STUDY TO ASSESS THE EFFECTIVENESS OF BEHAVIOUR CHANGE COMMUNICATION PACKAGE ON REPRODUCTIVE TRACT INFECTION AMONG WOMEN RESIDING IN RURAL COMMUNITY AREA- KUNDRATHUR, CHENNAI.

SUJA SURESH1, S. ARUNA2 & G. VALLI3

1Professor & HOD, Community Health Nursing Department, Billroth College of Nursing, Chennai, India
2Research, Reader, HOD., Community Health Nursing Department, Sri Ramachandra College of Nursing, Sri Ramachandra University, Chennai, India
3Research, Professor & HOD., Department of Pharmacology, Meenakshi Ammal Dental College, Maduravoyal, Chennai, India

ABSTRACT

A True experimental study was conducted to assess the effectiveness of Behavior change communication package on Reproductive Tract Infection among reproductive age group women, in a selected village under kundrathur PHC, Chennai, Tamil Nadu. Door to door survey was conducted for a period of 1 year and 3 months in Kundrathur. A total of 1154 women in the age group of 18 to 45 were identified with RTI. Then, women were allotted for study group and control group by simple random method. Pretest was conducted with a structured knowledge questionnaire on RTI, and then, implementation of behavior change communication package was administered to only study group and routine measures for control group. Reinforcement was given for only study group at 2nd month and 4th month. Post test was conducted for both the groups at the end of 2nd month and 6th month. The findings showed that during post test, there was a significant improvement among study group than control group at p< 0.001 level

KEYWORDS: Women, Effectiveness, Reproductive Tract Infection, Knowledge & Behavior Change Communication Package

INTRODUCTION

The WHO estimate 448 million new STI/RTI occur annually among adults aged 15-49 yrs.1 World Bank estimates that STI/RTI (excluding HIV) account for 8.9% of disease burden among women, aged between 15-45yrs.2 RTI range from 39% to 84% in India3. Women are reluctant to seek medical treatment, because of lack of privacy, lack of education and less female doctors, cost of treatment and their substantial socioeconomic status.4 Women are at a greater risk of RTI than men because of physiological, cultural, social, economical factors. Females are less likely to seek treatment even for symptomatic infections, because of stigma with RTI.5

Despite the significant statistical figures, global burden of disease study estimated that, 27.4% of disability adjusted life years lost in Indian women aged 15-44 years was attributed to reproductive ill health. One third of women i.e. 29.15% had experienced one symptom of RTI in the past one year, in the selected under privileged slum in Bangalore city. Only 45% women had sought the treatment, most of them lack knowledge on
RTI symptoms and its prevention. Research studies about Knowledge, Attitude and practice on RTI quoted that among married women, RTI was observed to be high, but their health seeking behavior was poor. They lack knowledge and attitude to practice preventive and curative strategies to combat RTI. Hence, the researcher decided to enrich the married women about causes prevention and management of RTI, through behavior change communication package intervention.

OBJECTIVES

• To determine the effectiveness of Behavior change communication package on RTI symptoms, and knowledge regarding reproductive tract infection among married women, compared with control group

• To associate the selected background variable with RTI symptoms and knowledge among married women in study group and control group.

RESEARCH METHODOLOGY

DESIGN

Pre test - post test control group experimental design was adopted and villages taken as unit of randomization. Setting: Study was conducted in selected villages under kundrathur PHC. Out of 19 villages, 6 villages were randomly selected: 3 for control group and 3 for experimental group.

SAMPLE

Married women between the age group of 18-45 years and residing in the selected settings with RTI symptoms for past 3 months

SAMPLE SIZE

180 married women were selected using cluster sampling; each group was allotted 90 married women. Sample size was estimated by using power analysis.

DATA COLLECTION

Institutional ethical committee approval for the study was obtained, and written permission from DDHS was availed before commencement of the research. The investigator obtained written, informed consent from the study participants before starting the study. Data was collected door to door in their residents with background variables, self reported RTI symptoms assessment check list and structured knowledge questionnaire on RTI. Content validity was obtained from experts and determined through CVI. Background variable and RTI symptoms check list was 0.867, knowledge tool = 0.936. Reliability of the tool was r= 0.77, r = 0.81, respectively.

Description of the intervention

BCCP was given to the study group by the researcher at their residence in 2 phases. Phase I was individual teaching on RTI, it included of RTI, causes, risk factors, mode of transmission, signs & symptoms, management prevention, complication of RTI. It was imparted through lecture cum discussion method using laptop; reinforcement was given in 2nd and 4th month.

