Screening and Assessment of Knowledge and Expressed Practices Regarding Reproductive Tract Infection among Married and Unmarried Women in Rural Area of Mullana, Ambala, Haryana

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Abstract: *A comparative study was conducted with the purpose to assess and compare the knowledge and expressed practices of married and unmarried women regarding RTIs, To assess and compare the symptoms of RTIs and to seek association of level of knowledge and expressed practices with their selected variables. Random sampling technique was used to select the houses and purposive sampling technique was used to select 100 married and 100 unmarried women from selected houses. Interview technique was used to collect data through structured knowledge questionnaire, expressed practice checklist and symptomatic screening checklist regarding RTIs. Findings revealed that unmarried women had good knowledge as compared to married women and married women had higher expressed practices than the unmarried women regarding prevention and management of RTIs. Personal hygiene practices were good among married women whereas in unmarried women, menstrual hygiene practices were good. Symptoms of RTIs were more among unmarried as compare to married women at the time of data collection. There was a significant association of level of knowledge score of married women with educational status and duration of marriage. The study concluded that none of the unmarried and married women had poor practices regarding prevention and management of RTIs.*

Keywords: Expressed Practices, Married and unmarried women, RTIs (Reproductive tract infection), screening

1. Introduction

Reproductive tract infections (RTI's) are endemic in developing countries and entail a heavy toll on women. RTIs/STDs have not only been the Cinderella of tropical medicine, but more especially a neglected aspect of women's health. Both women and newborns bear the bulk of the prevailing RTI/STD health consequences, which not only inflict physical discomfort but also serious societal problems. RTIs/STDs cause PID with resultant infertility, ectopic pregnancy, cervical cancer, fetal wastage, low birth weight, infant blindness, neonatal pneumonia, and mental retardation. If left untreated, it can increase the risk of maternal and neonatal mortality. Infertility as a result of PID accounts for 50 to 80% of the infertility in India .Carcinoma of the cervix is a major public health problem throughout the world. It is the second most common malignancy in women worldwide and the leading cancer in women of developing countries.[4]

According to WHO, Reproductive Tract Infections (RTIs) are caused by organisms normally present in their reproductive tract or introduced from the outside during sexual contact or medical procedures. RTIs may also result from unhygienic health practices such as use of unclean menstrual protection, poor sexual hygiene, vaginal douching, etc. The pelvic inflammatory diseases (PID) are usually caused by the iatrogenic infection. Besides, if the infections are left untreated they could cause PID.[7]

According to Ministry of Health and Family Welfare (2007), the disease prevalence is estimated to be six (6%) in India and a total of 30 million people may be affected out of 499 million world over. The estimates also indicate that about 40% of women have RTI/STI at any given point of time but only one (1%) completes the full treatment of both partners.[3]

2. Statement of Problem

The problem of present study is Screening and assessment of knowledge and expressed practices regarding reproductive tract infections among married and unmarried women in rural area of Mullana, Haryana

3. Objective of the Study

The main objectives of study were as under:
1. To assess and compare the knowledge and expressed practices of married and unmarried women regarding reproductive tract infections.
2. To assess and compare the symptoms of reproductive tract infections among married and unmarried women.
3. To determine the relationship between the knowledge and expressed practices scores of married and unmarried women regarding reproductive tract infections.
4. To seek association of level of knowledge and expressed practices of married and unmarried women regarding reproductive tract infections with their selected variables.

4. Hypothesis of the Study

The hypothesis were tested at 0.05 level of significance
H_1- There was significant difference in knowledge of married and unmarried women regarding reproductive tract infections.

H$_2$- There was significant difference in expressed practices of married and unmarried women regarding reproductive tract infections.

H$_3$-There was significant relationship between knowledge and expressed practices score of married women regarding reproductive tract infections.

H$_4$-There was significant relationship between knowledge and expressed practices score of unmarried women regarding reproductive tract infections.

H$_5$- There was significant association of level of knowledge of married women regarding reproductive tract infections with the selected variables.

