

Psychosocial outcomes of pregnancy in women living with HIV in Coimbatore District of Tamil Nadu

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Abstract: HIV in pregnancy can be described as a bio-psychosocial phenomenon, as its impact is not only limited to the immune system, but also on the psychological functioning, culture and religion of individuals. Pregnant women with HIV who lack psychosocial support may experience stress, anxiety and depression that could possibly affect fetal wellbeing. This study was done to identify and measure specific psychosocial outcomes of pregnancy in 20 pregnant women with HIV in Coimbatore district, Tamilnadu over a period of six months, using a self developed instrument with 55 items named *PROMO-HIV* (Pregnancy outcome of mothers with HIV). The four components of specific outcome of pregnancy in women with HIV measured in this study are attitude of the women towards pregnancy with HIV, coping with pregnancy and HIV, knowledge on neonatal wellbeing and perceived postnatal quality of life. Assessment of the component 'attitude towards pregnancy with HIV' revealed only 40% of the respondents had favorable attitude towards pregnancy with HIV. For the component 'coping with pregnancy and HIV' 35% had adaptive coping and 65% had maladaptive coping. In the component 'knowledge regarding neonatal wellbeing HIV' 25% of the respondents had low, 65% had moderate and 10% had high level of knowledge regarding neonatal wellbeing. For the component 'perceived postnatal quality of life' 15% of the respondents had poor, 55% had moderate and 30% had good perceived postnatal quality of life. No significant association was found between specific pregnancy outcome components of pregnant women with HIV and selected socio-demographic data & clinical profile. Correlation analysis among the components of specific pregnancy outcome showed significant positive correlation ($p < 0.001$). To improve the psychosocial outcomes in HIV positive pregnant women, more focus should be on psychosocial assessment and developing need based counseling interventions in order to achieve better pregnancy outcome.

Keywords: psychosocial, pregnancy, outcome, women, HIV, Coimbatore,

I. Introduction

The transmission of HIV from an HIV-positive mother to her child during pregnancy, labor, delivery or breastfeeding is called mother-to-child transmission. Mother-to-child transmission (MTCT) of HIV focuses attention on women, but the use of the term MTCT is not to imply blame, whether or not a woman is aware of her own infection status¹. A woman can acquire HIV through unprotected sex with an infected partner, by receiving contaminated blood, or through exposure to unsterile instruments or medical procedures. HIV is often introduced into the family through the woman's sexual partner, often the father of her child.

There are an estimated 2.1 million (2011) people living with HIV (PLHIV) in India, with National adult HIV prevalence of 0.27% (2011). Of these, women constitute 39% of all PLHIV while children less than 15 years of age constitute 7% of all infections. As on March 2013, 0.1 million HIV positive children had been registered under the antiretroviral therapy (ART)². Parent-to-child transmission accounts for 5.4 per cent of the newly infected cases³. The prevalence of HIV infection in antenatal mothers in TamilNadu is below 1%. TamilNadu comes under group I high-prevalence state as the prevalence is above 5% in the high-risk group (HRG)⁴.

The scope of services being provided has over the years expanded rapidly, with addition of prevention of parent- to-child transmission (PPTCT) and access to anti-retroviral therapy (ART). Global PMTCT efforts have focused primarily on the third element of the PMTCT strategy: the provision of antiretroviral drugs to pregnant women living with HIV to prevent vertical transmission⁵. There is a strong focus of programs on the use of drugs to prevent HIV, with little understanding of the social and behavioral aspects of such intervention⁶. With the increase in access to ART and the desire of many HIV-positive women to pursue options for safer pregnancy, become pregnant and bear children, there is a clear need to identify gaps in knowledge and create comprehensive solutions.

HIV in pregnancy can be described as a bio-psychosocial phenomenon, as its impact is not only limited to the immune system, but also on the psychological functioning, culture and religion of individuals⁷.

Psychosocial stressors experienced during pregnancy encompasses life experiences, including changes in personal life, job status, family makeup, housing and the possibility of domestic violence. This requires adaptive coping mechanisms on the part of the pregnant woman. The physiological and psychological changes caused by pregnancy may increase a woman's vulnerability to depression, which may in turn have adverse effects on both maternal and fetal wellbeing⁸. Pregnant women who lack psychosocial support may experience stress, anxiety and depression that could possibly affect fetal wellbeing.

Most quantitative and qualitative studies on pregnant women with HIV/AIDS emphasize risks for adverse pregnancy outcomes related to non-adherence to HIV ART, especially the risk of mother-to-child transmission of HIV infection. In contrast, few studies examine adherence facilitators reported by HIV-infected pregnant women, such as adequate prenatal care, support from her sexual partner and family, and concerns about the fetus' or newborn's welfare.

