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### RESEARCH ARTICLE

#### EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING ROLE OF INTEGRATED COUNSELING AND TESTING CENTER (ICTC) IN PREVENTION OF PARENT TO CHILD TRANSMISSION (PPTCT) OF HIV AMONG JUNIOUR HEALTH ASSISTANT FEMALE STUDENTS IN SELECTED TRAINING CENTERS AT BENGALURU,KARNATAKA.

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#### Abstract

HIV in pregnancy may result in mother to child transmission. In India mother to child is by far the most significant route of transmission of HIV infection in children below 15years. Without interventions the risks of transmission from infected mother to her child ranges from 15-25% in developed countries, 25-45% in developing countries. Prevention of parent to child transmission can be executed as primary prevention strategies through early testing and referring clients to ICTC during pregnancy or lactation. Secondary preventing strategy is imparting the knowledge to nurses and patients to take many steps during pregnancy, labour, delivery and postnatal period. Junior health assistant females are the one who work in community settings and impart health education. Hence the aim of present study Effectiveness of structured teaching programme on knowledge regarding role of integrated counseling and testing center (ICTC) in prevention of parent to child transmission (PPTCT) of HIV among junior health assistant female students in selected training centers at Bengaluru. **Methods:** One group pre-test and post-test without a control group using pre-experimental design was used, with purposive sampling technique. Information was collected from 50 junior health assistant female students using structured knowledge questionnaire. STP was implemented and post-test was conducted after 7 days using same questionnaire. **Results:** The overall pretest knowledge scores of role of ICTC in PPTCT of HIV was found to be 48.5% and the overall post test knowledge score was found to 86.0% and enhancement in the mean percentage knowledge score was found to be significant at 5% level for all the aspects under study. There was a significant association between posttest knowledge scores and selected demographic variables with age ( $\chi^2$  5.11), marital status ( $\chi^2$  5.94), education ( $\chi^2$  5.09), type of training center ( $\chi^2$  5.09), father's education ( $\chi^2$  6.27) and mother's education ( $\chi^2$  6.63). **Interpretation & Conclusion:** Overall findings showed that there is knowledge deficit among junior health assistant female students regarding Role of ICTC in PPTCT of HIV and STP was effective in improving their knowledge.

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**Introduction:-**

" Prevention is better than cure "  
- Desiderius Erasmus

Human immunodeficiency virus causes an incurable infection that leads ultimately to a terminal disease called acquired immunodeficiency syndrome. Worldwide 25-30% of infected patients are women 90% of them are 20 to 49 years of age. Diagnosis of HIV/AIDS in females aged 15-39 years increased from 23% in 2001 to 39% in 2004. Young women (10-24 years) and adolescent girls (10-19 years) in particular, account for a disproportionate number of new HIV infections. In fact, young women are twice as likely to acquire HIV as their male counterparts. In 2015, 20% of new HIV infections among adults were among women aged 15-24 despite this group only accounting for 11% of the global adult population. This equates to some 7,500 young women across the world acquiring HIV every week.

There is evidence that transmission of the virus can occur before birth and that the virus can cross the placental barrier. The virus has also been isolated in the genital tract and in breast milk.<sup>2</sup> Vertical transmission in neonates is about 14-25%, it is more in cases with preterm birth and with premature rupture of membrane. Risks of vertical transmission are directly related to maternal viral load and inversely to maternal immune status. Maternal antiretroviral therapy reduces the risk of vertical transmission by 70%, breast feeding increases transmission by 30-40%. Approximately 80% of HIV cases are transmitted sexually and a further 10% perinatally or during breast feeding. Hence, the health sector has looked to sexual and reproductive health programmes for leadership and guidance in providing information and counseling to prevent these forms of transmission. Sexual and reproductive health programmes can make an important contribution in HIV prevention and treatment. Control should include development of certain services, creating well functioning referral links.

