated that the overall prevalence of reproductive tract infection was calculated to be 44.6% among married women belonging to the age group of 15-45 years. The study concluded that campaigns for the treatment of RTI/ STI can help to reduce the currently existing high level of RTI/STI[7].

- **Knowledge regarding reproductive tract infections**

  A comparative study was carried out to determine the knowledge and attitude among 120 women regarding reproductive tract infections in selected rural and urban areas of Udupi District. The findings on knowledge score of rural and urban women on reproductive tract infections showed that majority of the rural women (55%) had good knowledge and majority of the urban women (51%) had average knowledge and concluded rural women had more knowledge than urban women.[8]

  A study carried out on reproductive tract infections among young married women in Tamil Nadu showed that young married women in this rural Indian community have a high prevalence of RTIs but seldom seek treatment. So the study suggested that education and outreach were needed to reduce the stigma, embarrassment and lack of knowledge related to RTIs.[9]

- **Factor associated with reproductive tract infection**

  A cross-sectional study was carried out on prevalence and determinants of reproductive tract infections (RTIs) among 300 currently married women of a primary health centre, Palam. The study revealed that the prevalence of RTIs was 37.0% based on symptoms and 36.7% by laboratory investigations including 26.3% candidiasis, 18.0% vaginitis, 15.7% trichomoniasis and 14.3% bacterial vaginosis. The study concluded that factors which were found to be significantly associated with reproductive tract infections in women were, not cleaning genitals daily, last delivery being domiciliary, history of anal intercourse, last delivery conducted by dai, relative \ neighbour, not bathing daily during menstruation and history of abortions[10].

  A study carried out on prevalence of RTIs and associated factors of RTI among 1044 women of reproductive age in a rural area of Rajasthan, showed that, there was increasing trend in RTIs with increase in age ranging from 1.7% to 44.7%(P<0.001). Forty-eight percent of the population was illiterate, out of which 29.5% was suffering from RTI; 27.9% of married had RTIs against only 1% of unmarried women (P<0.001). The prevalence was highest in multipara (44.9%) than in nullipara (2.4%). There was an association between the gynaecological surgery and RTI (15.2%). Women from nuclear families had more RTIs. More invasive contraceptive users (37.6%) were suffering from RTIs against 22.1% of non-invasive contraceptive users (P<0.001) [11].

3. MATERIALS AND METHOD: The present study was conducted with the purpose of comparing the knowledge regarding reproductive tract infections among urban and rural married women.

4.DISCUSSION:

The findings of the study demonstrated that among the subjects, maximum number of the urban (46%) married women fall under the age group between 27-38 years and 38% of rural married women under the age group between

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15-26 years and 38% rural married women between 27-38 years, majority of the urban (62%) and rural (68%) married women were Hindus. Majority of the urban (70%) and rural (64%) married women belonged to nuclear family. Twenty eight percent of urban married women had a monthly income of their family of ≥ Rs. 7001/- and most of the rural (34%) married women had a monthly income of their family of Rs. ≤ 3000/. In urban,42% and 36% of urban married women were high school and higher secondary level and graduates respectively whereas most of the rural (52%) married women had primary education. Majority of the urban (92%) and rural (64%) married women had information on reproductive tract infections and majority of urban (100%) and rural (96%) married women did not have any history of reproductive tract infections.

