

Original Research Article

Knowledge, attitude and practice among private medical professionals enrolled in public private partnership program for prevention of mother to child transmission of human immunodeficiency virus in three districts of Karnataka

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Received: 21 July 2019

Revised: 17 September 2019

Accepted: 20 September 2019

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ABSTRACT

Background: Human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), is one of the world's most serious public health challenges. Nearly all young children newly infected with HIV are infected through mother-to-child transmission. Only about half of the HIV infected mothers received ART and quarter of the babies born through HIV infected mothers receive ARV prophylaxis. This low coverage due to a high proportion of women delivering in private health facilities. Lack of policy for the private sector, inadequate knowledge and fear of occupational exposure are some barriers.

Methods: A cross sectional study conducted among private practitioners enrolled in parent to child transmission (PPTCT) program in three districts of Karnataka. 175 obstetricians and pediatricians engaged in giving care to HIV infected mother and children were selected randomly and were interviewed using a pre tested semi structured questionnaire and the scores were graded.

Results: Mean age of the participants was 38.95 years with SD of 9.12 years. The mean years of experience was found to be 14.36 years with SD of 6.45 years. The knowledge was average scoring 66.56%. The attitude and practice were 69.21% and 64.21% respectively. The mean score for KAP was 28.89 (9.56) out of 43 questions. There was significant association between age of the participants, specialization and years of experience with scoring.

Conclusions: The knowledge, attitude and practice among private practitioners were average. To enhance the coverage of PMTCT, there is a need for strengthening private sector with strong political will thus reducing morbidity and mortality of the disease.

Keywords: Knowledge, Attitude, Practice, HIV, Prevention of mother to child transmission, Public private partnership

INTRODUCTION

Human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), is one of the world's most serious public health challenges. But there is a global commitment to stopping new HIV

infections and ensuring that everyone living with HIV has access to HIV treatment. There were approximately 36.9 million people worldwide living with HIV/AIDS in 2017. Of these, 1.8 million were children (<15 years old). An estimated 1.8 million individuals worldwide became newly infected with HIV in 2017- about 5,000 new

infections per day. In 2017, 940 000 people died from AIDS-related illnesses worldwide.¹

Nearly all young children newly infected with HIV are infected through mother-to-child transmission (MTCT). Globally, there were still 1.4 (1.1-1.7) million pregnant women with HIV in 2017 (all of whom needed interventions for PMTCT of HIV), of which an estimated 80% [61≥95%] received ARV drugs for preventing mother-to-child transmission (PMTCT) of HIV.²

The vast majority of people living with HIV are in low- and middle-income countries. In India, According to HIV Estimation 2017 report by national aids control organization (NACO), national adult (15–49 years) HIV prevalence is estimated at 0.22% in 2017; 0.25% among males and 0.19% among females. In 2017, the total number of people living with HIV (PLHIV) in India is estimated at 21.40 lakhs, females 8.79 lakh and children (<15 years) account for 0.61 lakh, an estimated 69.11 thousand people died of AIDS-related causes nationally.³

The route of transmission is predominantly sexual (87.4%); other routes of transmission include perinatal (4.7%), unsafe blood and blood products (1.7%), infected needles and syringes (1.8%), and unspecified other routes of transmission (4.1%). India is estimated to have had 22.67 thousand HIV positive women who gave birth in 2017. Karnataka stands fourth in need of prevention of mother to child transmission (PMTCT) with 1.95 thousands of HIV positive women who gave birth in 2017.⁴

The rate of vertical transmission can be significantly reduced through a combination of low-cost short-term preventive drug treatment to the mother and infant, safe delivery practices, counseling and support, and safe infant feeding practices. In the absence of any intervention, an estimated 20,000 infected babies will be born annually. The PMTCT of HIV/AIDS program was launched in the country in the year 2002 and aims to prevent the perinatal transmission of HIV from an HIV infected pregnant mother to her new born baby. The programme entails counselling and testing of pregnant women in the ICTCs.⁵

As on 31st August 2016 in India there are 20,756 integrated counselling and testing centers (ICTC), most of these in government hospitals, which offer PMTCT services to pregnant women. Systematic reviews from USAIDS have shown positive results in integrating PMTCT program in HIV prevention.⁶ Also, a meta-analysis to show children who acquire HIV infection perinatally are at higher risk of early death than those acquiring infection through breastmilk.⁷