Years ago if a woman was HIV positive, family planning was the last thing on her mind. pregnancy and HIV did not go together. The fear of transmitting HIV to her unborn baby during pregnancy was too great for most women.<sup>5</sup> As the HIV problem intensifies, the issues of care and support for affected individuals and prevention of HIV transmission to those who are not affected becomes even more critical.<sup>5</sup> More than 75% of HIV infected are not aware about their status and there is need to extend access to the counseling and testing facilities and increase demand generation.

HIV counseling and testing centers are started worldwide with the view to prevent HIV transmission from mother to child. In India these services were started in 1997. There are more than 4000 counseling and testing centers, mainly located in government hospitals. Under National AIDS control programme, NACP-III voluntary counseling and testing and facilities providing prevention of parent to child transmission services are remodeled as a hub or "Integrated counseling and testing center" to provide services to clients under one roof. An ICTC is a place where a person is counseled and tested for his or her own will or advised by a medical practitioner.

HIV counselling and testing services were started in India in 1997. Currently The ICTCs have been established at medical colleges, district hospitals, sub district level hospitals and community health centers and it is proposed to further extend services to CHC and 24 hours PHCs. As on 31st August 2016 in India, there are 20,756 ICTC. There has been a tremendous scale up of prevention and treatment interventions under ICTC programme which has led to an overall reduction in new infection and AIDS related deaths among children in India.

In India mother to child is by far the most significant route of transmission of HIV infection in children below 15 years. Without interventions the risks of transmission from infected mother to her child ranges from 15-25% in developed countries, 25-45% in developing countries. In India it is estimated that 20,200 children are infected by HIV/AIDS. Approximately 30% of HIV infected pregnant women will transmit HIV to their babies. Based on HIV prevalence and pregnancy rate 56,700 new HIV infected babies will be born every year in India.

Prevention of parent to child transmission can be executed as primary prevention strategies through education on STIs and pregnancy prevention strategies like usage of condoms, oral contraceptives, counseling pregnant women or lactating HIV negative women on HIV and early testing and referring clients to STI clinic, ICTC or PPTCT during pregnancy or lactation.

Secondary prevention strategy is imparting knowledge to nurses and patients to take many steps during pregnancy, labour, delivery and post natal period.

Recent summary on WHO document on 'antiretroviral drugs for treating pregnant women and preventing HIV infection in infants' says, 32% default transmission rate can be lowered depending on coverage and effectiveness of PPTCT programme and infant feeding options. In the past there was high HIV burden since coverage of prevention of mother to child transmission, PMTCT was fairly low. However currently many countries are rapidly scaling up the PMTCT programme.

A review on current literature of the impact of HIV/AIDS on children in sub-Saharan Africa concludes that if proper HIV transmission prevention strategies are not implemented, It results in increased rate of new infection, and mortality rate will not plateau until 2020 and says greater understanding of the impact Of HIV/AIDS on children is important in design and evaluation of programme to support children living in difficult circumstances.

Nurses play a major role in the health care delivery system; therefore education for nurses is critical to successful prevention programme for persons with HIV. New ICTC operational guidelines have come to ensure uniformity in counseling and testing services across the country. Various levels of health personnel have to be taught regarding new guidelines, functions and facilities available at ICTC with the view to motivate community participation in prevention of parent to child transmission.

Knowledge and attitudes related to human immunodeficiency virus and the use of the universal precautions were investigated among health personnel. Findings revealed that many respondents hold misconceptions regarding non viable routes of transmission and about policies on HIV counseling and testing. Most respondents believed in providing the same quality of care for those with HIV infection as for no infected persons. However, 32.4 percent believed that they should have the right to refuse treatment, and 9.4 percent reported that they would not be willing to provide routine public health services to an HIV-infected client. The results of this research concluded that public health personnel are in need of HIV education that focuses on the correction of misconceptions about HIV transmission, counseling, and testing policies; the development of appropriate attitudes toward persons infected with HIV; and the appropriate use of universal precautions.