Antenatal care is usually offered in the form of routine physical assessment and care, with limited or no psychosocial assessment and care. The overall aim of psychosocial risk assessment during pregnancy is to screen the pregnant population, provide care and appropriate intervention to women in need, which would reduce the risk for psychosocial stress and promote a positive attitude towards childbirth. In addition to minimizing maternal distress, psychosocial support inspires healthier lifestyles and discourages behaviors such as substance abuse and poor nutritional intake, thus promoting a healthier pregnancy outcome.

There is evidence that women are more motivated to address health issues during pregnancy and the postpartum period and it may be easier to change behaviors during such important transitional periods⁹. It is important to consider numerous psychological and social factors when trying to assess pregnancy in HIV, rather than just examining biological factors. Hence this study was done to identify and measure specific psychosocial outcomes of pregnancy in women with HIV using a self developed instrument named PROMO-HIV (Pregnancy outcome of mothers with HIV). Specific outcomes of pregnancy in women with HIV measured in this study are attitude of the women towards pregnancy with HIV, coping with pregnancy and HIV, knowledge on neonatal wellbeing and perceived postnatal quality of life

II. Methods and Materials

Mixed method approach was used for this study. Qualitative information from pregnant women with HIV was collected and analyzed to identify conditions and contexts related to specific pregnancy outcome. Considering the resulting categories as variables a quantitative instrument -The Pregnancy Outcome of Mothers with HIV (PROMO-HIV) scale, was developed to assess the specific pregnancy outcome in HIV positive pregnant women.

Consecutive sample of 20 pregnant women with HIV were recruited from the PPTCT center of Coimbatore Medical College Hospital. The study was described to the women and informed consent was obtained from all the subjects. The interviewer administered the questionnaires as a face-to-face interview. The study was done with the approval of Coimbatore District Program Officer, Tamilnadu Aids Control Society (TANSACS).

The PROMO-HIV (Pregnancy Outcome in Mothers with HIV) Scale was developed after extensive review of literature. A comprehensive list of items was identified after interviewing health care providers. The identified items were used as interview guidelines. The audio-taped responses from the interview were transcribed. The transcribed data was interpreted and the emerging themes were identified and analyzed. These themes were organized into four main categories; attitude towards pregnancy with HIV, coping with pregnancy and HIV, neonatal wellbeing and postnatal quality of life. A list of items was developed from the analyzed themes. Each item was rated using a Likert scale with four response categories consisting of "Strongly Disagree" (1), "Disagree" (2), "Agree" (3), and "Strongly Agree" (4). A selection of items was "reversed" to reduce responder bias that may occur when all items are written as positive. The questionnaire was then forwarded to a panel of experts who were asked to comment on the representativeness and relevance of each item in the questionnaire. A mean rating score was generated for each item. The most important items needed were selected for inclusion in the questionnaire. The revised questionnaire consisted of 55 items. The overall score obtained by each subject was interpreted as: Poor, Moderate, high & Very high. The questions were translated into Tamil. No changes were made to question phrasing. The PROMO-HIV scale had a strong internal consistency ($\alpha = 0.87$).

Each subscale includes three attributes. **Subscale 1: Attitude of the mother towards pregnancy with HIV:** 10(18.1%) items address (a). acceptance of pregnancy with HIV, (b). concern for wellbeing of self and (c). concern for wellbeing of baby. Scores obtained by each subject was interpreted as: Favorable & Unfavorable. **Subscale 2: Coping of the mother with pregnancy and HIV:** 15(27.3%) items address (a).general health,(b) medication side effects, (c). disclosure & family support. Scores obtained by each subject was interpreted as: Adaptive coping & Maladaptive coping. **Subscale 3: Knowledge on neonatal wellbeing:** 15(27.3%) items are targeted to assess the (a). knowledge on neonatal care, (b). feeding options and (c). HIV medication. Scores

obtained by each subject was interpreted as: Low, Moderate, & High. **Subscale 4: Perceived postnatal quality of life:** 15(27.3%) items address (a). perceived physical wellbeing, (b). mental health and (c). social functioning in the postnatal period. Scores obtained by each subject was interpreted as: Poor, Moderate & Good

Data was collected from **May 2013 to October 2013**. Socio-demographic data along with clinical information regarding HIV diagnosis date, mode of infection, previous hospitalization, HIV status of spouse, number of previous pregnancies, gestational age, last menstrual period & estimated date of delivery was obtained from the respondents. Pregnancy Outcome in Mothers with HIV (PROMO-HIV) scale was administered on the third postpartum day for mothers with normal delivery and fifth post-partum day for mothers who underwent caesarean section. The average time required to administer the scale was 25 minutes.

