"A STUDY TO ASSESS THE IMPACT OF PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV/AIDS MODULE ON BEHAVIOURAL OUTCOME AMONG NURSING STAFF AT SELECTED HOSPITALS OF TONK"

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ABSTRACT

Background of the study

The HIV/AIDS is relatively a unique disease. HIV infection slowly damages the immune system. Spread to humans by sexual contact, blood and blood products contact, and vertical transmission to newborns. HIV transfer from mother to baby is a well-established route of transmission. Although preventing HIV transfer from mother to baby is often conceptualized as only beginning once an HIV infected women is pregnant, but preventing HIV transfer from mother to baby optimally should begin before pregnancy and before acquiring infection by HIV particularly in young girls and women of reproductive age and this can be accomplished through PMTCT modules.

Methodology:

The study took a quantitative approach, with a quasi-experimental with one-group pre and post test design, and the study populations were nursing officers and antenatal mothers working and visiting to selected hospitals of tonk respectively. Purposive sampling was used to identify 421 nursing officers and antenatal mothers were included. The research tools was used to assess the challenges of nursing officers in delivering care to HIV positive mother, knowledge, attitude and skill in provision of PMTCT services. The level of stigma among antenatal mothers about the usage of PMTCT services was assessed using a stigma scale. The tool was validated by experts and tested for reliability before being used to gather data. Following pretest PMTCT module was administered as an intervention to the participants. Post assessment was done on

30th day after administering intervention to assess the effectiveness. The collected data was coded and analyzed and presented in tables and figures.

Results

The response rate of 95% was reported and the findings revealed that majority of nursing officers were between 30 to 40 years, female, married and belonged to Hindu religion. Closer to half of the nursing officers were having diploma qualification and almost the same percentage were team leaders. The higher percentages were having 6 years of experience and most were presently working in obstetrics and gynecology OPD.

Majority of nursing officers were neither having prior experience of caring for HIV/AIDS patients nor delivering HIV positive mothers. Most of the nursing officers reported of not having prior training on PMTCT of HIV/AIDS in the last one year and were not aware on updated standard safety measures.

Majority of antenatal mothers were between 20 to 25 years, married, had primary education, were on first pregnancy during data collection. Most of the mothers had HIV screening but were unaware of PMTCT services of HIV/AIDS.

Nursing Officers faced varied challenges. Most were overburdened by the scarcity of nursing staff, feared of acquiring of HIV and long working hours.

Majority of nursing officers had poor knowledge, negative attitude and very poor skills during pretest with respect to PMTCT of HIV/AIDS. Majority of the antenatal mothers had moderate stigma on utilization of MTCT services of HIV/AIDS.

There was noteworthy relation between knowledge, attitude and skill whereas attitude had no correlation with skill of nursing officers. The pre-test knowledge, attitude, and skill score of nursing officers had a significant association with selected demographic factors.

Conclusion

The PMTCT of HIV/AIDS module had a significant impact of nursing officers' knowledge, attitude, and skill on behavioral outcome, according to the research. Offering on-the-job training to nursing officers and revising practice standards on a regular basis helps to ensure that the needy receive high-quality PMTCT care.

KEY WORDS HIV, PMTCT, nursing officer, knowledge, attitude, skill

1. INTRODUCTION

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AIDS is a pandemic caused by the HIV. This disease is fairly a new phenomena that has caused enormous death and misery and had a tremendous influence on demography, cultures, economy, and politics in most countries throughout the world.(Hockberger, 2018a)

It was recently evident that the HIV infection originated as a mutation of a simian virus that infected chimpanzees, then spread to monkeys, and finally to humans. The virus can categorize into two kinds: HIV-1 and HIV-2.HIV-1 belongs to the Lentivirus genus, which is later classified under retrovirus subfamily. The term "lentus," which means "slow" in Latin, refers to the extended time between infection and onset of symptoms. HIV-1 is more contagious than HIV-2 and has a stronger propensity to spread between individuals. In many other nations, the HIV-1 virus remains the most common cause of HIV infections. HIV-2, a less pathogenic variant of HIV-1, infects some human populations, mostly in Western Africa, and is expected to cause HIV-related illnesses including AIDS more slowly than HIV-1. Using genomic sequence analysis, HIV-1 has been phylogenetically separated into various clades or subtypes, which have been labeled as type A to K. certain clades predominate in certain geographical areas. Clade C is a major subtype in Indian Subcontinent (Zeichner & Read, 2005).

The discovery of HIV in a blood sample collected in 1959 from an adult male in Zaire supports the theory that the virus existed for some time before its effects became clinically evident in 1981.Similarly a different subtype was detected in a lymph node biopsy taken in 1960 from an adult female from the same country. The Phylogenetic analysis of these samples suggested that HIV may have crossed species some 35 to 75 years previously.