Phase II was individual counseling. It focused on compliance to treatment and safe sex practice. In second session, reinforcement session was carried out during 2nd and 4th month. Data was analyzed with descriptive and inferential
statistics with SPSS package.

**MAJOR FINDINGS AND DISCUSSION**

Table 1: Frequency, Percentage and Chi Square Distribution of Demographic Variables of Married Women in Study and Control Group, N=174

| Demographic Variables          | Group                  |           |           |           |          |          | p value   |           |          |          |          |          |
|-------------------------------|------------------------|-----------|-----------|-----------|----------|----------|-----------|-----------|----------|----------|----------|----------|
|                               | Experiment (n=86)       | Control (n=88) |           |           |          |          |           | n | %        | n | %        | χ²        | DF | NS       |
| Age                           | 18 - 26 years          | 36     | 41.9%     | 36     | 40.5%    |          |           |    |          |    |          | χ²=0.34P=0.84 | 2  | NS       |
|                               | 27 - 35 years          | 28     | 31.4%     | 30     | 34.5%    |          |           |    |          |    |          |           |     |          |
|                               | 36 - 45 years          | 22     | 26.7%     | 22     | 25.0%    |          |           |    |          |    |          |           |     |          |
| Marital status                | Married                | 63     | 73.3%     | 65     | 73.9%    |          |           |    |          |    |          | χ²=3.66P=0.16 | 2  | NS       |
|                               | Widowed                | 13     | 15.1%     | 12     | 13.6%    |          |           |    |          |    |          |           |     |          |
|                               | Divorced/separated     | 10     | 11.6%     | 11     | 12.5%    |          |           |    |          |    |          |           |     |          |
| Education                     | No formal education    | 6      | 7.0%      | 5      | 5.7%     |          |           |    |          |    |          | χ²=7.04P=0.21 | 5  | NS       |
|                               | Primary                | 16     | 18.6%     | 16     | 18.2%    |          |           |    |          |    |          |           |     |          |
|                               | Middle                 | 16     | 18.6%     | 17     | 19.3%    |          |           |    |          |    |          |           |     |          |
|                               | High school            | 14     | 16.3%     | 15     | 17.0%    |          |           |    |          |    |          |           |     |          |
|                               | Higher secondary       | 24     | 27.9%     | 24     | 27.3%    |          |           |    |          |    |          |           |     |          |
|                               | Graduate or post graduate | 10     | 11.6%     | 11     | 12.5%    |          |           |    |          |    |          |           |     |          |
| Occupation                    | Unemployed/housewife   | 40     | 46.5%     | 41     | 46.6%    |          |           |    |          |    |          | χ²=2.71P=0.60 | 4  | NS       |
|                               | Unskilled worker       | 13     | 15.1%     | 13     | 14.8%    |          |           |    |          |    |          |           |     |          |
|                               | Skilled worker         | 16     | 18.6%     | 16     | 18.2%    |          |           |    |          |    |          |           |     |          |
|                               | Clerical/shop owner/farmer | 10     | 11.6%     | 11     | 12.5%    |          |           |    |          |    |          |           |     |          |
|                               | Professional           | 7      | 8.1%      | 7      | 7.9%     |          |           |    |          |    |          |           |     |          |
| Family income                 | Rs.1601 - 4809         | 5      | 5.8%      | 6      | 6.8%     |          |           |    |          |    |          | χ²=6.17P=0.29 | 5  | NS       |
|                               | Rs. 4810 - 8009        | 24     | 27.9%     | 24     | 27.3%    |          |           |    |          |    |          |           |     |          |
|                               | Rs.8010 - 12019        | 20     | 23.3%     | 21     | 23.9%    |          |           |    |          |    |          |           |     |          |
|                               | Rs.12020 - 16019       | 25     | 29.1%     | 25     | 28.4%    |          |           |    |          |    |          |           |     |          |
|                               | Rs.16020 - 32049       | 9      | 10.5%     | 9      | 10.2%    |          |           |    |          |    |          |           |     |          |
|                               | > Rs.32050             | 3      | 3.5%      | 3      | 3.4%     |          |           |    |          |    |          |           |     |          |
| Type of family                | Nuclear family         | 46     | 53.5%     | 47     | 53.4%    |          |           |    |          |    |          | χ²=0.57P=0.75 | 2  | NS       |
|                               | Joint family           | 37     | 43.0%     | 37     | 42.0%    |          |           |    |          |    |          |           |     |          |
|                               | Extended               | 3      | 3.5%      | 4      | 4.6%     |          |           |    |          |    |          |           |     |          |
| Previous knowledge            | Yes                    | 7      | 8.1%      | 8      | 9.1%     |          |           |    |          |    |          | χ²=0.05P=0.82 | 1  | NS       |
|                               | No                     | 79     | 91.9%     | 80     | 90.9%    |          |           |    |          |    |          |           |     |          |
### Menstrual variables