A study was conducted on sero prevalence of HIV in pregnant women in North India. Blood samples from pregnant women attending antenatal clinics at AIIMS, New Delhi were collected. Findings revealed out of 3529 pregnant women tested in four years, 0.88% (CI 0.5-1.24) women found to be HIV sero reactive, the mean age of the HIV positive women was 24.9 years. HIV sero prevalence rates showed an increasing trend from 0.7% in 2003-2004 to 0.9 in 2005-2006. The Study concluded that sero prevalence of HIV infection was found to be increasing in the last four years amongst pregnant women of North India.

A Comparative study was done to assess HIV risk perception and prevalence among women who accept VCTC and those tested anonymously. Women attending an antenatal clinic at the district hospital were tested for HIV and those who declined VCT were tested for HIV anonymously. Results revealed HIV Prevalence was higher in VCT than in anonymously tested. The Study concluded VCT is important as an integral unit of antenatal care in effective surveillance of HIV.

Investigator is interested to impart knowledge on role of ICTC in PPTCT of HIV with the help of STP to junior health assistant female students, since they are health personnel who deliver health services at peripheral level. Information on role of ICTC helps them to educate community people and aids in prevention of HIV transmission from mother to child.

**Objectives Of The Study:-**

1. To assess the existing knowledge regarding role of Integrated counseling and testing center in prevention of parent to child transmission of HIV among junior health assistant female students in selected training centers.
2. To develop and conduct structured teaching programme regarding role of ICTC in PPTCT of HIV among junior health assistant female students in selected training centers.
3. To evaluate the effectiveness of structured teaching programme regarding role of ICTC in PPTCT of HIV among junior health assistant female students in selected training centers.

4. To find an association between the selected demographic variables and post test knowledge scores regarding role of ICTC in PPTCT of HIV among junior health assistant female students in selected training centers.

#### Research Hypothesis:-

- H1** There will be a significant difference between mean pretest and post test knowledge scores on knowledge regarding role of ICTC in PPTCT of HIV among junior health assistant female students in selected training centers.
- H2** There will be a significant association between selected demographic variables with post test knowledge scores regarding role of ICTC in PPTCT of HIV among junior health assistant female students in selected training centers.

#### Materials and Methods:-

<b>Research Approach</b>	:	Experimental research approach
<b>Research Design</b>	:	Pre experimental -one group pre test and post test design.
<b>Setting</b>	:	Research will be conducted in selected training centers at Bengaluru, Karnataka.
<b>Sampling Technique</b>	:	Purposive sampling technique will be adopted to draw sample.
<b>(a)Sample size</b>	:	The total samples of the study consists of 50 junior health assistant female students at selected training centers at Bengaluru, Karnataka.
<b>(b)Duration of Study</b>	:	4 weeks.
<b>Tools of Research</b>	:	Data collection tool is self administered structured knowledge questionnaire which consists of following aspects. Part-I: Deals with socio demographic variables. Part-II: Deals with self administered structured questionnaire on knowledge among junior health assistant female students regarding role of ICTC in PPTCT of HIV.
<b>Collection of Data</b>	:	Permission from the concerned authority and consent from the sample, the investigator will collected the data from 50 junior health assistant female students by using structured questionnaire to assess the knowledge regarding role of ICTC in PPTCT of HIV and conducted structured teaching Programme on same day. After seven days post test was conducted through the same structured questionnaire. The data was tabulated and analysed manually.

#### Results:-

Assessing the existing knowledge regarding role of Integrated counseling and testing center in prevention of parent to child transmission of HIV among junior health assistant female students.

**Table 1:-** Aspect wise Pre test mean knowledge scores of respondents on role of ICTC in prevention of parents to child transmission of HIV.

Sl.No	Knowledge aspects	Statements	Max score	Respondents knowledge			
				Mean	SD	Mean (%)	SD (%)
I	General information on HIV infection	13	13	7.20	1.3	55.4	10.3
II	Prevention of parent to child transmission	12	12	5.18	2.0	43.2	16.3
III	Role of Integrated counseling & Testing center in PPTCT of HIV	21	21	9.92	2.4	47.2	11.3

Combined	46	46	22.30	3.9	48.5	8.5
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Table 1: Reveals aspect wise pre test mean knowledge scores of respondents on role of ICTC in prevention of parents to child transmission of HIV. The highest mean percentage, 55.4% knowledge score was obtained regarding the general information on HIV, followed by 47.2% in role of ICTC in PPTCT of HIV and 43.2% regarding role of ICTC in PPTCT of HIV. However, the overall pre-test mean percentage knowledge score was found to be 48.5%.