HIV is a retrovirus that may go through a unique biological process wherein the single-stranded RNA genetic material is transformed to double-stranded DNA. DNA normally makes RNA in nature. The shape of the virus is circular. It contains an envelope covering its core RNA genetic material, which contains numerous tiny glycoprotein projections on its surface. Specific target cells with CD4 receptor sites are attracted to these projections. CD4 receptors are present on lymphocytes (T helper cells), macrophages, monocytes, tissue cells (dendritic cells in genital and ano-rectal regions), and brain cells, among other blood cells (glial cells). HIV binds to receptors on dendrite cells and T lymphocytes in particular. After connecting to the CD4 receptor, genetic material of virus penetrates CD4 cell, and the DNA copy of virus is integrated into host cells via the reverse transcriptase process. New virus particles are created later, and then enter the bloodstream, infecting additional cells. The host cells, such as CD4 T

lymphocytes, are killed or destroyed during this process, resulting in cell dysfunction (Evian, 1993).

HIV affects and damages CD4 cells that are crucial for the immune system's regulation and maintenance. The body's defense against bacteria, viruses, fungi, and parasites relies heavily on CD4 helper cells.CD4 helper cells are also engaged in the synthesis of substances involved in the defense system, such as interleukins and interferon, and they destroy a number of cancer cells. Monocytes and macrophages are similarly influenced by CD4 helper cells in their growth and activity (Evian, 1993).

Moreover the immune system is very well established, thus HIV needs years to destroy enough immune cells leading to immune deficiency and immune incompetence. Natural responses to HIV infection vary widely from individual to individual. In some, virus may cause immune damage and illness earlier than others. In some exceptions a small portion of infected people about 5%, may not develop immune deficiency at all. The response to HIV may progress either rapid or slow. Individuals with rapid progression usually develop immune deficiency within 5 – 7 years after infection, for some may be further shortened to 3 – 4 years. Individuals with modest progression stay healthy and active for 10 -15 years or more, free of illness and with little or no immunological weakness. The reason for response to be rapid or slow could be related to difference in HIV strains, the load if infection and the general health status (Evian, 1993).

The production of antibodies in reply to HIV antigens usually detected in the blood stream usually about 14 to 21 days after infection. ELISA HIV antibody test became available for the first time during 1985. It may take 6 months or longer for these antigens to be discovered in some people. The interval between a probable HIV infection and finding of antibodies is known as the window period. In adults window period is often long. Any individual infected with the virus may go years or even decades without showing any signs or symptoms. The large percentage of HIV-positive children gets the virus while their mothers are pregnant. The duration without symptoms is shorter in the pediatric population, with just a small percentage in newborns. The majority of children are ill before they turn two, but just a small percentage survives for several years (Zeichner & Read, 2005).

The degree of immunological insufficiency and the HIV viral load in the body are linked to the emergence and manifestations of HIV infection. Individuals become infected as a result of this. HIV-positive people go through a series of clinical phases throughout time. The severity of the sickness is influenced by the amount of virus present in the body as well as the degree of

immune suppression measured by CD4 count. WHO divides HIV development into four phases? Asymptomatic is Stage I, minor symptoms are Stage II, moderate symptoms are Stage III, and AIDS is Stage IV. HIV infection progresses to AIDS, which is marked by increasing CD4 cell destruction. When CD4 cells drops to a very low level usually less than 200 cells/ µL, the ability to resist various life threatening, opportunistic infections and cancers is seriously impaired. Although not everyone infected with HIV develops AIDS, everyone who gets AIDS is HIV-positive. Anyone infected with HIV, even if they are healthy, can still pass the virus on to another person (Evian, 1993).

In the first 3-6 months after acquiring the HIV infection individual experiences "sero-conversion illness" leading to fever, headache, myalgia, rashes, swelling of lymph glands and gastro-intestinal symptoms. Sero-conversion occurs when an HIV antibody test shifts from negative to positive. Antibody tests for HIV usually become positive 4–6 weeks after infection. HIV antibody testing may be the only indicator of HIV infection in the first few years following infection (Zeichner & Read, 2006).

The patient is usually healthy and asymptomatic. This stage of HIV infection is known as the clinical latent or silent phase. Before the sero-conversion sickness, the HIV viral load may increase to high levels and then decline to much lower levels thereafter. If started during the first several weeks of HIV infection, antiretroviral therapy (ART) can be extremely successful. It will lower the viral load and provide the patient a better chance in the future. A CD4 cell count of 500 to 800 cells per mm3 or below is usually linked with the asymptomatic period. Despite the fact that the client is in the silent phase, the virus is still active and capable of spreading infection (Zeichner & Read, 2006).

Some people develop minor symptoms and signs as a result of their HIV infection between 3 and 7 years after infection. Chronic enlargement of the lymph nodes in the neck and axilla, herpes zoster, skin rashes, fungal nail infection, repeated oral ulcerations, angular stomatitis, and recurrent upper respiratory infections are all symptoms of persistent widespread lymphadenopathy. The CD4 cell count in the mild symptomatic phase is generally between 350 and 500 cells/mm3 (Zeichner & Read, 2006).

The symptomatic phase of the disease advances into the fully formed AIDS phase of the disease during the next year or 18 months allowing for the development of severe opportunistic infections HIV and cancer-related organ damage. High HIV viral load and severe immunological weakness are both related with AIDS. CD4 cell counts of lower than 200 cells per milliliter and a low lymphocyte count (Powderly, 1997).

