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Cover Page Footnote

Nil

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Abstract

Introduction: Motherhood represents a time of great change that challenges women in many ways. **Objectives:** The objectives of the study were to evaluate the effectiveness of a structured counselling program in terms of gain in knowledge on Human Immunodeficiency Virus (HIV) and self-care behaviour and increase in use and effectiveness of coping strategies and to find the association between pretest levels of knowledge and coping strategies with selected socio demographic variables. **Methods:** An evaluative study was carried out to assess the effectiveness of a structured counselling program on knowledge of self care behaviour and coping strategies among HIV infected post-natal mothers. The Solomon four group randomized control design was used for the study with a sample size of 80 HIV infected post-natal mothers who were divided into four groups. The structured counselling program was administered and data were collected through Structured Knowledge Questionnaire formulated by the author and the Jalowiec Coping Scale (JCS). **Results:** Results showed a significant gain in knowledge of self-care behaviour and coping styles after the administration of the structured counselling program.

Key Words: HIV, coping styles, knowledge of self-care behaviour, counselling program.

INTRODUCTION

Since the first description of Acquired Immune Deficiency Syndrome (AIDS) in 1981, its impact on society is undeniable. In 2001, the United Nations General Assembly on HIV/AIDS unanimously acknowledged that the AIDS epidemic constitutes a "global emergency and one of the most formidable challenges to human life and dignity" (United Nations General Assembly, 2001, p.6). By the end of 2005, women accounted for 48 percent of all adults living with Human/ Acquired Immune Deficiency Virus (HIV/AIDS) worldwide (Report on the global AIDS epidemic, 2006). In India, around 22 percent of AIDS and around 30 percent of new HIV infection cases are reported among women. A study from a HIV care centre in South India reported that 44 percent of couples were serodiscordant for HIV, but many

women were willing to risk of acquiring HIV in order to conceive a child. "I would rather be HIV positive than barren women", said one HIV negative woman whose husband was HIV positive (Solomon et al., 2006).

Karnataka is one of the six states with a high prevalence of HIV/AIDS. A total of 26,399 HIV/AIDS cases have been reported in the state between 1987 and 2004. Around 25,056 of these cases were natives of Belgaum division, comprising Belgaum, Bijapur, Bagalkot, Dharwad, Haveri, Gadag and Uttar Kannada districts, with an estimate of 7698 cases, followed by Bangalore division. Dr Dharwadkar, Joint Director, Karnataka State AIDS Prevention Society (KSAPS) expressed that sentinel surveillance has indicated that the HIV burden in Karnataka is high. About 1.5 percent of the adult population is infected with HIV and there are at

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least 20 districts with a mean prevalence of more than 1 percent, which include Belgaum, Koppal, Bagalkot and Dharwad districts (Draft Report - NGO consultation, 2006).

The need for successful health promotion has increased with continued rise in HIV cases. Knowledge and education on HIV/AIDS are major factors influencing risk behaviour in HIV positive persons. Clearly a need for effective behavioral and public health intervention remains evident (Mendias and Paar, 2007).

A study was conducted by Borgia *et al.*, (2002) to explore quality of life and coping methods among 52 HIV positive women using Padilla Quality of Life Index and Jalowiec Coping Scale. The study recommended the need for equipping the nurses to understand the common concerns of women living with HIV and provide effective strategies to promote general well-being. Thus, this study was conducted to evaluate the effectiveness of structured counselling program in terms of gain in knowledge on HIV and self-care behaviour scores, increase in use and effectiveness of coping strategies scores and find the association between pretest level of knowledge and coping strategies with selected socio demographic variables.

MATERIALS & METHODS

An evaluative approach with the Solomon four group randomized control design was used for the study. The sample consisted of 80 HIV infected post-natal mothers who were selected randomly and assigned to one of the four groups. The Structured Counselling Program was designed to provide information regarding HIV and related self-care behaviour. Data was collected through a Structured Knowledge Questionnaire formulated by the author and Jalowiec Coping Scale. The validity of the Structured Knowledge Questionnaire was established by expert-ratings; the content validity index (CVI) was found to be 0.86. A CVI of 0.88 was found for the Structured Counselling Program. Content validity was not established for Jalowiec Coping Scale as it is a standard scale. Reliability of the Structured Knowledge Questionnaire was established by administering the tool to HIV infected post-natal

mothers in the Belgaum district hospital. The reliability coefficient for the tool tested by the split half method was found to be 0.92.