- **Knowledge of selected aspects of reproductive tract infections among urban and rural married women**
  The findings of the knowledge scores of the urban married women revealed that 50% of women had good knowledge, 30% had very good knowledge and 18% had average knowledge. The knowledge scores of rural married women showed that 24% of women had good knowledge, 42% had average knowledge and 34% had poor knowledge. The mean percentage of knowledge score of urban married women was 73.13% whereas the mean percentage of knowledge score of rural married women was 50.80%.
- **Area-wise knowledge scores of the urban and rural married women**
  The findings of the study showed that the area-wise mean percentage of knowledge scores of urban married women were general information regarding reproductive tract infections (73%), bacterial vaginosis (68%), Gonorrhoea (89.33%), Trichomonal vaginitis (54.8%) and candidacies (76.86%). The findings of the study revealed that the area-wise mean percentage of knowledge scores of the rural married women were general information regarding reproductive tract infections (59.33%), bacterial vaginosis (52.67%), Gonorrhoea (58.67%), Trichomonal vaginitis (30.8%) and candidacies (49.43%).
- **Comparison of knowledge scores between urban and rural married women**
  The data obtained in this study showed that there was a significant difference between the knowledge scores of urban and rural married women regarding reproductive tract infections ($t_{(98)}$=7.941, table value $t_{(98)}$=1.96, P<0.05).The study conducted by Fernandez JV 2006 in Udupi supported the present study, which revealed that there was a significant difference between knowledge scores of married women of urban and rural areas.
- **Association between knowledge scores and selected demographic variables**
  There was a significant association between knowledge scores and monthly income of family. ($\chi^2_{(1)}$=11.458, table value $\chi^2_{(1)}$=3.84, P<0.05) and education ($\chi^2_{(1)}$=16.064, table value $\chi^2_{(1)}$=3.84, P<0.05). So it is interpreted that knowledge scores are dependent on family income and education. There was no significant association between knowledge scores of urban married women and age, religion, type of family and source of information. There was an association between knowledge scores and type of family ($\chi^2_{(1)}$=6.611, table value $\chi^2_{(1)}$=3.84, P<0.05) education ($\chi^2_{(1)}$=17.962, $\chi^2_{(1)}$=3.84, P<0.05) and source of information ($\chi^2_{(1)}$=8.214, $\chi^2_{(1)}$=3.84, P<0.05). So it is interpreted that knowledge scores are dependent on type of family, education and source of information. There was no significant association between knowledge scores of rural married women and age, religion and monthly income of their family.

5. ANALYSIS:

Descriptive and inferential statistics were planned to analyse the collected data. To compute the data, a master data sheet was prepared by the investigator.

- **Section I Demographic proforma:** Demographic proforma containing sample characteristics were analysed by using frequency and percentage.
- **Section II: Distribution of subjects according to their level of knowledge:** Knowledge scores were analysed by computing frequency, percentage, mean, median, mean percentage and standard deviation.
- **Section II: Distribution of subjects according to their level of knowledge:** Knowledge scores were analysed by computing frequency, percentage, mean, median, mean percentage and standard deviation.
- **Section III: Comparison of overall mean knowledge scores between married women of urban and rural areas**: Independent‘t’ test was used to find the difference between knowledge scores of married women of urban and rural areas.

- **Section IV: Association between married women's level of knowledge and selected demographic variables:** Chi-square test was used to determine the association between knowledge scores regarding reproductive tract infections with selected variables of urban and rural married women.

6. FINDINGS:

Majority of the urban married women (50%) had good knowledge whereas maximum number of rural married women (42%) had average knowledge. The mean percentage of knowledge score of urban married women (73.13%) was comparatively higher than that of the mean percentage knowledge score of rural married women (50.80%). There was a statistical significant difference ($t_{(98)}$=7.941, $t_{(98)}$=1.96 <0.05) between the knowledge scores of urban and rural married women. Hence it was interpreted that there was a significant difference between knowledge scores of urban married women and rural married women. There was a significant association between knowledge scores and monthly income of family. ($\chi^2_{(1)}$=11.458,table value$\chi^2_{(1)}$=3.84, P<0.05) and education ($\chi^2_{(1)}$=16.064, table value$\chi^2_{(1)}$=3.84,P<0.05). So it is interpreted that knowledge scores are dependent on family income and education. There was no significant association between knowledge scores of urban married women and age, religion, type of family and source of information There was an association between knowledge scores and type of family ($\chi^2_{(1)}$=6.611, table value $\chi^2_{(1)}$=3.84, P<0.05) education ($\chi^2_{(1)}$=17.962, $\chi^2_{(1)}$=3.84, P<0.05) and source of information ($\chi^2_{(1)}$=8.214, $\chi^2_{(1)}$=3.84, P<0.05). So it is interpreted that knowledge scores are dependent on type of family, education and source of information. There was no significant association between knowledge scores of rural married women and age, religion and monthly income of their family