| Age at menarche | Group | \( \chi^2 \) p value |
|-----------------|-------|---------------------|
| Experiment (n=86) | Control (n=88) |
| n | % | n | % |
| 10 - 11 yrs | 12 | 14.0% | 13 | 14.8% |
| 12 - 13 yrs | 37 | 43.0% | 34 | 42.0% |
| 14 - 15 yrs | 28 | 32.6% | 29 | 33.0% |
| >16 yrs | 9 | 10.5% | 9 | 10.2% |

| Regularity of menstrual periods | Group | \( \chi^2 \) p value |
|--------------------------------|-------|---------------------|
| Very Regular | | |
| Experiment | 33 | 38.4% | 34 | 38.6% |
| Control | 25 | 29.1% | 26 | 29.6% |
| Regular | | |
| Experiment | 54 | 62.6% | 54 | 58.0% |
| Control | 26 | 30.5% | 26 | 29.0% |
| Somewhat regular | | |
| Experiment | 12 | 14.0% | 12 | 13.3% |
| Control | 15 | 17.0% | 15 | 16.2% |
| Very irregular | | |
| Experiment | 9 | 10.5% | 9 | 10.2% |
| Control | 10 | 11.0% | 10 | 10.8% |

| Materials used during menstruation | Group | \( \chi^2 \) p value |
|-----------------------------------|-------|---------------------|
| Experiment (n=86) | Control (n=88) |
| n | % | n | % |
| Sanitary pads | 37 | 43.0% | 37 | 42.0% |
| Cloth | 49 | 57.0% | 51 | 58.0% |

### Obstetrical and Gynecological Variables

| Age at marriage | Group | \( \chi^2 \) p value |
|-----------------|-------|---------------------|
| Experiment | Control |
| n | % | n | % |
| 18 - 21yrs | 62 | 72.1% | 63 | 71.6% |
| 22 - 25yrs | 18 | 20.9% | 18 | 20.5% |
| 26 - 29yrs | 4 | 4.7% | 4 | 4.5% |
| >30yrs | 2 | 2.3% | 3 | 3.4% |

| Age at first pregnancy | Group | \( \chi^2 \) p value |
|------------------------|-------|---------------------|
| Experiment | Control |
| n | % | n | % |
| 18 - 21yrs | 59 | 68.6% | 60 | 68.2% |
| 22 - 25yrs | 23 | 26.7% | 23 | 26.1% |
| 26 - 29yrs | 2 | 2.3% | 3 | 3.4% |
| >30yrs | 2 | 2.3% | 2 | 2.3% |

| History of recent delivery within 1 yr | Group | \( \chi^2 \) p value |
|---------------------------------------|-------|---------------------|
| Yes | No |
| Experiment | Control |
| n | % | n | % |
| Yes | 33 | 38.4% | 34 | 38.6% |
| No | 53 | 61.6% | 54 | 61.4% |

| Nature of Delivery | Group | \( \chi^2 \) p value |
|-------------------|-------|---------------------|
| Experiment | Control |
| n | % | n | % |
| Normal | 18 | 20.9% | 19 | 21.6% |
| Assisted | 10 | 11.6% | 9 | 10.2% |
| Operated | 6 | 7.0% | 7 | 8.1% |
| Not applicable | 52 | 60.5% | 53 | 60.1% |

| History of Abortion | Group | \( \chi^2 \) p value |
|---------------------|-------|---------------------|
| Yes | No |
| Experiment | Control |
| n | % | n | % |
| Yes | 22 | 25.6% | 25 | 28.4% |
| No | 64 | 74.4% | 63 | 71.6% |

| Nature of Abortion | Group | \( \chi^2 \) p value |
|--------------------|-------|---------------------|
| Experiment | Control |
| n | % | n | % |
| Spontaneous | 7 | 8.1% | 8 | 9.1% |
| Legal | 8 | 9.3% | 9 | 10.2% |
| Illegal | 7 | 8.1% | 6 | 6.8% |
| Not applicable | 64 | 74.5% | 65 | 73.9% |
Study to Assess the Effectiveness of Behaviour Change Communication Package on Reproductive Tract Infection Among Women Residing in Rural Community Area- Kundrathur, Chennai