The procedure used for data collection was as follows:

- Step 1: The investigators obtained permission from the respective hospital authority to conduct the study.
- Step 2: Obtained ethical clearance from the Institution Ethics Committee
- Step 3: HIV infected post-natal mothers were selected randomly and assigned to the four groups.
- Step 4: Investigator introduced herself to mothers and informed about aims and objectives of the proposed study.
- Step 5: Assess the pre-test levels of knowledge regarding HIV, self-care behaviour and coping strategies.
- Step 6: Conducted pre-test with Structured Knowledge Questionnaire and Jalowiec Coping Scale in groups one and two.
- Step 7: Administered a Structured Counselling Program on HIV and related self-care behaviour for groups one and three.
- Step 8: Conducted post test using Structured Knowledge Questionnaire and Jalowiec Coping Scale to all the four groups.
- Step 9: Assessed the post test levels of knowledge regarding HIV, self-care behaviour and coping strategies The JCS has eight different coping styles. The eight coping styles are confrontive coping style (10 items), evasive coping style (13 items), optimistic coping style (9 items), fatalistic coping style (4 items), emotive coping style (5 items), palliative coping style (7 items), supportant coping style (5 item) and self reliant coping style (7 items)..

RESULTS

Description of socio-demographic variables

The frequency and percentage distribution of socio-demographic variables are described in Table 1.

Table 1: Frequency and percentage distribution of background information on HIV infected post-natal mothers. (n=80)

| Background information | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Age in years | | |
| Below 19 | 3 | 3.75 |
| 19-24 | 18 | 22.50 |
| 25-29 | 45 | 56.25 |
| 30 and above | 14 | 17.50 |
| Marital status | | |
| Married | 42 | 52.50 |
| Unmarried | 3 | 3.75 |
| Divorcee | 17 | 21.25 |
| Widow | 18 | 22.50 |
| Type of family | | |
| Nuclear | 38 | 47.50 |
| Joint | 31 | 38.75 |
| Extended | 11 | 13.75 |
| Educational status (self) | | |
| Primary | 24 | 30.00 |
| Secondary | 18 | 22.50 |
| Higher secondary | 25 | 31.25 |
| Graduate | 13 | 16.25 |
| Educational status (husband) | | |
| Primary | 35 | 43.75 |
| Secondary | 22 | 27.50 |
| Higher secondary | 13 | 16.25 |
| Graduate | 10 | 12.50 |
| Occupational status (self) | | |
| Professional | 3 | 3.75 |
| Skilled worker | 32 | 40.00 |
| Unskilled worker | 24 | 30.00 |
| Unemployed | 21 | 26.25 |
| Occupational status (husband) | | |
| Professional | 12 | 15.00 |
| Skilled worker | 45 | 56.25 |
| Unskilled worker | 33 | 41.25 |
| Unemployed | 10 | 12.50 |
| Family Income per month | | |
| Rs.5001 & Above | 22 | 27.50 |
| Rs.4001 – 5000 | 42 | 52.50 |
| Rs.3001 – 4000 | 12 | 15.00 |
| Below Rs.2000 | 4 | 5.00 |

The data in Table 2 demonstrated that as per the Solomon four group design, there was no homogeneity in the pre-test and post-test scores. Group one and three had intervention whereas groups 2 and 4 did not receive intervention. Groups 1 and 2 had a pre-test, whereas group 3 and 4 did not have a pre-test. In group 1, during the pre-test 5 post-natal mothers had good knowledge, 10 (12.5%) post-natal mothers had average knowledge and 5 (6.25%) post-natal mothers had poor knowledge regarding self-care behaviour, where as in the post-test after the intervention 11 (13.75%) post-natal mothers had good knowledge and 9 (11.25%) had average knowledge regarding self-care behaviour. Similarly, in group 2, in the pre-test 4 (5%) post-natal mothers had good knowledge, 8 (10%) had average knowledge and 8 (10%) had poor knowledge regarding self-care behaviour whereas in the post-test without intervention, 8 (10%) post-natal mothers had good knowledge, 9 (11.25%) had average knowledge and 3 (3.75%) had poor knowledge regarding self-care behaviour. In group 3 there was no pre-test, but after the counselling program 12 (15%) post-natal mothers had good knowledge, 8 (10%) had average knowledge, but no mother had poor knowledge regarding self-care behaviour. Finally, in group 4, which received neither pre-test nor intervention, 5 (6.25%) post-natal mothers had good knowledge, 5 (6.25%) had average knowledge and 9 (11.25%) had poor knowledge regarding self-care behaviour, which demonstrated that there was no increase in knowledge regarding self-care behaviour.

