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A Study on the Effect of Cognitive Status of HIV Infected Female Sex Workers before and after Psychosocial Intervention

KEYWORDS: HIV Infected Female Sex Workers (HIFSWs), Cognitive status, Quality of Life, Psychosocial Intervention, Mini Mental State Examination (MMSE)

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ABSTRACT *Common mental health problems are prevalent among the HIFSWs and they have a major impact on the quality of life and vice versa. Cognitive function was considered to have more influence on QOL scores. Quality of life and the factors contributing to it highlighting cognitive status was studied among a sample of 50 consented HIV infected female sex workers from a district in TamilNadu. Standardised tools like WHO- QOL Bref and Mini Mental State Examination was used to find out the cognitive status along with the socio demographic profile. Results showed that cognitive variable contributed to Quality of Life and that there were significant effect on the cognitive status of the sample after the psychosocial intervention.*

Background:
In India, Female Sex Workers and their clients majorly contribute to the HIV epidemic. A HIV infected person's quality of life depends not only on his or her health status but other psychological and social elements. Majority of sex work in India is undercover due to unfavourable legal environment and discrimination against female sex workers (FSWs).[4] Scambler et al. (1990) discuss the impact of HIV and AIDS on how women sell sex.[16] Female Sex Workers are scared to pressurize their clients to use condoms as they are not willing to share their HIV status and thus creating a higher risk of HIV infection [3] and reduced Quality of Life.[13] Commercial sex work presents various mental health concerns as there are stigma issues.[2,6,11] Psychological health is a key contributor to Quality of Life. Many Studies have determined that the cognitive status of the HIV infected is marred[13,5] and their social status as female sex workers do not allow them to improve on their cognition levels.[5] Lutgendorf et al. (1994)[12] found that psychosocial interventions such as cognitive behavioral stress management (CBSM), may enhance coping and social support which contribute to an improvement of quality of life factors such as emotional functioning, social functioning, and sense of well-being and their mental health[2,15]

The Mini–Mental State Examination (MMSE) or Folstein test is a brief 30-point questionnaire test that is used to screen for cognitive impairment.[8] Orientation assesses if the participants' were in line with the date, place, etc… they live in. Language captures the way they put forth clearly what they wanted to speak. Attention and Calculation captures the attention span and mathematical ability. Recall and registration maps the memory and concentration of the trainees.

Methodology
Selection of area and sampling method
The study is based on purposive convenient sampling method. Selection of HIV positive female sex workers was based on the 2007 mapping and estimate report, APAC[1]. Eighty HIV infected female sex workers (HIFSWs) were identified from a district in TamilNadu and were approached for the study. Willingness to participate in the study was obtained through Focus group discussions and one to one discussions. On the basis of a response-adaptive method, 52 FSWs were selected for this study and an informed written consent was collected from every participant for ethical consideration. A final of 50 HIV positive female sex workers completed the study.

Instruments
Questionnaires that are widely used by National and International Health organisations that were standardised were adapted for the assessment. Demographic details, socio economic status from Indian Council of Medical Research adapted to the present study, Mini Mental State Examination (MMSE) and Quality of Life – World Health Organisation- HIV BREF were administered to the participants before and after the psychosocial intervention in order to find out the effect of the intervention program on the cognitive status of the sample population.

Process:
As a first step, focus group discussions and one to one interactions was conducted among the HIV positive female sex workers and a needs assessment was done to find out if they believe that an intervention like psychosocial intervention would help them and also to find out the jobs they would be willing to do apart from sex work. They were explained about the process to undergo 60 classes (a class = a day) on psycho social intervention and asked for their willingness, interest and commitment. The study sample were subjected to assessments with the tools prior to the intervention. The results brought out the need to improve the quality of life of the HIV positive female sex workers and its contributing factor, the cognitive status. Sessions on cognitive behaviour therapy that included improving cognition, mental health, nutrition, knowledge and attitude change towards HIV/AIDS, positive living which focused on removal of self stigma, living healthy with HIV infection and reproductive health were spanned over a period of 6 months with 3 classes a week. After the intervention, the study sample were assessed using the same tools in order to find the effect of intervention program on the cognitive status of the participants.

Analysis and Interpretation
Data collected for the study were compiled and subjected to statistical analysis on computation of percentages and using independent 't' test to find out the effect of the psychosocial intervention on cognitive status before and after the intervention.