H$_6$- There was significant association of level of knowledge of unmarried women regarding reproductive tract infections with the selected variables.

H$_7$- There was significant association of level of expressed practices of married women regarding reproductive tract infections with the selected variables.

H$_8$- There was significant association of level of expressed practices of unmarried women regarding reproductive tract infections with the selected variables.

5. Materials & Method

This study was conducted in village Mullana, Ambala, Haryana, India. Descriptive comparative research design was used. Random sampling technique was used to select the houses and purposive sampling technique was used to select 100 married and 100 unmarried women from selected houses. In view of the nature of the problem and to accomplish the objectives of the study, structured knowledge questionnaire, expressed practice checklist and symptomatic screening checklist regarding RTIs was used to collect data. Structured knowledge questionnaire consisted of four areas of observation i.e. Epidemiology (03 items), Causes / risk factors (03 items), Signs and symptoms / mode of transmission/complication (06 items), prevention and management (08 items). Each item had two correct answers. Scores for each question was two, one or zero for correct and incorrect items respectively. Thus the maximum score for 20 questions was 40. Whereas for married women, there was three areas of observation i.e. Personal hygiene practices (10 items), Menstrual hygiene practices (08 items), and Sexual hygiene practices (05 items).Area of Sexual hygiene practices was applicable for married women only. Thus total score on structured expressed practices checklist (married) ranged from 0-23 with maximum possible score was 23 and minimum possible score was 0. Total score on structured expressed practices checklist (unmarried) ranged from 0-18 with maximum possible score was 18 and minimum possible score was 0. Symptomatic screening checklist (standardized tool) consists of six symptoms to screen the cases for presence of reproductive tract infection. Symptoms based on NACO GUIDELINES. Validity was ensured in the field of Nursing and medical departments. Reliability of the tools was tested by Cranach's alpha and test –retest method, which was 0.78 and 0.80 respectively. Data was collected by approaching the women door to door. Data was collected from 200 women related to sample characteristics, knowledge and their expressed practices regarding prevention and management of reproductive tract infections and screening of cases was done for presence of RTIs through interview technique. If any of the sign or symptoms was present in any woman, woman was referred to the PHC for treatment of RTIs. Follow up visit was done after 2 month to know about the presence of symptoms of RTIs in previously screened cases. The women who were not recovered and who did not take any treatment, they were again referred to PHC.

6. Results

For analysis and interpretation of the data descriptive and inferential statistics were used. Data analyzed for statistical significance using paired "t" test and hypothesis tested at 0.05 level of significance. The study results revealed that more than half (55%) of unmarried women were in age group of 15-20 years of age group whereas about one fourth (26%) of married women were in age group of 26-30 years. Majority (90%) of unmarried and majority (94%) of married was Hindu. Nearly half (41%) of the unmarried women and 35% of the married women had senior secondary level of education. More than half of the women (54%) had previous knowledge regarding RTIs. More than half of the women (54%) had previous knowledge regarding RTIs. Majority (76%) of deliveries were institutional delivery only 24% of women had home delivery, out of which, Majority (66.6%) of home delivery were conducted by traditional dais. Majority (87.5%) of the women reported never to have RTIs in their past. Majority (80%) women had taken treatment for RTIs and more than half (60 %) women had taken full treatment for RTIs, nearly half (55%) of the women took treatment from Govt. Hospital and less than half (45%) women had taken treatment from Private Hospital. Majority (92%) of women partner's never had symptoms of RTIs in past when she was suffering from RTIs and only 4% women partner's had RTI symptoms who took full treatment for RTIs.

Table 1: Shows the Frequency and Percentage Distribution of Women in terms of Level of Knowledge regarding Reproductive Tract Infection

Level of knowledge	Total (n=200)	Unmarried (n=100)	Married (n=100)
	f (%)	f (%)	f (%)
Below Average (≤50%)	12 (6%)	2	10
Average (50-60%)	33 (16.5%)	10	23
Good (60-80%)	111 (55.5%)	64	47
Very Good (≥80%)	44 (22%)	24	20

The data presented in the table 1 reveals that more than half (55.5%) of women had good knowledge regarding reproductive tract infection, out of which majority (64%) of unmarried women had good knowledge as compare of nearly half (47%) of married women. Less than one fourth (22%) had very good knowledge, in which unmarried and married women were 24% and 20% respectively.