7. RESULT:

Section I: Demographic proforma;

Table 1.1 : Frequency and percentage distribution on selected sample characteristics of urban and rural married women based on their demographic data

N = 50+50

Demographic variables	Married women					
	Urban		Rural		Total	
	f	%	f	%	f	%
Age (in years)						
a. 15 – 26	11	22	19	38	30	30
b. 27 – 38	23	46	19	38	42	42
c. 39 – 49	16	32	12	24	28	28
Religion						
a. Hindu	31	62	34	68	65	65
b. Muslim	4	8	7	14	11	11
c. Christian	14	28	9	18	23	23

d. Any other	1	2	0	0	1	1
Type of family						
a. Nuclear	35	70	32	64	67	67
b. Joint	15	30	18	36	33	33

Table: 1.1

Table 1. 2: Frequency and percentage distribution on selected sample characteristics of urban and rural married women based on their demographic data

N = 50+50

Demographic variables	Married women					
	Urban		Rural		Total	
	f	%	f	%	f	%
Monthly income (in rupees)						
a. ≤ 3,000	12	24	17	34	29	29
b. 3001 to 5000	12	24	20	40	32	32
c. 5001 to 7000	12	24	10	20	22	22
d. ≥ 7001	14	28	3	6	17	17
Education						
a. Primary school	11	22	26	52	37	37
b. High school /higher secondary	21	42	22	44	43	43
c. Graduate	18	36	2	4	20	20
d. Professional	0	0	0	0	0	0
Source of information						
a. Mass Media	22	44	6	12	28	28
b. Health personnel	9	18	10	20	19	19
c. Friends	1	2	0	0	1	1
d. Others	14	28	2	4	16	16

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e. No	4	8	32	64	36	36
History of RTI						
a. Yes	0	0	2	4	2	2
b. No	50	100	48	96	98	98

Table 1.2

Section II: Knowledge on selected aspects of reproductive tract infections among married women of urban and rural areas

Table 2.1: Frequency and percentage distribution of urban and rural married women according to knowledge scores

N = 50+50

Level of knowledge	Married women					
	Urban areas		Rural areas		Total	
	f	%	f	%	f	%
Poor	1	2	17	34	18	18
Average	9	18	21	42	30	30
Good	25	50	12	24	12	37
Very good	15	30	0	0	15	15

Table 2.1

Table 2.2: The mean, median, SD and mean percentage of knowledge scores of urban and rural married women

N = 50+50

Variable	Subjects	Max. possible score	Min. score obtained	Max. score obtained	Mean	Median	SD	Mean %
Knowledge	Urban married women	30	10	28	21.94	22	4.19	73.13
	Rural married women	30	8	24	15.25	15	4.25	50.80

Table 2.2

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Table 2.3: Area-wise mean, median, SD and mean percentage distribution of urban and rural married women according to their knowledge scores

N = 50+50

Area	Subjects: Married women	Max Possible score	Min score obtained	Max. score obtained	Mean	Median	SD	Mean percentage
General information regarding RTIS	Urban	6	2	6	4.38	5.00	1.14	73.00
	Rural	6	2	5	3.56	4.00	0.84	59.33
Bacterial vaginosis	Urban	6	1	6	4.08	4.00	1.38	68.00
	Rural	6	0	6	3.16	3.00	1.48	52.67
Gonorrhoea	Urban	6	1	6	5.36	6.00	1.27	89.33
	Rural	6	1	6	3.52	3.00	1.59	58.67
Trichomonal vaginitis	Urban	5	1	5	2.74	3.00	0.94	54.80
	Rural	5	0	3	1.54	1.00	0.89	30.80
Candidiasis	Urban	7	1	7	5.38	6.00	1.55	76.86
	Rural	7	0	6	3.46	3.50	1.99	49.43

Table 2.3

Section III: Comparison of knowledge score on selected aspects of reproductive tract infections between urban and rural areas

Table 3.1: Overall mean, SD and 't' value of knowledge scores of urban and rural married women

N = 50+50

Variable	Group	Mean	SD	't' value
Knowledge	Urban married women	21.94	4.187	*7.941
	Rural married women	15.24	4.250	

