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### RESEARCH ARTICLE

## “ROLE OF LITERACY ON POSITIVE PREVENTION AMONG HIV SERO-DISCORDANT COUPLES”.

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### Abstract

**Introduction:** Support from family and spouse is beneficial for a HIV infected individual to adhere to better practices. Even though many studies have studied role of literacy of PLHIV for positive prevention, there is a paucity of information in India, about the role of Spouse's education in better practices related to HIV care

**Aims:** To study the role of educational status of both index PLHIV and spouse on positive prevention practices

**Methods:** A multi centric cross-sectional study was conducted among serodiscordant couples, in Karnataka. Using a simple random technique, 277 serodiscordant PLHIV's participated in the study.

**Results:** Higher proportions of PLHIV who were illiterate reported not using condoms with spouse while compared to those with higher education ( $p < 0.05$ ). Poorly literate also reported of experiencing a higher level of STIs ( $p < 0.01$ ) and Opportunistic Infections ( $p < 0.05$ ). Level of education of spouse found to be significantly associated with ART adherence ( $p < 0.01$ ).

**Conclusions:** Literacy level of both index PLHIV and spouse has an important role in practicing of positive prevention measures. PLHIVs who are in serodiscordant relationships, who have lower education and those who have a spouse with lower education should be focused in our care and support services to achieve better positive prevention practices and higher adherence levels in ART

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### Introduction:-

There has been a shift in HIV Prevention interventions, from solely working with uninfected persons to work with both infected as well as uninfected persons.<sup>1</sup> Studies have documented that Un-protected sex continues among Serodiscordant couples,<sup>2</sup> which is one of the important ethical and social issues in the community, which has an important role in HIV prevention Programs

Serodiscordant couple refers to two people (One HIV Positive and the other HIV Negative) who are in an ongoing sexual relationship in which both partners have tested for HIV and there has been full disclosure of HIV status.<sup>3</sup> The role of both the partners in practicing HIV prevention measures and helping each other contributes to maintain health and the sero-discordant status

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According to the recent estimations in India, with a Prevalence of 0.27% among adult population (15-49 years) there are 20.89 Lakh People Living with HIV <sup>4</sup>, which indicates a great opportunity for the prevention, care, and support programs to mitigate HIV transmissions among serodiscordant couples, enabling them to live a healthier and longer life.

Support from family and spouse is beneficial for a HIV infected individual to adhere to better practices <sup>5</sup>. Even though many studies have studied role of Education and literacy of PLHIV for positive prevention, there is a paucity of information in India, about the role of Spouse's education in better practices related to HIV care; through this study we have made an effort to identify the role of index PLHIV's education & partner's education on positive prevention practices, therefore this study focuses on role of education of both partners who are in serodiscordant relationships on HIV positive prevention practices

**Table 1:- Socio-demographic Variables**

	N	%
<b>Gender</b>		
Male	229	82.7%
Female	48	17.3%
<b>Age Group</b>		
<20 Yrs	1	0.4%
21-30 Yrs	44	15.9%
31-40 Yrs	112	40.4%
>41 Yrs	120	43.3%
<b>Level of Education of Index Partner</b>		
No Formal Education	74	26.8%
Primary Education	79	28.6%
>Secondary Education	123	44.6%
<b>Level of Education of Spouse</b>		
No Formal Education	77	27.9%
Primary Education	112	40.6%
> Secondary Education	87	31.5%

### Material and Methods:-

The study was approved by the Institutional Ethical Board of Santosh Medical College and Hospital, Ghaziabad and Karnataka State AIDS Prevention Society (KSAPS), Bengaluru. A cross sectional study was conducted between June 2014 to April 2017. A sample size of 277 was estimated for the study based on the available published literature <sup>6</sup>. Since this study was focusing on a selected sub group of PLHIV population, in order to have sufficient sample frame, participants were selected from 03 sites of Karnataka namely Mysuru, Haveri and Chitradurga

PLHIV who were in serodiscordant relationships and who were registered in public sector hospitals for Anti Retro Viral Therapy among these 03 sites were included for the study. Using a simple random technique index PLHIVs of serodiscordant status were enrolled for the study and informed consent was obtained in the local language Kannada, Pretested structured interview schedule was used for data collection.

Data analysis was done using SPSS software applying appropriate statistical tests of significance. Data was analyzed by calculating mean, standard deviations, and proportions. The tests of significance applied were Chi-square test. A *P*-value of 0.05 was considered to be statistically significant

### Results & Discussions:-

Majority of participants were residing in rural areas (69%). 70.4% were residing in nuclear families: 24.5% in joint families & 5% were residing in extended families. 26.4% of the participants & 27.5% of spouses in the sample had no formal education.

**Level of Education and condom use with spouse:-**

PLHIV having higher education level reported higher level of condom use (82.4%) when compared to PLHIV with no formal education (71.08%); and this difference was found to be statistically significant ( $P < 0.05$ ). There was no significant relation when we compared spousal education with condom use.