Table 2: Shows the Range, Mean, Standard Deviation, Mean Percentage and Median of Knowledge Score of Women regarding Reproductive Tract Infection

	Range	Mean ±Standard Deviation	Mean Percentage	Median
Total (n=200)	10-38	28.52± 5.3	71.31	30
Unmarried (n=100)	10-38	29.37 ± 4.78	73.43	30
Married (n=100)	14-38	27.68 ± 5.77	69.20	29

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The data presented in the Table 2 depicts that sample mean of the knowledge score of women regarding reproductive tract infection was 28.52 $\pm$ 5.35 with the range of 10-38. Median and mean percentage of scores of women was 30 and 71.31% respectively.

Mean and median of the knowledge score of unmarried women regarding reproductive tract infection was 29.37 $\pm$ 4.78 and 30 respectively with the range of 10-38. Mean and median of the knowledge score of married women regarding reproductive tract infection was 27.68 $\pm$ 5.77 and 29 respectively with the range of 14-38.

Data further revealed that mean percentage of knowledge score of unmarried women regarding reproductive tract infection was 73.43% which was higher than the mean percentage of knowledge score of married women 69.20% which shows that unmarried women had higher knowledge score than the married women knowledge score regarding reproductive tract infection
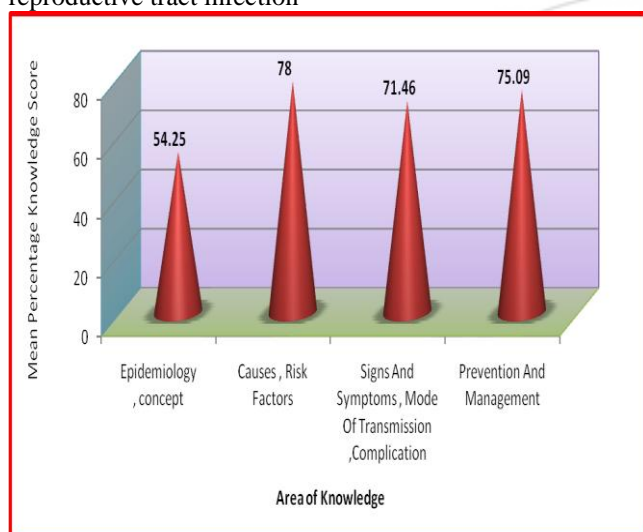

Figure 1: Shows area wise distribution of Mean percentage of Knowledge Score of Women regarding Reproductive Tract Infection.

Table 3: shows the Mean, Mean Difference, Standard Error of Mean Difference and 't' Value of Knowledge Score of Married and Unmarried Women regarding Reproductive Tract Infections

Groups	Mean	Mean Difference	$S.E_{MD}$	$S.D_D$	't' Value	p Value
Unmarried (n=100)	29.37	1.69	0.81	7.23	2.25*	0.02
Married (n=100)	27.68					

df(98)=1.97 at 0.05 level of significance

The data presented in table 3 shows that mean knowledge score of unmarried women was 29.37 and mean knowledge score of married women was 27.68 with the mean difference of 7.23. The calculated ' t' value 2.25 was found statistically significant at 0.05 level which revealed that the mean difference between the knowledge score of married and unmarried women was a true difference and not by chance.

Hence, null hypothesis H_{01} is rejected and research hypothesis H_1 is accepted which suggest that there was a significant difference in knowledge of married and unmarried women regarding reproductive tract infections.