Descriptive and inferential statistical analysis was done using the software for statistical analysis (SPSS -21st version). The mean scores of each of the four specific pregnancy outcome components were determined. Scores in each component were split into various levels and the percentage of patients in each level was calculated. Pearson's analysis was used for the correlation between the variables. Chi-square test was used to find the association between the variables.

III. Results

The mean age of the sample subjects was 27 years. Majority of the mothers were in the age group of 26-30. Majority of the respondents belonged to Hindu religion. 64.7 % of the mothers had very poor socio-economic status and 95% of the mothers were engaged in work though they stopped working after confirmation of their pregnancy and all the women were married.

Table 1: Distribution of HIV positive pregnant women by socio-demographic variables (N=20)

Demographic Variables		frequency	%
Age	16-20	1	5.0
	21-25	6	30.0
	26-30	9	45.0
	31-35	4	20.0
	36-40	0	0.0
Education	None	1	5.0
	1-4	2	10.0
	5-7	2	10.0
	7-9	12	60.0
	Secondary School	2	10.0
	College	1	5.0
Residence	Urban	11	55.0
	Rural	9	45.0
Religion	Hindu	20	100.0
	Christian	0	0.0
	Muslim	0	0.0
	Others	0	0.0
Income	< 3000	11	64.7
	3000-5000	6	35.3
	5000-7000	0	0.0
	7000-10000	0	0.0
	> 10000	0	0.0
Occupation	Working full time	18	90.0
	Working part time	2	10.0
	Unemployed	0	0.0
	Others	0	0.0
Marital Status	Single	0	0.0
	Married	20	100.0
	Separated	0	0.0
	Divorced	0	0.0
	Widowed	0	0.0

AIDS-related clinical profile of the subjects showed that 35% of the respondents had HIV duration of 6-12 months and were diagnosed with HIV during their regular antenatal check up, 20% had been diagnosed and living with AIDS for 1-2 years, 20% had been living with HIV for 2-4 years, 15 % had HIV history of 4-6 years and 10 % had a greater than 6 year history of living with HIV. About 50% of the respondents were

pregnant for the first time, and 50% had more than one pregnancy. For 95% of the women the route of infection was their husband and 5% of the women were infected by others. Majority of the husbands (95 %) were HIV positive. 5% of the women were not sure regarding the HIV status of their husbands. About 90% of the women reported disclosing their HIV status to their husband, 50% reported disclosing to both husband and parents. 10% reported disclosing to husband and other family members, and 5% reported not disclosing to anyone. 60% of the women had no history of previous hospitalization and 40% of women had history of previous hospitalization.

Table2: Distribution of HIV positive pregnant women by clinical profile (N=20)

Clinical profile		F	%
HIV: Illness	Duration of		
	6months-1year	7	35
	1-2 years	4	20
	2-4 years	4	20
	4-6 years	3	15
	6-8years	2	10
	8-10years	-	-
	10-12years	-	-
Pregnancy	Primigravida	10	50
	Multigravida	10	50
Route of infection	Husband	18	90
	Others	2	10
Husband infected	Infected	19	95
	Not infected	-	-
	Don't know	1	5
Disclosure	Husband	18	90
	Husband &Parents	10	50
	Husband &Others	2	10
	No one	-	-
Previous Hospitalization	Hospitalized	12	60
	Not hospitalized	8	40

Overall assessment of specific pregnancy outcome components of pregnant women with HIV based on scores obtained on the PROMO-HIV scale revealed that 45% of HIV positive women were in the low score levels and 50% had moderate score level, 5% had high score level and none of the women had very high scores.

Table 3: Frequency distribution of respondents on specific pregnancy outcome components (N=20).

Specific pregnancy outcome component		f	%
Attitude towards pregnancy with HIV	Unfavourable	12	60
	Favourable	8	40
Coping with pregnancy and HIV	Maladaptive coping	13	65
	Adaptive coping	7	35
Knowledge on neonatal wellbeing	Low	5	25
	Moderate	13	65
	High	1	5
Perceived postnatal quality of life	Poor	3	15
	Moderate	11	55
	Good	6	30
Overall specific pregnancy outcome	Low	9	45
	Moderate	10	50
	High	1	5
	Very high	-	-

Assessment of the component 'attitude towards pregnancy with HIV' revealed 40% of the respondents had favorable attitude towards pregnancy with HIV. Assessment of the component 'coping with pregnancy and HIV' revealed 35% had adaptive coping and 65% had maladaptive coping. Assessment of the component 'knowledge regarding neonatal wellbeing HIV' revealed 25% of the respondents had low, 65% had moderate and 10% had high level of knowledge regarding neonatal wellbeing. Assessment of the component 'perceived

postnatal quality of life' revealed 15% of the respondents had poor, 55% had moderate and 30% had good perceived postnatal quality of life.