Effectiveness of structured teaching programme regarding role of ICTC in PPTCT of HIV among junior health assistant female students.

**Table 2:-** Aspect wise Post test mean knowledge scores of respondents on role of ICTC in prevention of parents to child transmission of HIV.

Sl.No	Knowledge aspects	Statements	Max score	Respondents knowledge			
				Mean	SD	Mean (%)	SD (%)
I	General information on HIV infection	13	13	11.40	1.5	87.7	11.3
II	Prevention of parent to child transmission	12	12	9.64	1.7	80.3	14.2
III	Role of Integrated counseling & Testing center in PPTCT of HIV	21	21	18.52	2.2	88.2	10.6
	Combined	46	46	39.56	4.2	86.0	9.0

Table 2: Reveals that, the highest 88.2 mean percentage knowledge score was found in Role of Integrated Counselling & Testing center in PPTCT of HIV followed by 87.7% mean knowledge score in General information on HIV infection, 80.3% mean percentage knowledge score was found in Prevention of parent to child transmission of HIV. However, the overall post-test percentage knowledge score was found to be 86.0% and SD 9.0% among the respondents.

Overall aspect wise knowledge scores

Sl.No	Knowledge aspects	Respondents Knowledge (%)						Paired 't' Test
		Pre test		Post test		Enhancement		
		Mean	SD	Mean	SD	Mean	SD	
I	General Information on HIV Infection	55.4	10.3	87.7	11.3	32.3	12.7	17.98*
II	Prevention of parent to child transmission of HIV	43.2	16.3	80.3	14.2	37.2	17.0	15.47*
III	Role of Integrated Counseling & Testing center in PPTCT of HIV	47.2	11.3	88.2	10.6	41.0	14.8	19.59*
	Combined	48.5	8.5	86.0	9.0	37.5	9.5	27.91*

\*Significant at 5% level

$t(0.05, 49df) = 1.96$

**Table 3:-** The overall mean % knowledge score in pre-test was 48.5% and 86.0% in post-test with an enhancement of 37.5%. The statistical paired 't' test indicates the enhancement in the mean % knowledge scores found to be significant at 5% level.

Overall pre test and post test knowledge scores

**Table 4:-** Classification of respondents based on over all pre test and post test mean knowledge on role of ICTC in prevention of parent to child transmission of HIV

Aspects	Max. Score	Respondents knowledge				Paired 't' test
		Mean	SD	Mean (%)	SD(%)	
Pre test	46	22.30	3.9	48.5	8.5	27.91*
Post test	46	39.56	4.2	86.0	9.0	

Enhancement	46	17.26	4.4	37.5	9.5	
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\*Significant at 5% level.

t(0.05, 49df) = 1.96

**Table 4:-** Reveals that the post-test mean percentage knowledge score was found to be higher ( mean percentage = 86.0 and SD% = 9.0) when compared with pre-test mean % knowledge score value which was 48.5% with SD of 8.5% (mean knowledge enhancement score was 37.5). The statistical paired 't' test implies that the difference in the pre-test and post-test value was found statistically significant at 5% level (p<0.05) with a paired 't' test value of 27.91. There exists a statistical significance in the enhancement of knowledge score indicating the positive impact of intervention programme.

Association between the selected demographic variables and post test knowledge scores regarding role of ICTC in PPTCT of HIV among junior health assistant female students.