Table 4: shows the Frequency and Percentage Distribution of Women in terms of Range of Expressed Practices Scores of Married and Unmarried Women regarding Reproductive Tract Infection

	Maximum Score	Expressed Practices	Range of score	f (%)
Married (n=100)	18	Poor ($\leq$50%)	0-6	0
		Average (51-65%)	7-12	0
		Good (66-80%)	13-18	45
		Very Good ($\geq$80%)	Above 18	55
Unmarried (n=100)	23	Poor ($\leq$50%)	0-5	0
		Average (51-65%)	6-10	06
		Good (66-80%)	11-15	78
		Very Good ($\geq$80%)	Above 15	16

The data presented in the table 4 reveals that more than half (55%) of married women had very good practices regarding prevention and management of reproductive tract infection where as less than half (45%) had good expressed practices. None of the married women had average and poor practices regarding prevention and management of reproductive tract infection.

The data further revealed that majority (78%) of unmarried women had good Practices regarding prevention and management of reproductive tract infection where as sixteen (16%) had very good practices and only six (6 %) had average practices regarding prevention and management of reproductive tract infection. None of the unmarried women had poor practices regarding prevention and management of reproductive tract infection.

Table 5: Shows the Range, Mean , Standard Deviation , Mean Percentage and Median of Expressed Practices Score of Married and Unmarried Women regarding Reproductive Tract Infection

	Maximum Score	Range	Mean $\pm$Standard Deviation	Mean Percentage	Median
Unmarried (n=100)	18	10-17	14.11 $\pm$ 1.53	78.39	14
Married (n=100)	23	12-22	18.46 $\pm$ 2.38	80.26	19

Data in table 5 shows that the mean and median of the expressed practices score of married women regarding reproductive tract infection was 18.46$\pm$2.38 and 19 respectively with the range of 12-22. Mean and median of the expressed practices score of unmarried women regarding reproductive tract infection was 14.11 $\pm$ 1.53 and 14 respectively with the range of 10-17. Data further revealed that mean percentage of expressed practices score of married women regarding reproductive tract infection was 80.26 percent which was higher than the mean percentage of expressed practices score of unmarried women 78.39 percent which shows that married women had higher expressed practices score than the unmarried women expressed practices score regarding reproductive tract infection

Table 6: Shows the Frequency and Percentage Distribution of Women in terms of Level of Expressed Practices of Married and Unmarried Women regarding Reproductive Tract Infection

	Maximum Score	Expressed Practices	Range off score	(%)
Married (n=100)	18	Poor ($\leq$50%)	0-6	0
		Average (51-65%)	7-12	0
		Good (66-80%)	13-18	45
		Very Good ($\geq$80%)	Above 18	55
Unmarried (n=100)	23	Poor ($\leq$50%)	0-5	0
		Average (51-65%)	6-10	06
		Good (66-80%)	11-15	78
		Very Good ($\geq$80%)	Above 15	16

The data presented in the table 6 reveals that more than half (55%) of married women had very good practices regarding prevention and management of reproductive tract infection where as less than half (45%) had good expressed practices. None of the married women had average and poor practices regarding prevention and management of reproductive tract infection.

The data further revealed that majority (78%) of unmarried women had good Practices regarding prevention and management of reproductive tract infection where as sixteen (16%) had very good practices and only six (6%) had average practices regarding prevention and management of reproductive tract infection. None of the unmarried women had poor practices regarding prevention and management of reproductive tract infection.
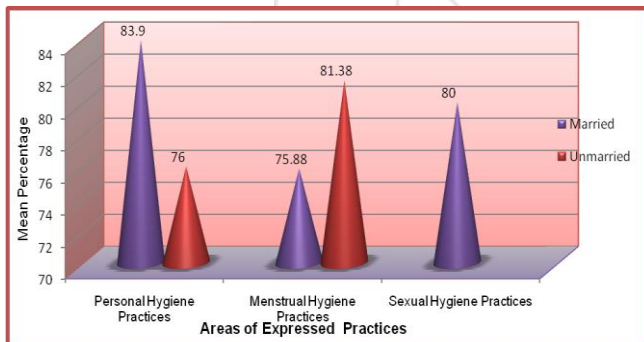

Figure 2: shows area wise Frequency and Percentage of Expressed Practices Score of Married Women regarding Reproductive Tract Infection