2. NEED FOR THE STUDY

According to a UN research in 2015, India had the world's third-most HIV-positive people, with 2.1 million Indians contributing for almost four out of every ten HIV-positive people in the Asia–Pacific area. In 2009, an approximated 370,000 children were infected with HIV-1 across the world. Despite the fact that this is a 24% drop from 2001, about 1,000 infections in youngsters occur every day. About 90% of the diseases occurred in Sub-Saharan Africa, with HIV-1 infections acquired through breast milk accounting for at least 40% of infections (Volberding, Greene, Lange, Gallant, & Sewankambo, 2012).

In India, children under the age of 15 accounted for 7% of all infections in 2011, with a total of 1.45 lakhs. Women responsible for 39% of overall HIV infections. MTCT is the most frequent route of HIV infection in children and infants, occurring between 5% and 10% during ante partum, 10% to 15% in intra partum period, and 5% to 20% during post partum (World Health Organization, & UNICEF, 2009).

India in 2017 reports that, in people aged 15 to 49 years, the prevalence of HIV is predicted to be 0.22 percent, with 0.25 % of men and 0.19 % of women. At the national level, the incidence of HIV in adults has steadily decreased from an estimated peak of 0.38 percent to 0.34 %between 2001-03 to 2007, 0.28 percent in 2012, 0.26 percent in 2015, and ultimately 0.22 percent in 2017.It is estimated in 0.47 percent in Karnataka, 0.42 percent in Goa, 0.33 percent in Maharashtra and 0.30 percent in Delhi all had higher HIV prevalence rates rather than the national rate of 0.22 percent, while 0.22 percent in Tamil Nadu had peak prevalence similar to the national average. Adult HIV prevalence is less than 0.22 percent in the other states and union territories (NACO, 2019).

In India, people living with HIV was projected to be 21,40,000 in 2017. Children within the age of 15 accounted for 61,000, while females over the age of 15 account for 8,79,000. Among the states, Maharashtra has the largest estimated proportion of individuals living with HIV/AIDS and union territories in 2017., with 3.30 Lakhs followed by Andhra Pradesh with 2.70 Lakh, Karnataka with 2.47 Lakh, Telangana with 2.04 Lakh, West Bengal with 1.44 Lakh, Tamil Nadu with 1.42 Lakh, Uttar Pradesh with 1.34 Lakh and Bihar with 1.15 Lakh. Together, these eight states account for nearly a quarter of all estimated PLHIV cases (75.00%). In all other states, there are less than 1 lakh HIV-positive cases (NACO, 2019).

From April 2000 to March 2002, NACO performed two feasibility studies at 11 universities in India's five high-prevalence states: Andhra Pradesh, Maharashtra, Manipur, Karnataka, and Tamil Nadu (NACO 2006). The findings offered compelling evidence that PMTCT

interventions may be integrated into MCH services. These studies revealed that ANC might be a starting point for educating pregnant women about HIV/AIDS prevention and control, as well as implementing PMTCT interventions.

In 2015, NACO began a phased expansion of PMTCT centers, resulting in 16,000 implementation locations across the country. ICTCs, both stand-alone and mobile; facility-ICTCs and public-private partnership ICTCs were among the many implementation strategies used (NACO, 2015a).

The yearly number of ARDs had reduced from almost 71 percent since 2005, when the number of ARDs began to decline (NACO, 2019).

In 2017, 22.67 thousand HIV-positive women in India gave birth. With 2.41 thousand incidences of mother-to-child transmission prevention, Maharashtra led the way, followed by Uttar Pradesh with 2.29 thousand, Andhra Pradesh, Karnataka, Bihar, Telangana, West Bengal, Gujarat, and Tamil Nadu, with Sikkim having the least (NACO, 2019). Between February and August 2014, a research in Cuttack, India, found a slight rise in HIV prevalence among pregnant women. HIV infection passed through mother to her baby during antenatal, intranatal, or postnatal causes more than 90% of pediatric AIDS cases (Ajit Kumar Nayak et al 2017).

3. OBJECTIVE

1. To identify the challenges faced by nursing officers in delivering care to antenatal mothers with HIV/AIDS.
2. To establish the preexisting Knowledge, Attitude and Skill of nursing officers on prevention of HIV/AIDS.
3. To design and develop PMTCT of HIV/AIDS module.
4. To implement the PMTCT of HIV/AIDS module on nursing officers.
5. To evaluate the impact of PMTCT of HIV/ AIDS module on nursing officers.

Operational Definitions

Impact: It refers to the changes in behavioral outcomes among nursing officers with regard to PMTCT of HIV/AIDS.

PMTCT module: Refers to an educational unit with a series of lesson plans designed as an intervention to teach specific concepts. PMTCT of HIV/AIDS module includes

1. Lecture cum discussion on PMTCT Services during antenatal, natal and postnatal periods.
2. Demonstration of Universal precautions on prevention of transmission of HIV.

Nursing Officers: These are qualified, registered professional who have completed a minimum qualification of General Nursing and Midwifery or BSc Nursing course to get registration to the nursing council and working in selected hospitals.