| Sexual History and Family Planning Practice | Group | \( \chi^2 \) | p value |
|--------------------------------------------|-------|--------------|---------|
| Type of sexual relationship                |       |              |         |
| Monogamy                                   | n=86  | n=88         | \( \chi^2=1.53 \) | P=0.21 |
| Heterosexual                               | 78    | 79           | DF=1 NS |         |
| 90.7%                                      | 89.8% |
| 9.3%                                       | 10.2% |
| Frequency of sexual relationship            |       |              |         |
| Every day                                  | n=86  | n=88         | \( \chi^2=1.14 \) | P=0.78 |
| 23                                          | 24    |             | DF=3 NS |         |
| 26.7%                                      | 27.3% |
| Once a week                                | 41    | 42           |         |         |
| 47.7%                                      | 47.7% |
| Two week once                              | 17    | 16           |         |         |
| 19.8%                                      | 18.2% |
| Monthly once                               | 5     | 6            |         |         |
| 5.8%                                       | 6.8%  |
| Method of contraceptive used                |       |              |         |
| Safe period method                         | n=86  | n=88         | \( \chi^2=8.26 \) | P=0.14 |
| 11                                          | 10    |             | DF=5 NS |         |
| 12.8%                                      | 11.4% |
| Oral pills                                 | 17    | 18           |         |         |
| 19.8%                                      | 20.4% |
| Condoms                                    | 2     | 3            |         |         |
| 2.3%                                       | 3.4%  |
| Copper T                                   | 19    | 20           |         |         |
| 22.1%                                      | 22.7% |
| Permanent method/ tubectomy                 | 34    | 35           |         |         |
| 39.5%                                      | 39.8% |
| None of the above                          | 3     | 2            |         |         |
| 3.5%                                       | 2.3%  |

Table 1 show that there is similarity in frequency distribution in both study group and control group. The chi square indicated there was no significant dispersion between the group for the all the variable.

First Objective was to determine the effectiveness of Behavior change communication package on RTI symptoms and knowledge regarding reproductive tract infection among married women compared with control group.

Figure 1 depicts that in pretest, 65.1%(56) in the study group and 54.5%(48) in the control group had moderate symptoms of RTI, 64.7% (4) in study group and 34%(3) in the control group were having sever symptoms of RTI. 4.7% (4) in study group and 3.4 %( 3) in control group were having severe symptoms of RTI. During post test 1, none of the group women had severe symptoms of RTI. No symptoms of RTI was observed among 16.3 % (14) married women in the study group. 65.1 % (56) had mild symptoms of RTI in study group and 51.1% (43) in the control group. During post test 2, among study group, women 50% (43) had no symptoms and only 50%(43) exhibited mild symptoms of RTI, but in control group 55.7% hand mild symptoms and 44.3%(39) had moderate symptoms of RTI.
Table 2: Comparison of Pretest, Posttest 1 and Posttest 2 Mean Score of RTI Symptoms Among Married Women between Study Group and Control Group. N=174

| Duration of study | Group               | Mean Difference | Student independent t-test |
|-------------------|---------------------|----------------|---------------------------|
|                   | Study(n=86) | Control(n=88) | Study(n=86) | Control(n=88) | Mean Difference | t-test | DF | P       |
| Pretest           | Mean       | SD           | Mean       | SD           | 0.76             | 1.08 | 178 | 0.28 NS |
|                   | 31.13      | 5.00         | 30.37      | 4.47         |                  |       |     |         |
| Posttest1         | Mean       | SD           | Mean       | SD           | **9.92**         | 19.42 | 178 | **<0.001*** |
|                   | 18.19      | 3.32         | 28.11      | 3.53         |                  |       |     |         |
| Posttest2         | Mean       | SD           | Mean       | SD           | **12.5**         | 31.98 | 178 | **<0.001*** |
|                   | 14.77      | 1.04         | 27.27      | 3.56         |                  |       |     |         |

Not significant P >0.05 *** very high significant at P ≤ 0.001

Table 2 shows, pre test RTI symptoms scores was 31.13 with SD 5 for the study group and 30.32 with SD 4.9 for control group. In the post test 1, RTI symptom mean score was 18.19 with SD of 3.32 among study group and 28.11 with SD of 3.53 in the control group. Highly significant reduction in RTI symptoms was noticed at p<0.001 level. In post test 2, mean score of 14.77 with SD of 1.64 in study group and 27.27 with SD of 3.56 among control group obtained, and the t value was 31.98, which was statistically significant with p<0.001 level. The results are similar to the study done by Sri Devi et al\textsuperscript{7} and Nanadan D\textsuperscript{8} in Thrirupathi.