Findings related to knowledge of self-care behaviour among HIV infected post-natal mothers

Table 2: Pre-test and post-test frequency and percentage distribution of HIV infected post-natal mothers on knowledge of self care behaviour (n=80)

| Groups | Pre-test Scores | | | | | | Post-test Scores | | | | | |
|-----------------------|-----------------|------|---------|-------|------|-------|------------------|-------|---------|-------|------|-------|
| | Good | | Average | | Poor | | Good | | Average | | Poor | |
| | f | % | f | % | f | % | f | % | F | % | f | % |
| Group1 (Exp. Group) | 5 | 6.25 | 10 | 12.5 | 5 | 6.25 | 11 | 13.75 | 9 | 11.25 | 0 | 0 |
| Group 2 (Ctrl. Group) | 4 | 5.00 | 8 | 10.00 | 8 | 10.00 | 8 | 10.00 | 9 | 11.25 | 3 | 3.75 |
| Group3 (Exp. Group) | - | - | - | - | - | - | 12 | 15.00 | 8 | 10.00 | 0 | 0 |
| Group 4 (Ctrl. Group) | - | - | - | - | - | - | 5 | 6.25 | 5 | 6.25 | 9 | 11.25 |

Effectiveness of Structured Counselling Program

Table 3: Comparison of groups with respect to pre-test and post-test knowledge scores of self care behaviour.

| Groups | Pre-test | | Post-test | |
|---|----------|------|-----------|------|
| | means | SD | means | SD |
| Group 1 | 3.55 | 1.99 | 26.05 | 4.90 |
| Group 2 | 3.55 | 1.99 | 36.45 | 6.48 |
| Group 3 | -- | 0.00 | 8.15 | 2.43 |
| Group 4 | -- | 0.00 | 10.55 | 2.76 |
| F-value | 0.0000 | | 179.874 | |
| P-value | 1.0000 | | 0.0000* | |
| Pair wise comparison of four groups by Tukey's HSD multiple post hoc procedures | | | | |
| Group 1 vs Group 2 | 1.0000 | | 0.0001* | |
| Group 1 vs Group 3 | - | | 0.0001* | |
| Group 1 vs Group 4 | - | | 0.0001* | |
| Group 2 vs Group 3 | - | | 0.0001* | |
| Group 2 vs Group 4 | - | | 0.0001* | |
| Group 3 vs Group 4 | - | | 0.0930 | |

*p<0.05 (Significant at 5% level of significance)

The data presented in Table 3 indicate a significant difference between the four groups with respect to post-test knowledge scores of self care behaviour (F=179.87, p<0.05) at 5% level of significance.

Coping styles used by HIV infected post-natal mothers

Analysis was done to determine the mean, standard deviation and mean percentage of use and effectiveness of Jalowiec Coping Scale used to measure the coping strategies of HIV infected post-natal mothers.

The data presented in Table 4 show that in the pre-test the mean percentage score of use is higher in the area of optimistic coping style (13.36%) compared to other coping styles and the mean percentage score of effect is higher in the area of supportant coping strategy (14.57%) compared to other coping strategies. It was inferred that palliative coping strategy has an apparently more homogenous distribution.