Behavioral outcome: Outcome refers to the final product or end result. The behavioral outcome implies to the knowledge, attitude and skill of nursing officers measured by Questionnaire on knowledge, attitude scale for attitude and observation checklist for the skill.

Knowledge: Knowledge refers to the retained information expressed in terms of correct response of nursing officers to the questionnaire on PMTCT of HIV/AIDS as achieved by knowledge score.

Attitude: Attitude refers to the thoughts or opinions of nursing officers about PMTCT of HIV/AIDS as measure by likert scale.

Skill: Refers to the ability or the expertise of the person to do a particular task. In this study the skill refers to the practice of nursing officers with regard to PMTCT of HIV/AIDS. It includes performance of nursing officers on Personal Protective Equipments and Universal precautions measured by observation checklist.

Stigma: refers to a mark of dishonor associated with any event, attribute, or person. In this study stigma refers to the attitude of mothers in utilization of PMTCT services on HIV/AIDS and voluntary HIV testing and counseling services.

Antenatal mother: Refers to the pregnant women visiting Hospital for antenatal checkup.

Hospitals: Refers to the health care institution providing care for the antenatal, natal and postnatal mothers with or without HIV/AIDS.

4. HYPOTHESIS

H01: There will be no significant difference between mean pretest and posttest knowledge, attitude and skill among nursing officers.

H1: There will be a significant difference between mean pretest and posttest knowledge, attitude and skill among nursing officers.

H02: There will be no significant lower level of stigma of antenatal mother after interaction with nursing officer.

H2: There will be a significant lower level of stigma of antenatal mother after interaction with nursing officer.

H03: There will be no significant difference in knowledge, attitude and skill of nursing officers.

H3: There will be significant difference in knowledge, attitude and skill of nursing officers.

H04: There will be no positive correlation between post test knowledge, attitude and skill of nursing officers.

H4: There will be positive correlation between posttest knowledge, attitude and skill of nursing officers.

H05: There will be no significant association between Knowledge, Attitude and Skill of nursing officers with socio demographic characteristics.

H5: There will be significant association between Knowledge, Attitude and Skill of nursing officers with socio demographic characteristics.

5. ASSUMPTION

1. Nursing officers are facing challenges in caring the patients with HIV/AIDS.
2. The nursing officers will have adequate knowledge of PMTCT of HIV/AIDS.
3. The nursing officers will have favorable attitude towards the patients with HIV/AIDS with regard to PMTCT services.
4. The nursing officers will have excellent skills regarding PMTCT of HIV/AIDS services.
5. Antenatal mothers will have stigma with regard to utilization of PMTCT services.

6. REVIEW OF LITERETURE

Kaput, N.et al (2020) conducted in Nigeria resulted that the professional cadre and lengthy weekly working hours of HCWs determine their occupational exposure to HIV infection. Additionally, infection control and patient safety, there is still a lack of awareness and compliance among health workers. Moreover, despite the availability of protective equipment, all cadres of professionals provided treatment to patients who did not have it at some point. Sharps equipment is incorrectly disposed of by certain healthcare practitioners. This implies that everyone working in the healthcare field is at risk of obtaining HIV infection prevention guidelines and procedures must also be displayed in PMCTC settings in which they are always visible and accessible to healthcare professionals.

Lin et al., (2019) in their article entitled, a survey of sharps injuries and occupational infections among HCWs in Shanghai revealed that despite understanding of HCWs about occupational hazards and the HCWs risk of infections acquired from sharp needle injuries, Occupational exposures are still a serious health concern across the world. According to the findings interns, followed by nurses, had the greatest rates of sharp injury incidents, HCWs,

particularly full-time workers, still possess a decent comprehension of the dangers of sharp needle injuries and the importance of informing them promptly so that post-exposure follow-up may be done. Sharp injuries are most common among HCWs with fewer than 5 years of service, and the incidence of sharp injuries decreases as the length of service increases.

Bussan et al (2018) in their article entitled, the role of CHWs in HIV treatment outcomes in children conducted in Zimbabwe revealed the importance of CHWs in providing HIV care is only going to grow, especially in light of lofty targets like the World Health Organization's 90–90–90 plan aims for near-universal HIV diagnosis, treatment, and adherence among the world's HIV-positive population. Existing criteria for designing effective CHW programs are useful for maximizing efficacy, but task shifting strategies' long-term viability remains a concern, according to this study.

Siannas G, et al (2018) in their article entitled, the importance of the nurse in HIV/AIDS care and treatment in QSUT hospital concluded that deficiencies have been identified in the provision of healthcare, the appropriate training for the treatment of HIV patients, especially in non-physical and biological dimensions of care. It is noticed there is dissatisfaction with how they are treated by nurses at the time of health care.

Onsets and Duffy (2018) in their article on needle stick injuries on the quality of life of HCWs in Kenyan university hospital reveled that of the majority of SSNIs suffered by HCWs (46.4%) were induced by needle stick injuries involving devices such as injection needles or cannula. With Pearson's r = 0.753, the relation between symptoms and HCWs' QOL ratings showed a significant positive connection.