Table 5

Demographic variables	Category	Sample	Respondents knowledge				X <sup>2</sup> Value	P Value
			Moderate		Adequate			
			N	%	N	%		
Age group	20-24	29	11	37.9	18	62.1	5.11*	P<0.05
	25-29	21	2	9.5	19	90.5		
Marital status	Married	33	5	15.2	28	84.8	5.94*	P<0.05
	Unmarried	17	8	47.1	9	52.9		
Education	S.S.L.C	25	10	40.0	15	60.0	5.09*	P<0.05
	PUC	25	3	12	22	88		
Type of training center	Private	25	10	40	15	60	5.09*	P<0.05
	Government	25	3	12	22	88		
Religion	Hindu	39	12	30.8	27	69.2	2.27 <sup>NS</sup>	P<0.05
	Muslim	3	0	0	3	100		
	Christian	8	1	12.5	7	87.5		
Father's education	No formal education	23	2	8.7	2.1	91.3	6.27*	P<0.05
	Primary and above	27	11	40.7	16	59.3		
Mother's education	No formal education	23	2	8.7	21	91.3	6.63*	P<0.05
	Primary and above	27	11	40.7	16	59.3		
Father's occupation	Coolie/ agriculturist	33	8	24.2	25	75.8	9.16 <sup>NS</sup>	P>0.05
	Self employee/ business	17	5	29.4	12	70.6		
Mother's occupation	Home maker	44	13	29.5	31	70.5	2.40 <sup>NS</sup>	P>0.05
	Self employee/ business	6	0	0	6	100		
Type of family	Joint	8	1	12.5	7	87.5	0.90 <sup>NS</sup>	P>0.05
	Nuclear	42	12	28.6	30	71.4		

**Table 5:-** Reveals age, marital status, education, type of training center, father's education and mother's education found to have high significant association with the knowledge scores but there is no significant association between type of family, religion, father's occupation and mother's occupation.

### Discussion:-

The present study revealed that there was a considerable improvement of knowledge after the structured teaching programme and is statistically established as significant. The overall mean % knowledge score in the pre-test was 48.5% and 86% in the post-test with 37.5% mean % knowledge enhancement.

Among the demographic variables analysed in this study age, marital status, education, type of training center, father's education and mother's education found to have high significant association between type of family, source of information, religion, father's occupation and mother's occupation.

**Conclusion:-**

A structured teaching programme was conducted to enhance their knowledge in the various aspects and update their knowledge regarding ICTC. The respondents expressed that the teaching programme was informative and different and highly useful in their practical areas and it is found to be instructionally effective, appropriate and feasible. The findings of the study have implications in the field of practice, health education, health administration and research.

**Nursing Practice:** It helps the nursing professionals to gain an insight into the problems faced by HIV patients. Nursing professionals can provide a better management of HIV patients. Nursing professionals can motivate the significant others and the family regarding identifying manifestations of HIV infection and its effect on pregnancy and provide a reliable verbal description of the infection.

**Nursing Education:** As a nurse educator, there are abundant opportunities for health care professionals to educate the community regarding role of ICTC. The study can be extended for educating the family members or the caregivers of HIV infected mothers and patients. The study emphasises the need for periodical education programmes for junior health assistant females regarding role of ICTC in PPTCT of HIV since majority of them have not attended any inservice education programme and update their knowledge in order to provide qualitative care HIV infected patients and mothers and prevent PPTCT.

**Nursing Administration:** The nursing administrator can take part in developing protocols and effective implementation of ICTC services. The nursing administrator can appoint para medical professionals based on the education obtained especially in the HIV infection and PPTCT. The nursing administrators should explore and encourage innovative ideas in the preparation of an appropriate teaching material. She should organize sufficient manpower, money and material for disseminating information regarding role of ICTC in PPTCT of HIV. As nursing administrators they can encourage clinical research in wards on this topic and apply the findings in care of pregnant mother with HIV infection.

**Nursing Research:** This study helps nurse researchers to conduct researches on all aspects of mainly focussing on role of ICTC in PPTCT of HIV. Encourage to disseminate knowledge by publications and organizing journal clubs, workshops, seminars and conferences.