No significant association was found between specific pregnancy outcome components of pregnant women with HIV and selected socio-demographic data & clinical profile. Correlation analysis among the components of specific pregnancy outcome showed significant positive correlation ($p < 0.001$).

IV. Discussion

The impact of HIV in pregnant women goes well beyond the biological component and affects the psychosocial functioning. Psychosocial care during pregnancy is an important aspect of antenatal care. This study was done to measure the specific pregnancy outcome in pregnant women living with HIV in Coimbatore district of TamilNadu using the self developed PROMO-HIV scale. In this study 75% of the women indicated being HIV positive affected their desire for the baby even though the majority (90%) expressed the baby added meaning to their life. **In a** psychological study of mothers of premature infants, the findings seemed to support the hypothesis that the attitude toward the pregnancy influenced the course of the pregnancy¹⁰. In a study to analyze FP attitudes among 522 HIV-infected pregnant women enrolled in a PMTCT clinical trial in Western Kenya only 186 (36%) of the women indicated that they desired the current pregnancy, 233 (45%) would have preferred to wait, and 74 (14%) did not want the pregnancy, indicating that 59% of pregnancies were unintended.¹¹

In this study about 75% of the sample subjects were well aware of the side effects of ART. 100% were regularly taking medicines as prescribed without missing any dose. 90 % had means to remind them to take medicines regularly. 80 % knew the danger of skipping ARV medicines. 85 % followed the recommended diet pattern and 30% expressed not having family support. Increase in active coping over time is associated with knowing someone with HIV, receiving positive social support and being healthier. In a study the comparison on the estimated mean scores for coping showed that it increased significantly ($p < 0.05$) from 6 to 21months follow-up. Women who reported receiving high levels of positive social support were more likely to use active coping strategies. This association is confirmed by numerous studies that revealed the important role social support plays in improving the psychological well-being of people living with HIV¹².

In this study 100% believed it was best for HIV-positive women to exclusively breastfeed the baby first 6 months of life. 95% had family support to care for the baby. 15% of women thought that HIV transmission from mother to baby cannot be prevented, 5% could not accept that the baby had to be tested for HIV. 80 % did not know that sometimes babies could also be infected through breast feeding. 35% did not know the advantages and disadvantages of exclusive replacement feeding and 35% did not have knowledge regarding weaning. In a study to assess factors that influence the infant feeding decisions of HIV-infected mothers in Pune, India HIV-positive pregnant women from a government hospital antenatal clinic were interviewed about infant feeding intention. It was found that an equal number of women intended to breast-feed (44%) or give top milk (44%) (diluted animal milk)¹³. Exclusive breastfeeding, not supplemented with other foods or liquids, is particularly effective at preventing infection in newborns, yet rates are extremely low in developing countries.¹⁴ Research indicates that cost-effective prenatal and delivery services that improve women's health and nutrition could save a significant percentage of their newborns as well. HIV-positive mothers need counseling on appropriate care and feeding of their newborns, as well as attention to the related infections they and their newborns may develop.¹⁵

The study revealed that 25% of the respondents expressed not having satisfaction with their relations with other family members. 5% of the respondents expressed not being comfortable in relating to their husband. 10% of women did not opt for sterilization after the second child. 25% worried about the future of the baby. The prevalence of postpartum depression is estimated to be between 10%-15% in developed countries¹⁶, and similar or even higher rates have been reported for low- and middle-income countries. Individuals linked to HIV care may have more positive attitudes regarding their HIV, and experience less internalized stigma, which may lead to higher self-esteem and feelings of being in control, which in turn may predict lower depression symptoms. Linkage to HIV care and the opportunity to take advantage of other supportive services may result in lower stigma and/or depression, especially for pregnant women, who are particularly vulnerable to depression.¹⁷

V. Limitations

Even though the results are correlating with other studies the sample size of this study should have been higher for better analysis and extrapolation. Given the small sample size, there is a need to confirm the findings with optimum sample using randomized controlled trial. The outcome measures included in the study relied on self report; inclusion of objective measures will strengthen the study. The study was done in a District hospital setting, among the treatment seeking sample and the findings obtained in this sample of participants may not be generalized.

VI. Conclusion

Most studies measuring psychosocial outcomes of pregnancy have been conducted in western countries. HIV positive pregnant women in India face significant and pronounced challenges in maintaining their health, and managing HIV/AIDS. To improve the psychosocial outcomes in terms of attitude towards pregnancy with HIV, coping with pregnancy and HIV, knowledge on neonatal wellbeing and perceived postnatal quality of life in HIV positive pregnant women, more focus should be on psychosocial assessment and developing need based counseling interventions in order to achieve better pregnancy outcome.

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