Wood, E. M.et al (2018) in their article entitled, home based care by nurses for people with HIV/AIDS revealed that adherence to ART may be aided by nurse-led home-based treatments. Psychiatric nurse care enhanced mental health and depressive symptoms in those who already had mental health problems. HIV stigma, concern, and physical functioning, as well as depressive symptoms, were all affected by home-based psychological intervention.

Frail, (2017) in their article entitled, preparing every nurse to become an HIV nurse on undergraduate nursing students preparation for HIV nurse concluded that they have minimal knowledge in caring of HIV-positive people and that those pupils would benefit from further HIV education from professionals in the area as well as HIV-positive persons. One reason patients are not maintained in treatment is because of stigma from healthcare providers, and students' attitudes and understanding improved significantly following a simple adjustment to the curriculum. This shows that introducing this HIV teaching strategy into the undergraduate

nursing curriculum might have a significant influence on student preparation to care for HIV-positive people after graduation.

Virago et al (2016) in their article entitled, impact of nurse-targeted care on HIV outcomes among immune compromised persons concluded that targeted nurse led treatment of HIV-infected patients with severe immunological impairment in public outpatient health care facilities resulted in a shorter time to ART start and higher retention.

Piercy1 H, et al (2016) in their article entitled, how specialist nursing contributes to HIV service delivery across England showed that some services have been able to address increased capacity needs and increase access by expanding their expert nurse personnel to handle an increasing share of HIV care. Nurse-led clinics have the potential to provide a greater proportion of routine care.

Jahangir et al., (2016) in their article entitled, NSIs and safety measures among nurses in a hospital, Shiraz, Iran revealed that around 76 percent of nurses had encountered at least one NSI throughout their career, with 54 percent experiencing in the past year. The most prevalent cause of NSI is when syringes and IV catheters are discarded. The majority of NSI occurred during the morning shift, with the main cause for non-reporting being a busy schedule in the clinical area and a sense of a decreased risk of infection. The study found that supporting measures, including as changes in injection procedures, changes in work schedules, and the organization of training programs with a greater emphasis on personal protective equipment, are required.

Wyżgowski, P et al (2016) in their article entitled, occupational HIV risk for HCWs revealed that although the danger of HIV infection is low, every health care practitioner, particularly surgeons and anesthesiologists, must take precautions to avoid HIV transmission in their everyday work. Every patient who has any medical treatment should be considered an HIV carrier. If a needle stick or other potentially infectious material exposure occurs despite safeguards, health care providers must report it promptly to the relevant professionals in the workplace so that the risks of infection may be assessed as soon as possible and necessary procedures to prevent HIV infection, including PEP prevention, may be taken. The smallest amount of infectious material in our bodies can be devastating to our health in the future, so it's critical to react appropriately to any potential exposure. Invasive medical operations should not be conducted by HIV-positive health care professionals unless they consult with specialists regarding the possibility of doing so, and each patient should be notified that the operation will be conducted by an HIV-positive worker. Infected health care professionals do not have to quit

their jobs if they are infected with HBV, HCV, HIV, or other diseases; instead, they can try to change their specialty to continue delivering medical services.

Wu, Q. et al, (2016) in their article entitled, KAP regarding occupational exposure and protection to HIV among HCWs in China resulted that HCWs in low-HIV-prevalence areas of rural China lack appropriate AIDS/HIV exposure and safety knowledge, do not take universal precautions, and have a high rate of occupational exposure. At the county level, nurses and medical technicians faced greater occupational risk than other HCWs. The key to AIDS training should be tailored for different levels of HCWs. HCWs' preferred methods for learning about HIV/AIDS include expert lectures and feature films.

Leblanc et al., (2015) in their article entitled, the role of nurses in HIV screening in health care facilities revealed that the majority of participants in the study accepted that routine HIV screening in the health care settings under consideration was advantageous to the patient group. Nurse-led HIV testing increased the number of tests offered, accepted, and delivered. Nurses were in a unique position to access a wide patient group, according to the present study.

Wagener, et al (2015) in their article entitled, a role for nurses in HIV care: vocational counseling of HIV infected people revealed that patients with HIV who had work-related issues were frequently seen by HIV nurses. Fear of stigma, discrimination, and disclosure were the most common work-related problems cited by HIV-infected patients who came into contact with the nurses. It wasn't enough to be familiar with workplace concerns. Nurses who work in HIV care have knowledge and skills gaps in a range of job-related areas.

Civilly S, (2014) in their article entitled, perception on occupational exposure to HIV and preventive practices on nursing students in India revealed that Although nursing students' understanding of HIV transmission was good, there were major gaps in the application of universal measures. The capacity of nursing students must be developed in order to change their attitudes and enforce universal safety measures in the workplace.

7. METHODOLOGY

The strategies researchers employ to arrange a study and obtain and analyze material relevant to the research issue are known as research methodologies. It is a set of systematic, disciplined techniques for gathering information and developing evidence. From the definition of a problem to the selection of concepts on which to focus, research methodology follows a methodical path to the solution of the problem.

The research approach arranges all of the study's components in such a way that precise solutions to the sub-problems are most likely to emerge. The motivation behind ebb and flow research was to examine the effect of anticipation of mother to kid transmission of HIV/AIDS module on social result among nursing officials from selected hospitals of tonk.