Table 3.1

Table 3.2: Area-wise mean, S. D, and 't' values of knowledge scores of urban and rural married women

N = 50+50

Area	Urban married women		Rural married women		't' value
	Mean	SD	Mean	SD	
General information of RTI	4.38	1.141	3.56	0.837	*4.098
Bacterial vaginosis	4.08	1.383	3.16	1.476	*3.217
Gonorrhoea	5.36	1.274	3.52	1.594	*6.377
Trichomonal vaginitis	2.74	0.944	1.54	0.885	*6.558
Candidiasis	5.38	1.550	3.46	1.992	*5.379

Table 3.2

Section IV: Association between knowledge scores on selected aspects of reproductive tract infections among married women of urban and rural areas and selected demographic variables

Table 4.1: Association between knowledge scores and selected demographic variables of urban married women

N = 50

Demographic Variables	Knowledge scores		χ^2 value (df)
	<Median (22)	≥ Median (22)	
Age (in years)			
a. < 39	18	16	0.151
b. ≥ 39	5	11	(1)
Religion			
a. Hindu	16	15	1.035
b. Non-Hindus	7	12	(1)
Type of family			
a. Nuclear	16	19	0.004
b. Joint	7	8	(1)
Monthly income in rupees			
a. ≤ 5000	17	7	*11.458
b. >5000	6	20	(1)
Education			
a. Under graduates	22	10	*16.064
b. Graduates	1	17	(1)
Source of information			
a. No	3	1	0.477
b. Yes	20	26	(1)
History of RTI			0.000
a. Yes	0	0	(1)
b. No	23	27	

Table 4.1

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Table 4.2: Association between knowledge scores and selected demographic variables of rural married women

N = 50

Demographic Variables	Knowledge scores		χ^2 value (df)
	<Median (22)	≥ Median (22)	
Age (in years)			
a. < 39	20	18	0.025
b. ≥ 39	6	6	(1)
Religion			
a. Hindu	19	15	0.642
b. Non-Hindus	7	9	(1)
Type of family			
a. Nuclear	21	11	*6.611
b. Joint	5	13	(1)
Monthly income in rupees			
a. ≤ 5000	21	16	1.290
b. >5000	5	8	(1)
Education			
a. Under graduates	21	5	*17.962
b. Graduates	5	19	(1)
Source of information			
a. No	22	10	*8.214
b. Yes	4	14	(1)
History of RTI			
a. Yes	2	0	Fisher's
b. No	24	24	P = 0.491

Table 4.2

8. RECOMMENDATIONS:

- A similar study should be replicated one large sample.
- A planned teaching programme can be conducted among married women using an experimental design.
- A follow-up study can be conducted to determine the effectiveness of the information booklet in terms of gaining knowledge in those subjects to whom the information booklet was administered.

9. CONCLUSION:

Majority of the urban married women (50%) had good knowledge whereas maximum number of rural married women (42%) had average knowledge. The mean percentage of knowledge score of urban married women (73.13%) was comparatively higher than that of the mean percentage knowledge score of rural married women (50.80%).There was a statistical significant difference ($t_{(98)}$=7.941, $t_{(98)}$=1.96 <0.05) between the knowledge scores of urban and rural married women. Hence it was interpreted that there was a significant difference between knowledge scores of urban married women and rural married women. There was a significant association between knowledge scores and monthly income of family. ($\chi^2_{(1)}$=11.458,table value$\chi^2_{(1)}$=3.84, P<0.05) and education ($\chi^2_{(1)}$=16.064, table value$\chi^2_{(1)}$=3.84,P<0.05). So it is interpreted that knowledge scores are dependent on family income and education. There was no significant association between knowledge scores of urban married women and age, religion, type of family and source of information There was an association between knowledge scores and type of family ($\chi^2_{(1)}$=6.611, table value $\chi^2_{(1)}$=3.84, P<0.05) education ($\chi^2_{(1)}$=17.962, $\chi^2_{(1)}$=3.84, P<0.05) and source of information ($\chi^2_{(1)}$=8.214, $\chi^2_{(1)}$=3.84, P<0.05). So it is interpreted that

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