**Recommendations:-**

1. A similar study can be done on a large sample to generalize the findings.
2. An experimental study can be undertaken with a control group for effective comparison of results.
3. A study can be conducted by including additional demographic variables.
4. Manuals, information booklets and self-instructional module may be developed in areas of role of ICTC in PPTCT of HIV infection.
5. A study can be carried out to evaluate the efficiency of various teaching strategies like SIM, pamphlets, leaflets and computer-assisted instruction on ICTC.

**Summary:-**

This chapter dealt with the conclusion, nursing implication and the recommendations of the study.

**Bibliography:-**

1. Dutta DC . Textbook of obstetrics including perinatology and contraception.7<sup>th</sup> ed.kolkata: new central book agency; 2011. P. 301-2.
2. Kennedy J.HIV in pregnancy and childbirth.2<sup>nd</sup> ed.China: Elsevier publications; 2004.p.84-5.
3. Dunkley J. Health promotion in midwifery practice.1<sup>st</sup> ed.Philadelphia: Elsevier publications; 2005.p.72-3.
4. Askew J, Berer M. Contribution to sexual and reproductive health. International journal of gynaecology and obstetrics [serial online]. 2010 July [cited 2011 Nov 23];18(3):143-5. Available from: URL: <http://www.ncbi.nlm.nih.gov/pubmed/14708398>.
5. Chichocki M. HIV statistics-HIV estimates- people living with AIDS . JAIDS [serial online]. 2010 July [cited 2011 Nov 27];22(5):34-6. Available from: URL: <http://aids.about.com/cs/aidsfactsheets/a/hivlife>
6. Park K. Preventive and social medicine. 20<sup>th</sup> ed. India: Banarsidas Bhanot; 2009.p.373-4.
7. Glieman O, Mkotekova, Perez f, Miller A, Sarakovitcha, Glenshaw M. Improved knowledge and practices among end users of MTCT. Journal on STIs and AIDS [ serial online]. 2009 Sep 12 [cited 2011 Nov 2];16(7):3-7. Available from: URL: <http://www.ncbi.nlm.nih.gov/pubmed/16553914>
8. Adele P. Maternal and child health nursing.8<sup>th</sup> ed. Philadelphia: William and wilkins; 2007.p.1325-7.
9. HIV/AIDS and ART training for nurses. Nurses manual.1<sup>st</sup> ed. New delhi: Indian nursing council; 2009.p.50-2.
10. De cocker, Mercier E, Shaffer N, Saba J, Fowler MG, Hoffe E et al. Prevention of mother to child HIV transmission in poor country. JAMA [serial online]. 2000 Aug [cited 2011 Nov 23];283(3):1175-82. Available from: URL: <http://www.ncbi.nlm.nih.gov/pubmed/16553914>.
11. Robert, James. Attitude to routine HIV counseling and testing. JAIPAC [serial online]. 2010 Nov 13 [Cited 2011 Nov 13];16(3):47-9. Available from: URL: <http://www.jiasociety.org/content/13/1/52/abstract>.
12. 16)Thone C, Igor, Pilipenko T, Malyuta R and Ukraine European collaborative study group. Progress in prevention of mother to child transmission. International journal of gynaecology and obstetrics [serial online]. 2009 Apr [cited 2011 Nov 23];18(6):32-4. Available from: URL: . <http://www.biomedcentral.com/1471-2334/9/40/>.
13. Kashyap B, Bhalla P, Sharma A. Profile of direct walk in and referred clients attending ICTC. Journal of international AIDS society [serial online]. 2009 Apr [cited 2011 Nov 16];18(4):142-7. Available from: URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3168037>.
14. Kumar A,Kumar P, Gupta A,Kamath A,Maheshwari A,Singh S. Profile of clients tested HIV positive in VCTC. ijcm [serial online]. 2008 May [cited 2011 Nov 21];33(3):156-9. Available from: URL:<http://www.ijcm.org.in/article.asp?PMID:19876475>.
15. Swathi G, Richa G. Seroprevalence of HIV in pregnant women. Journal of international AIDS society [serial online]. 2007 Nov [cited 2011 Nov 27];12(5):380-7. Available from: URL:<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2198915>.