**Sexually transmitted infections:-****Knowledge on STI:-**

Participants were asked to name Sexually Transmitted Infections (STI) or any symptoms related to STIs, and their knowledge was assessed on a scale

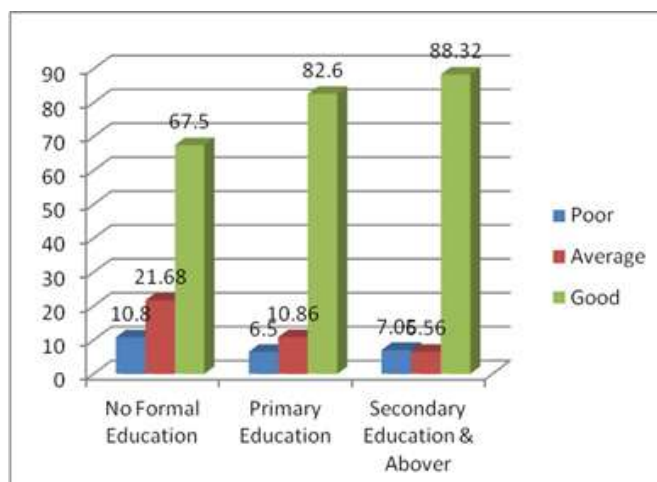
Table 2: Assessment of Knowledge on STIs	
Good Knowledge on STI	Able to identify any 03 or more STIs and symptoms related to STIs
Some Knowledge on STI	Able to identify any 02 STIs or symptoms related to STIs
Poor Knowledge on STI	Unable to identify any STIs or able to identify only 01 STI

80.8% of total participants had good knowledge about STIs; women (90%) had better knowledge on STI when compared to men (79%), and statistically this difference was not significant.

7.3% of subjects have experienced at least one STI in the past 03 months; (Men = 6.1% & Women = 14.3%).

**Table 3:-** Study of Socio-demographic and Knowledge STI related variables with occurrence of STIs

Variable	Suffered from STI in past 03 months		$\chi^2$	P Value
<b>Level of Education</b>				
No Formal Education	12 (15%)	68 (85%)	11.81	<0.01
Primary Education	7 (7.5%)	86 (92.5%)		
Secondary Education and above	4 (2.9%)	131 (96.3%)		
<b>Level of Education of Spouse</b>				
No Formal Education	8 (9.4%)	77 (90.6%)	6.95	0.13
Primary Education	12 (9.4%)	114 (89.8%)		
Secondary Education and above	2 (2.1%)	95 (97.9%)		



**Figure 1:-** Education Vs Knowledge On Sti.

Higher proportions of PLHIV who were illiterate reported not using condoms with spouse while compared to those with higher education ( $p < 0.05$ ). Poorly literate also reported of experiencing a higher level of STIs ( $p < 0.01$ ) and Opportunistic Infections ( $p < 0.05$ ).

Knowledge on STI was low among PLHIV who were illiterate compared to others. Similar findings were found in studies on general PLHIV population in earlier studies where level of education of the index PLHIV and the spouse

was found to be associated with higher rates of condom use <sup>7,8,9</sup> Studies in general population and general PLHIV population have found that higher educational levels of partner education <sup>10</sup> or non-spousal partner <sup>11</sup> are associated with higher levels of condom use and lower chances of occurrence of STIs

A study from Nigeria reported that educational status influences knowledge related to STI <sup>12</sup>; consistent findings were found in our study where better educated PLHIV had higher knowledge about STIs and had experienced lower incidence of STIs compared to others reinforcing the fact that Knowledge on Prevention and treatment of STIs and opportunistic infections (OIs) helps PLHIV to avoid transmission of infections to others <sup>13</sup>.

#### Opportunistic infections:-

20.1% of participants stated that they have experienced at least one episode of opportunistic infection in last one year (21.7% of men & 12% of women).

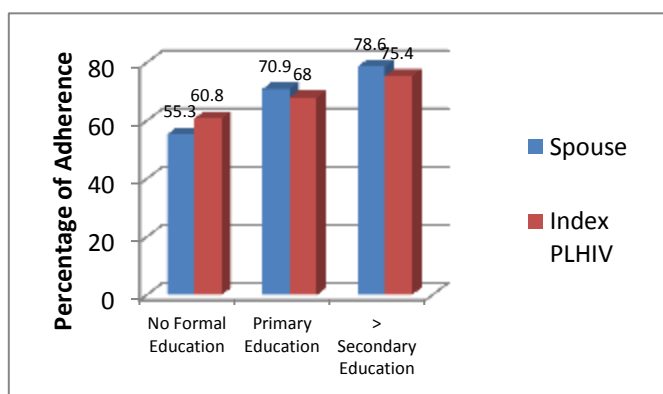
**Table 14:-** Study of Socio-demographic and Knowledge on STI related variables with the occurrence of OIs

Variable	Suffered from OI in the past 01 Year		$\chi^2$	P Value
<b>Level of Education</b>				
No Formal Education	17 (20.7%)	62 (75.6%)	14.98	<0.01
Primary Education	29 (31.2%)	62 (66.7%)		
Secondary Education and above	17 (12.4%)	119 (86.9%)		
<b>Level of Education of Spouse</b>				
No Formal Education	21 (24.7%)	60 (70.6%)	10.34	<0.05
Primary Education	28 (21.7%)	99 (76.7%)		
Secondary Education and above	13 (13.3%)	85 (86.7%)		

#### ART Adherence (>98.33%) and Educational Status of Serodiscordant Couples:-

A higher proportion of PLHIV of Lower Educational profile missed ART doses (39.2%) while compared those with Primary (32%) and more than secondary educational level (24.6%). This difference was not statistically significant.

PLHIV with a spouse of having an higher educational status were found to be better adhering to ART while compared to those with a spouse of lower educational status; and this difference was found to be statistically significant ( $P < 0.01$ )



#### Conclusions & Recommendations:-

PLHIV who have lower educational status have lower knowledge on STIs, and have higher chances of experiencing STIs and OIs. Similarly having a literate and educated spouse along with Index PLHIVs educational status contributes to better chances of protecting themselves from STIs and OIs and higher level of adherence to ART

Literacy level of both index PLHIV and spouse has an important role in practicing of positive prevention measures. PLHIVs who are in serodiscordant relationships, who have lower education and those who have a spouse with lower education should be focused in our care and support services to achieve better positive prevention practices and higher adherence levels in ART

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