This chapter explains in depth the approach used in the current research analysis, chosen by the investigator in order to solve the research problem. It represents the study's approach, design, schematic representation, population, target samples, accessible samples, total sample size, variables, study phases, study development, tool, scoring of tool, validity and reliability of the tools, data collection, data extraction, statistical formulas and conceptual frame work.

Research approach

A quantitative examination approach was used to measure the study's aims in order to attain the Effect of PMTCT of HIV/AIDS module on behavioral outcome among nursing officials.

Research Design

In the current study the one group pre test post test Quasi Experimental design was adopted. Pre test was conducted for nursing officers followed by administration of PMTCT of HIV/ AIDS module as an intervention. Post test was carried on the same group of nursing officers by using same tool on day 30. Post intervention impact on level of stigma in utilization of PMTCT of HIV/AIDS was determined using stigma scale.

Setting of the study

The present study was conducted at randomly selected four multi specialty hospitals of tonk. The hospitals were divided into North, South, East and West zones based on their location. One hospital was selected from each zone randomly. Hospitals are the institutions owned by a trust or by people. Each hospital had a minimum capacity of 100 beds.

Population

In the current study the population was antenatal mothers and nursing officers. The rationale behind the selection of nursing officers was that nursing officers were the face of health care team and they were the front line workers in the care of patients in any ailments. The literature review reports that involvement of nursing officers yielded better patient outcomes irrespective of the area of care. The nursing officer's attempts to achieve comfort to the patient by providing need based care and being aware of the discomforts and patients perception of the need of care.

Target population

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Nursing officers working at selected hospitals and antenatal mothers visiting hospitals for MCH servicers at tonk were the target population in this study

Accessible population

The accessible population of the present study was nursing officers working at selected hospitals and antenatal mothers visiting hospitals for MCH servicers at tonk.

Sample & sampling techniques

In the present study, the samples were nursing officers working at selected hospitals and antenatal mothers visiting hospitals for MCH servicers at selected four hospitals of tonk. Upon fulfillment of the Sample selection criteria nursing officers were taken in to the study with written consent to voluntary participation in this research. The participants in this study were chosen using a non-probability purposive sampling technique.

Sample selection criteria

A descriptor employed by the researcher to specify which items were included in the population and which are omitted. Age, sex, marital status and education are examples of such criteria.

Sample size

Present study 100 nursing officers and 100 antenatal mothers were included as samples

Inclusion criteria:

1. Available nursing officers during data collection period
2. Nursing officers who are willing to participate in the research
3. Nursing personnel who can read and understand Hindi and English.

Exclusion Criteria:

1. Antenatal mothers visiting hospital for the first time.

Variables

Independent Variable: Independent variable the one that the researcher adjusts or manipulates, and it is supposed to have a causal impact on the dependent variable. The cause, stimulus, experimental variable, or treatment is the variable that the researcher modifies in order to analyze the effect on the dependent variable. PMTCT of HIV/AIDS module was used as an independent variable in current study.

Dependent Variable: The dependent variable is the variable that is being measured and tested in an experiment and it is reliant on the independent variable.

In the present study dependent variables was behavioral outcome comprised of

1. Knowledge of nursing officers
2. Attitude of nursing officers
3. Skill of nursing officers
4. Stigma of antenatal mothers in utilization of PMTCT services.

Socio-Demographic Variable: Every researcher is interested in collecting study sample characteristics because they are useful when analyzing and comparing study results.

Socio-demographic variables of nursing officers: Age, Gender, marital status language, education, family type, members in the family, religion, professional cadre, Work experience, present working area, previous experience in caring for HIV/AIDS patients, experience in conducting delivery of HIV positive mother, family history of HIV/AIDS, attended training on PMTCT of HIV/AIDS in the last one year, aware of guidelines of standard safety measures. Demographic variable of antenatal mothers: Age, marital status, religion, language, members in the family, education, occupation, dietary pattern, pregnancy status, antenatal visits, family history of HIV/AIDS and awareness of PMTCT services.

Description &preparation of tool

The equipment used by the investigator to monitor or measure variables in the study topic is known as data collection tools. Appropriate, valid and reliable instruments was developed and used to measure behavioral outcome in terms knowledge, attitude, skill of nursing officers and stigma assessment rating scale for antenatal mothers. Upon intensive search of literatures it was finalized to collect selected relevant information from the samples. According to the study's goal, the researcher created a tool to assess the challenges faced by nursing officers in providing care to antenatal mothers with HIV/AIDS, as well as nursing officers' knowledge, attitude, and skill, as well as the stigma surrounding the use of HIV/AIDS PMTCT among

antenatal mothers. The tool was modified with consultation of the guide and experts from the different fields including nursing, medicine particularly obstetrics and gynecology, sexually transmitted diseases and venereal disease and community health. Later, the tool was validated from the nine experts and then tested for the reliability.