Results and Discussion:
Socio-demographic profile
Majority of the participants (62%) belonged to the age category of 30-39 following closely with 34 % in 20-29 years of age. This threw the light on the entry of women in sex work at a very young age and they continue to be in the trade

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until their late thirties. Nearly 30 % of them were illiterates and were educated until primary classes. Twenty eight percent of the participants have completed their middle school. Although they (primary and middle school educated – 58 percent) have completed their schooling. Almost all of them were functionally illiterates which were noted during the intervention classes. This may be accorded to a research finding in the 2002.[9] Fifty four percent of the participants were widows and 26 % were divorced. When it was probed during the case collection, it was found that the husbands had the infection and had passed away earlier. Since the husband's provided no or meagre money for the family, married women (18 %) who were living with their husbands chose sex work to support their families. Studies also state that the divorcees and widows are higher among the female sex workers.[4,14] Poverty pushes many of the respondents into sex work. Eighty percent of the participants belong to the poor income group and remaining 20 percent of the participants belong to the lower-middle income group. This finding is supported by many studies[7,14]

Pearson's correlation was performed with the data to find if there was any relationship between the variables which is presented in Table 1 discusses the relationship between variables of quality of life and cognitive status. Orientation, registration, attention, recall and language are vital for a person to indicate his mental stability and sanity. Therefore it is seen that the orientation of the person has a positive relationship with level of independence. Registration has a significant relationship with Social relationships. For example a person's registration power becomes stronger when the influence on the social circle gets higher. Attention has a significant positive relationship in physical health, level of independence, environment and on the overall quality of life of the respondents. Similarly, recall had highly significant relationship with overall quality of life and on psychological health. The influence of language on the domains of quality of life was profound. Apart from social relationships and personal beliefs the cognition of the members of the intervention program had a significant relationship on all the domains of their quality of life. A health survey among the general population revealed that QOL progressively decreased when the probability of being a psychiatric case increased and thus found that there was a significant negative relationship with mental health and Quality of life.[17]

Table 1: Relationship of Selected Variables with Quality Of Life (QOL) HIV Positive Female Sex Workers in Post Intervention N=50

Variables	Physical health	Psychological Health	Level of Independence	Social Relationships	Environment	Personal beliefs and spirituality	Overall Quality of life
Orientation	.220	.277	.411 (**)	.271	.141	.152	.221
Registration	-.071	-.120	-.148	-.365 (**)	-.046	-.246	-.120
Attention	.365 (**)	.266	.301 (*)	.083	.289 (*)	.145	.356 (*)
Recall	.239	.338 (*)	.351 (*)	.242	.518 (**)	.133	.364 (**)
Language	.337 (*)	.448 (**)	.348 (*)	.348 (*)	.195	.170	.360 (*)
Cognition total	.365 (**)	.414 (**)	.440 (**)	.258	.292 (*)	.154	.381 (**)

(**) Correlation is significant at 0.01 level
(*) Correlation is significant at 0.05 level

Table 2. Effect of Cognitive Status of the Participants Before and After the Intervention

Cognition	Intervention	Mean	N	Standard Deviation	Standard Error Mean	T
Orientation	Pre	7.32	50	1.634	.231	7.640**
	Post	9.12	50	.982	.139	
Registration	Pre	2.44	50	.611	.086	3.527**
	Post	2.80	50	.404	.057	
Attention	Pre	3.52	50	1.054	.149	5.683**
	Post	4.48	50	.614	.087	
Recall	Pre	2.48	50	.677	.096	4.228**
	Post	2.90	50	.303	.043	
Language	Pre	7.30	50	1.474	.208	5.567**
	Post	8.36	50	.898	.127	
Overall scores	Pre	23.02	50	3.771	.533	9.888**
	Post	27.66	50	2.153	.305	

**** Significant at 1% level**

It can be inferred from the results presented in Table 2 that there was a significant difference in all the components of cognition i.e. orientation, registration, attention, recall and language and the overall scores. The participants underwent sessions on cognitive behaviour capital and cognitive enhancement to improve memory, concentration, registration and speed of processing and thus the results prove that the sessions had a significant effect over the participants in all the domains of cognition. A study also stated cognitive interventions improve the targeted cognitive ability and durable to 2 years.[10]

The above findings bring out the fact that interventions among similar populations should concentrate to stimulate the cognition of the participants to have a better cognitive status and quality of life.

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