Table 3 depicts, the pretest mean knowledge score was 8.15 with SD of 2.99 in the study group and 7.58 with SD...
of 2.45 in the control group. During post test 1, the mean score knowledge score was 13.64 with SD of 2.43 in the study group and mean score of 8.15 with SD of 2.74 in the control group. The mean difference was 5.46 with t value of 13.59, which was highly significant at p<0.001 level.

The post test 2 showed a highly significant difference (t=19.25, mean difference =2.80) between the groups at p<0.001 level. In post test 1 and post test 2, knowledge score of married women in study group showed significant improvement but in control group, there was no much difference. In this study, we found that the knowledge on RTI among women was poor before BCCP; this was supported by study conducted by Rizwan S. A. etal in Haryana. After BCCP, there was significant increase in knowledge, but such change was not observed among control group.

Second Objective was to associate the selected background variable with RTI symptoms and knowledge among married women in study group and control group.

Association between RTI symptoms reduction score with behavior in the study group showed, there is association with younger age, previous knowledge, and monogamy sexual women showed reduction in RTI symptoms at p <0.001 level. In the control group, none of the variables were associated with RTI symptoms of Women.

Association between knowledge gain score with selected behavior explicit that elderly women, more educated, more income women were having good knowledge gain score than others in the study group at p<0.001 level. In the control group, none of the variables were associated with knowledge level of women.

CONCLUSIONS

Knowledge regarding RTI was found to be poor among women before BCCP intervention (81.5% in study group and 84.1% in control group). After intervention, the knowledge of Study group women was adequate 61.6% in post test 1 and 82.6% in post test2. None of them were having poor knowledge. But in control group, none of them showed adequate level of knowledge. RTI symptoms were moderate and severe among both the groups in study group in pretest. During post test among study group, women showed reduction in RTI symptoms from mild to no symptoms (50%, 50%), but in control group 55.7% had mild and 44.3% had moderate RTI symptoms.

LIMITATIONS

- Even though adequate precautions were taken to ensure privacy and confidentiality, since the topic was sensitive, women may be apprehensive to reveal their problems. Hence, they would hide their RTI symptoms.

- Limited to rural population only.

RECOMMENDATIONS

- This study can be done with large sample, with a comparison between rural and urban population.

- Self reported RTI can be confirmed with clinical and laboratory findings.

REFERENCES

1. WHO. Sexually transmitted diseases. Fact sheet. No.110: August, 2011.

2. Over M, Piot P. HIV infection and other STDs in developing countries; public health importance and priorities for resource allocation. J infection Dis. 1996; 174(2) 162 – 75.
3. Bang R A, Bang AT, Baitule M et al. High prevalence of Gynecological disease in rural Indian Women. Lancet. 1989; (1), 85-8.

4. Barue A and Kurz K. Reproductive health seeking by married adolescent girls in Maharastra, India. Reproductive health matters 2001;9(17) 53 -62.

5. Devi BS, Swarnalatha N. Prevalence of RTI and STI among reproductive age women(15-49years) in urban slums of Thirupati town. Andhrapradesh. Health Pope/ perspect issues 2007; 30: 56-70.

6. Suja Suresh et al., Prevalence and Health Seeking Behavior among Specific Women Group on Reproductive Tract Infection in Rural Community Area of Kancheepuram District, Tamil Nadu: A Cross Sectional Study Report, International Journal of Medicine and Pharmaceutical Sciences (IJMPS), Volume 7, Issue 4, July - August 2017, pp. 1-6

7. Ratnaprabha GK, SulekhaThimmaiah, Avita Rose Johnson et al, prevalence and awareness of reproductive tract infections among women in selected areas of Bangalore city.Inter national journal of Medical science and public health.2015; vol 4, issue 12; 1691-1696.

8. Devi.S .Swarnalatha .N. Preveleence of RTI /STI among reproductive age women in urban slums of Thirupathitown.A.P. Health and population perspectives and issues .2007; 30(1).

9. NandanMisra S.K. , Sharma etal. (2002) estimation of prevalence of RTI /STDs among women of reproductive age group in district of Agra. Indian journal of community medicine .2002.27:110013

10. Rizwan. S.A, Rama. S. Rathetal. (2015). KAP study on sexually transmitted infections/Reproductive tract infections(STDs/RTIs) among marred women in rural Haryana.Indiandermatol online J;6(1):9-12