VALIDITY OF THE TOOL

Structured Knowledge questionnaire, Attitude scale, Observation skill checklist regarding PMTCT of HIV/AIDS and the checklist on challenges faced by nursing officers in delivering care to antenatal mothers with HIV/ AIDS and Stigma scale on utilization of PMTCT services for HIV/AIDS for antenatal mothers was developed and content validated by nine subject specialists in the field of nursing, medicine particularly OBG, sexually transmitted diseases and venereal disease and community medicine. There was agreement with little comments by all experts. However, a few ideas for improving some of the components were made, and these were integrated into the final tool.

RELIABILITY OF TOOL

Simply said, reliability is being dependable. When applied to an instrument, it indicates that the instrument may produce comparable findings in diverse situations. It should be constant. Then only such an instrument can be utilized in the research. Internal consistency, test and retest procedures, and inter-rater readings are all used to determine this.

DATA COLLECTION PROCEDURE

The data was gathered during February, 2019. Official approval was received from the respective hospital administrator of Bangalore's selected hospital. Also, authorization was sought from the hospital's nursing superintendent, who was asked to cooperate in allowing the nursing officers to engage in the data collecting and interventions at their convenience date and time. Structured tool was administered to determine the Knowledge, Attitude, Skill and the challenges faced by Nursing Officers in delivering care to antenatal mothers with HIV/ AIDS on 1st day of the study. PMTCT of HIV/ AIDS module was administered as an intervention to all samples on day 2 by gathering all the samples of that area. Post test was carried using same instrument on day 30 for nursing officers and on the same day for antenatal mothers to determine the post intervention impact on level of stigma in utilizing PMTCT services of HIV/AIDS using Stigma scale.

Plan for data analysis

The current study included a total of 100 nursing officers and pregnant mothers each. The subjects were evaluated based on raw data. The data, on the other hand, was imported into the statistical program SPSS 23, and the frequency responses were determined.

8. Major findings of the study

Among 400 nursing officers**,** The majority of Nursing officers (34, or 34%), were in the 30-40 year age range, with 32 percent of the population aged 40s and 50s, 28% in between 20-30 year, and just 6 (6%) in the 50 plus year range.

According to the gender breakdown of nursing officers, 360 (90%) were females and 40 (10%) were males.

The majority of nursing officers (57 percent) belonged to the Hindu religion, 32 percent were Christians, and 10.5 percent were Muslims, according to the distribution of nursing officers by religion.

Nursing officers were 66 percent familiar with Kannada, 33 percent with English, and 0.5 percent with Hindi.

According to the form of family, 244 samples (61%) belonged from a nuclear family, 148 samples (37%) were from a joint family, and 2% came from a separated family.

The majority of them (57%) had only one family member, 37% had two, 6% had three or more, and only one (0.2%) had three. The marital status revealed that 72(72%) of the sample was married, 27(27.5%) was unmarried, and one sample was widowed.

Nursing officers' qualifications revealed that 48% had a Diploma/ GNM, 40% had a Bachelor Degree/ Post Simple Nursing, 11% had a post graduate degree, and the remaining 1% had a Ph.D. Nursing degree.

45 percent amounted to the Team leader/ Head Nurse/ In-Charge Nurse cadre, 22 percent to the Junior Nursing officer/ Staff Nurse grade-II/ Staff Nurses cadre, 20.5 percent to the Senior Nursing officer/ Staff Nurse grade-I cadre, and 12.5 percent to the Nursing Supervisor cadre.

The majority of them (40%) had 6 or more years of experience, while 28% had fewer than 2 years, 16.5 percent had 2-4 years of experience, and only 15.5 percent had 4-6 years of experience.

It was found that 33 percent of them worked in the Obstetrics and Gynecology Outpatient Department, 28.5 percent in the Labor Room/ Operation Theatre, 14 percent in the Postnatal Ward, and the remaining 6% in the ART Centre.

Previous experience caring for HIV/AIDS patients shows that 59 percent had no prior experience and 41 percent had experience working caring for HIV/AIDS patients.

Previous experience of delivering an HIV positive mother shows that 70.5 percent had no prior experience and 29.5 percent had previously delivered an HIV positive mother.

In terms of HIV/AIDS in the family, 96.5 percent of those surveyed said they had no family members and friends with the disease, while 3.5 percent said they had.

In terms of previous participation at HIV/AIDS PMTCT training/workshops in the previous year, 90% had no prior training, although 10% had previously completed training/workshops on HIV/AIDS PMTCT in the previous year.

When asked if they were aware of the new recommendations for standard safety precautions, 84% said they weren't, while 16% said they were.

9. Recommendations for further studies

1. A similar research may be carried out in a public heath care settings.

2. For greater generalization, the same study may be repeated with a bigger sample size.

3. Video or self-instruction educational materials may be developed and introduced.

4. An identical research may be conducted amongst nursing officers at primary health centers in rural areas.

5. Randomised control trails can be performed with experimental and control group of nursing officers.

6. A comparative study can be performed between nursing officers working in private and public hospital.

7. An intervention to address the challenges of nursing officers can be taken up.

10. Limitations

1. Study limited was limited to assess the challenges of nursing officers but did not address any of them.

2. The current investigation was limited to a few private hospitals in tonk.

3. The current research is limited to assess the post intervention stigma of antenatal mothers only but not the pre intervention stigma.