Table 4: Subscale-wise adjusted mean, standard deviation and mean percentage distribution of use and effect on coping styles of JCS among HIV infected post-natal mothers. (pre-test scores) (n=80)

| Coping strategies | No. of items | Adjusted mean score (use) | Standard deviation (use) | Adjusted mean% (use) | Adjusted mean score (effect) | Standard deviation (effect) | Adjusted mean % (effect) |
|-------------------|--------------|---------------------------|--------------------------|----------------------|------------------------------|-----------------------------|--------------------------|
| Confrontive | 10 | 1.69 | ± 0.38 | 12.85 | 1.68 | ± 0.37 | 11.33 |
| Evasive | 13 | 1.68 | ± 0.37 | 12.77 | 1.83 | ± 0.36 | 12.34 |
| Optimistic | 9 | 1.76 | ± 0.37 | 13.36 | 1.83 | ± 0.38 | 12.34 |
| Fatalistic | 4 | 1.66 | ± 0.33 | 12.57 | 1.87 | ± 0.40 | 12.61 |
| Emotive | 5 | 1.52 | ± 0.31 | 11.50 | 1.77 | ± 0.49 | 11.94 |
| Palliative | 7 | 1.49 | ± 0.42 | 11.29 | 1.75 | ± 0.44 | 11.80 |
| Supportant | 5 | 1.71 | ± 0.38 | 12.93 | 2.16 | ± 0.66 | 14.57 |
| Self-reliant | 7 | 1.67 | ± 0.37 | 12.69 | 1.93 | ± 0.45 | 13.02 |

Table 5: Adjusted mean, standard deviation and mean percentage distribution of use & effect on coping styles of JCS among HIV infected post-natal mothers. (post-test scores) (n=80)

| Coping strategies | No. of items | Adjusted mean score (use) | Standard deviation (use) | Adjusted mean% (use) | Adjusted mean score (effect) | Standard deviation (effect) | Adjusted mean % (effect) |
|-------------------|--------------|---------------------------|--------------------------|----------------------|------------------------------|-----------------------------|--------------------------|
| Confrontive | 10 | 2.13 | ± 0.28 | 12.00 | 2.45 | ± 0.21 | 12.06 |
| Evasive | 13 | 2.29 | ± 0.39 | 12.91 | 2.51 | ± 0.19 | 12.37 |
| Optimistic | 9 | 2.41 | ± 0.80 | 13.58 | 2.51 | ± 0.22 | 12.36 |
| Fatalistic | 4 | 2.23 | ± 0.43 | 12.60 | 2.55 | ± 0.25 | 12.53 |
| Emotive | 5 | 2.26 | ± 0.32 | 12.73 | 2.59 | ± 0.22 | 12.61 |
| Palliative | 7 | 2.12 | ± 0.34 | 11.95 | 2.53 | ± 0.23 | 12.46 |
| Supportant | 5 | 2.20 | ± 0.29 | 12.39 | 2.65 | ± 0.29 | 13.02 |
| Self-reliant | 7 | 2.10 | ± 0.35 | 11.87 | 2.53 | ± 0.24 | 12.46 |

The data presented in Table 5 show that in post-test the mean percentage score of use is higher in the area of evasive coping style (12.91%) compared to other coping strategies. The least mean percentage score was observed for the self-reliant coping style (11.87%). The mean percentage score of effect is higher in the area of supportant (13.02%) coping strategy as compared to other coping strategies. The least mean percentage score was found to be in the confrontive (12.06%) coping style.

Findings related to association between pre-test level of knowledge and selected socio demographic variables.

The Chi-square value did not show statistically significant association between pre-test level of knowledge and selected demographic variables. Thus, it was inferred that the pre-test level of knowledge was independent of selected socio-demographic variables.

Findings related to association between pre-test level of coping strategies and selected demographic variables.

The Chi-square value did not show statistically significant association. Thus, it was inferred that the use and effectiveness of coping strategies were independent of selected demographic variables.

DISCUSSION

The assessment of knowledge regarding self-care behaviour among HIV infected post-natal mothers showed that the majority of the HIV infected post-natal mothers had average knowledge. Similar findings were observed in a study conducted in Pondicherry, India by Bibi et al., (2006) on awareness of HIV/AIDS and in a study conducted by Shrotri and Shankar (2003), among pregnant women in Pune, India. The findings on the assessment of coping strategies among HIV infected post-natal mothers revealed that optimistic coping styles were more frequently used (13.36%) than the others. Supportant coping style showed better effect (14.32%) than other strategies. Thus, the mothers were optimistic about their future.

CONCLUSION

The structured counselling technique was effective in improving the knowledge and coping score of the post-natal HIV positive mothers. The counselling program can be implemented on a regular basis, which will help post-natal HIV positive mothers to cope better with their status.

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