Table 7: Shows the Mean , Mean Difference , Standard Error of Mean Difference and 't' Value of Expressed Personal Hygiene Practices Score of Married and Unmarried Women regarding Reproductive Tract Infections

Groups	Mean	Mean Difference	S.E.$_{MD}$	S.D.$_D$	't' Value	p Value
Unmarried (n=100)	7.60	0.79	0.08	1.20	6.74[*]	0.00
Married (n=100)	8.39					

df(98)=1.97 at 0.05 level of significance

The data presented in table 7 shows that mean expressed personal hygiene practices score of married women was 8.39 and mean expressed personal hygiene practices score of unmarried women was 7.60 with the mean difference of 0.79. The calculated ' t' value 6.74 was found to be statistically significant at 0.05 level which revealed that the mean difference between the expressed personal hygiene practices score of married and unmarried women was a true difference and not by chance.

Hence, null hypothesis H_{02} is rejected and research hypotheses H_2 is accepted which suggest that there was a significant difference in expressed practices of married and unmarried women regarding reproductive tract infections.

Table 8: Shows the Mean , Mean Difference , Standard Error of Mean Difference and 't' Value of Expressed Menstrual Hygiene Practices Score of Married and Unmarried Women regarding Reproductive Tract Infection

Groups	Mean	Mean Difference	S.E.$_{MD}$	S.D.$_D$	't' Value	p Value
Unmarried (n=100)	6.51	0.44	0.12	1.55	2.75[*]	0.00
Married (n=100)	6.07					

df(98)=1.97 at 0.05 level of significance

The data presented in table 8 shows that mean expressed menstrual hygiene practices score of unmarried women was 6.51 and mean expressed menstrual hygiene practices score of unmarried women was 6.07 with the mean difference of 0.44. The calculated ' t' value 2.75 was found to be statistically significant at 0.05 level which revealed that the mean difference between the expressed menstrual hygiene practices score of married and unmarried women was a true difference and not by chance.

Hence, null hypothesis H_{02} is rejected and research hypothesis H_2 is accepted which suggest that there was a significant difference in expressed practices of married and unmarried women regarding reproductive tract infections.
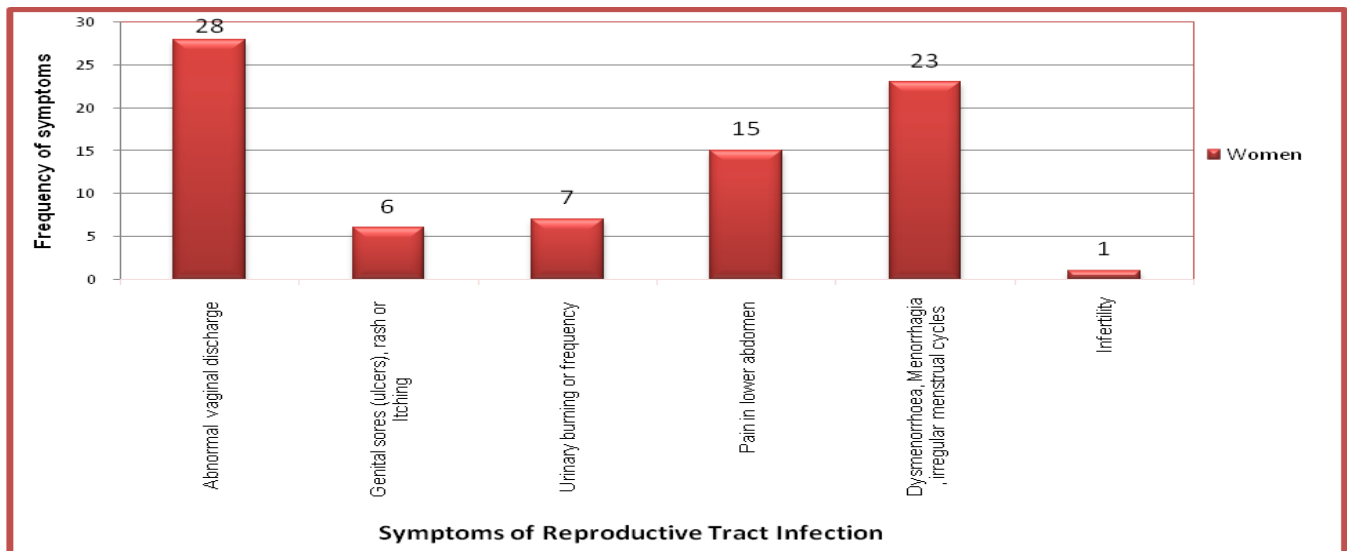
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Figure 3: Shows the Frequency and Percentage Distribution of Reproductive Tract Infection Symptoms among Married and Unmarried Women