4. The present study is limited to identify the various areas of stigma but did not address any of them.

5. The present study faced difficulties to organize the study participants at one place due to nursing officers working schedules.

6. The study faced problems in making the antenatal mothers feel comfortable before assessing the stigma if they were accompanied by family members.

11.REFERENCES:

BOOKS

1.Bennett, J. E., Dolin, R., & Blaser, M. J. (2014). Mandell, douglas, and bennett's Principles and Practice of Infectious Diseases. In (9 ed., Vol. 2): Elsevier Health Sciences.

2.Evian, C. (1993). Primary AIDS care (Vol. 14).

3.Ferri, F. F. (2020). Ferri's Clinical Advisor In (1 ed., Vol. 3): Elsevier Health Sciences.

4.Goldman, L., & Schafer, A. (2019). Immunopathogenesis of Human Immunodeficiency Virus Infection. In Goldman-Cecil Medicine (26 ed., pp. 2246-2248): Elsevier.

5. Hockberger, R. S. (2006). Emergency Medicine: Concepts and Clinical Practice: Elsevier.

6. Hockberger, R. S. (2018). Rosen‘s Emergency Medicine Concepts and Clinical Practice: Elsevier.

7. Kimberlin, D. W., Brady, M. T., Jackson, M. A., & Long, S. S. (2015). Red Book : 2015 Report of the Committee on Infectious Diseases (29 ed.): American Academy of Pediatrics.

8. Kliegman, R., Behrman, R., Jenson, H., & Stanton, B. (2016). Nelson textbook of pediatrics (20 ed.). Philadelphia, United States: Elsevier Health Sciences.

9. Landon, M. B., Galan, H. L., Jauniaux, E. R., Driscoll, D. A., Berghella, V., Grobman, W. A., Cahill, A. G. (2020). Gabbe's Obstetrics: Normal and Problem Pregnancies (8 ed.). Churchill Livingstone, Philadelphia, Pa, USA.: Elsevier Health Sciences.

10. Melmed, S., Polonsky, K. S., Larsen, P. R., & Kronenberg, H. M. (2015). Williams Textbook of Endocrinology E-Book: Elsevier Health Sciences.

11. Powderly, W. G. (1997). Manual of HIV therapeutics: Lippincott Williams & Wilkins.

12. Ralston, S. H., Penman, I. D., Strachan, M. W., & Hobson, R. (2018). Davidson's Principles and Practice of Medicine (23 ed.): Elsevier Health Sciences.

13. Rennie, J. M. (2012). Rennie & Roberton's Textbook of Neonatology (5 ed.): Elsevier Health Sciences.

14. Volberding, P., Greene, W., Lange, J. M., Gallant, J. E., & Sewankambo, N. (2012). Sande's HIV/AIDS medicine: medical management of AIDS 2013 (2 ed.): Elsevier Health Sciences.

15. Volberding, P., Sande, M. A., Greene, W. C., Lange, J. M., & Gallant, J. E. (2008). Global hiv/aids medicine: Elsevier Health Sciences.

16. Zeichner, S. L., & Read, J. S. (2005). Textbook of pediatric HIV care: Cambridge University Press.

17. Zeichner, S. L., & Read, J. S. (2006). Handbook of pediatric HIV care: Cambridge University Press.

JOURNALS

1. Abajobir, A. A., & Zeleke, A. B. (2013). Knowledge, attitude, practice and factors associated with prevention of mother-to-child transmission of HIV/AIDS among pregnant mothers attending antenatal clinic in Hawassa referral hospital, South Ethiopia. Journal of AIDS & Clinical Research, 4(6), 2-7.

2. Abiodun, M. O., Munir'deen, A. I., & Aboyeji, P. A. (2007). Awareness and knowledge of mother-to-child transmission of HIV among pregnant women. Journal of the National Medical Association, 99(7), 758.

3. Abtew, S., Awoke, W., & Asrat, A. (2016). Knowledge of pregnant women on mother-to-child transmission of HIV, its prevention, and associated factors in Assosa town, Northwest Ethiopia. HIV/AIDS, 8, 101.

4. Addo, V. N. (2005). Pregnant women's knowledge of and attitudes to HIV testing at Komfo Anokye Teaching Hospital, Kumasi. Ghana medical journal, 39(2), 50-54.

5. Adedimeji, A., Abboud, N., Merdekios, B., & Shiferaw, M. (2012). A qualitative study of barriers to effectiveness of interventions to prevent mother-to-child transmission of HIV in Arba Minch, Ethiopia. International Journal of Population Research, 2012.

6. Adeleke, S., Mukhtar-Yola, M., & Gwarzo, G. (2009). Awareness and knowledge of mother-to-child transmission of HIV among mothers attending the pediatric HIV clinic, Kano, Nigeria. Annals of African medicine, 8(4).

7. Aggarwal, V., Seth, A., Chandra, J., Gupta, R., Kumar, P., & Dutta, A. K. (2012). Occupational exposure to human immunodeficiency virus in health care providers: a retrospective analysis. Indian journal of community medicine: official publication of Indian Association of Preventive and Social Medicine, 37(1), 45.