There was a positively negligible non significant Correlation (+ 0.13) between the knowledge and expressed practices scores of married women regarding reproductive tract infections. Whereas there was low positive significant correlation (+0.22) between the knowledge and expressed practices score of unmarried women regarding reproductive tract infections.

The study showed that level of knowledge of married women were dependent on the educational status and duration of marriage whereas the level of knowledge of married women were independent on age, religion, any previous knowledge about reproductive tract infections, specify sources of information, in the past have you ever had any reproductive tract infections, if yes, then ever had taken treatment for reproductive tract infections, treatment compliance, have your partner also had symptoms of reproductive tract infections .

7. Discussion

In the present study 41% of the women were screened with the symptoms of reproductive tract infection, most common symptom were abnormal vaginal discharge, rash, itching (35%), followed by dysmenorrheal, menorrhea, irregular menstrual cycle which was seen in 28.8% of the women while that in study conducted by **Sri Devi and. Swarnalatha N (2011)**[2], and **Aparajita D, Mashutandra S(2008)**[1] most commonly observed symptoms were vaginal discharge (21.3 per cent) and lower abdominal pain (4.9 per cent).

The study reflected that 55.5% of the women had good knowledge regarding reproductive tract infection, out of which 64% of unmarried and nearly half (47%) of married had good knowledge which is contradictory to the findings of **Thakur JS, Swami HM (2010)**[6] women had inadequate knowledge regarding reproductive tract infections.

The findings of the study showed that more than half (55%) of married had very good expressed practices and less than half (45%) of unmarried women had good expressed

practices regarding prevention and management of reproductive tract infections. none of the married and unmarried women had poor expressed practices which is contradictory to the findings of **Pant B, Singh JV** [5] where women had poor hygienic practices.

8. Conclusion

The main aim of the study was to assess the knowledge and practices of married and unmarried women regarding reproductive tract infection and to screen out the cases for RTIs. On the basis of findings of the present study, the study illuminates that unmarried women had better knowledge than the married women regarding reproductive tract infections. Married women expressed practices were better than the unmarried women expressed practices regarding prevention and management of reproductive tract infections. None of the unmarried and married women had poor practices regarding prevention and management of reproductive tract infections. Abnormal vaginal discharge (increased amount, abnormal odor, abnormal color) was the most commonly founded symptom of reproductive tract infections among the married and unmarried women. Unmarried women need to be updated with knowledge of maintaining good personal hygiene practices which may be the cause of RTIs among them. The findings of the study have several implications for nursing service, education, administration and research.

9. Limitations

1. The study was limited to only one rural area Mullana, Ambala Haryana hence it was difficult to make broad generalization of the findings.
2. The study was limited to only reproductive age group women; hence it was difficult to make broad generalization of the findings.

10. Recommendations

Based on the findings of the study, the following recommendations were offered for future research:

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1. The study can be replicated on large sample with team work to validate the findings and make the generalization.
2. A study can be done to assess and compare the knowledge and practices of rural and urban area women.
3. A study can be done to assess and compare the prevalence of symptoms of reproductive tract infections in rural and urban areas.
4. A study may be conducted to assess the effectiveness of public awareness programme regarding prevention and management of reproductive tract infections in term of knowledge and practices among reproductive age women.
5. A study can be done to assess knowledge and practices among the pregnant mothers regarding reproductive tract infections.

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