Between 17 to 48% of pregnant women living with HIV received ARVs for PMTCT in 2009, and about 27% of HIV-exposed infants received ARV prophylaxis.⁸ This low coverage is in part due to a high proportion of

women delivering in private health facilities, where comprehensive PMTCT services are limited. The gaps in PMTCT program like, lack of national policy for the private sector, stigma, inadequate knowledge and fear of occupational exposure are barriers to implementing PMTCT programs in the private sector, limited involvement of the private clinics and hospitals, limited focus on the standardization of practices in the government and the private sectors are becoming greater hindrances to the program.

To reduce the PMTCT coverage gap, a tripartite arrangement of public private partnership (PPP) program was established. The three partners are technical assistance agency, National AIDS Control Organization (NACO)/Karnataka State Aids Prevention Society (KSAPS), Private sector. The PPP is a unique model that utilizes the capacities, skills and resources from each of the three partners and are increasingly seen as playing a critical role in improving the performance of health systems worldwide, by bringing together the best characteristics of the public and private sectors to improve efficiency, quality, innovation, and health impact of both private and public systems. Thus, the study was conducted to assess the knowledge, attitude and practices about the PMTCT program in three districts of Karnataka.

METHODS

A cross-sectional study was conducted during the months of June to September 2017 to assess knowledge among private medical professionals about HIV infection, current standards and opportunities for PMTCT of HIV in PPP program registered sites, attitude and current practices among private medical professionals in management of HIV infected pregnant women and HIV exposed children in PPP sites. Mysore, Hassan and Chamarajanagara; three districts of Karnataka were chosen for the study. PPP program started in these three districts and it was effectively implemented since inception. Institutional ethical clearance was obtained from the Institutional ethics committee. The permission from the PPP program managers to conduct study was taken.

The study participants were private medical professionals (only obstetricians/pediatricians) who were engaged in giving care to HIV infected pregnant women/HIV exposed children where there is facility for delivery care along with OPD visits for clients and registered in PPP program, with partnership duration of more than one month. Those who did not give consent were excluded from the study.

According to a study, PMTCT of HIV or AIDS: perception of health care workers in rural areas by Usman et al, using the proportion of knowledge 69.1, at confidence interval of 95%, alpha at 0.05% and expected difference of 10% of p; the sample size was calculated

using the formula z^2pq/d^2 . The calculated sample size was 175. The practitioners who had registered for PPP program in the three districts were enrolled using simple random sampling method.

A pre-tested and semi structured questionnaire comprised of four sections with 48 questions namely, demographic details, questions on knowledge, attitude and practice towards management of HIV infected pregnant women and care of HIV exposed child were included. 15 questions each of knowledge, attitude and 13 questions of practice scored individually with one mark each were included. The scores were divided into three categories, good (80-100%), average (60-80%) and poor (<60%).

The knowledge component was further divided grossly into 4 divisions of knowledge on transmission, symptoms and diagnosis, treatment and prophylaxis. The 3-point Likert scale was used to assess attitude which was again divided into 4 divisions of attitude towards patient, treatment, awareness and prevention and PPP. The practice component had 2 divisions on practice of prevention and treatment.

After taking consent from the Medical practitioners the interview technique was used to collect data. Google forms were used; the data obtained was transferred to MS Excel and analyzed using SPSS version 20.0 software. Qualitative variables were expressed in frequency and

percentages. The quantitative data were summarized through mean with standard deviation. Chi-square test was used to find the association between knowledge, attitude and practice with demographic variables. Pearson's correlation was used to find association between age and years of experience.

RESULTS

A total of 175 private medical practitioners were interviewed and data was collected. Mean age of the participants was 38.95 years with SD of 9.12 years. About 94, 53.7% were males and the majority, 128 (73.1%) interviewed were obstetricians. The mean years of experience was found to be 14.36 years with SD of 6.45 years. The mean duration of the practitioners into PPP program was 16.51 months with SD of 7.32 months. The demographic details of the respondents are given in Table 1.

The average knowledge on 4 divisions was 66.56%. Of the 4 components the questions related to diagnosis had higher scoring of 138 (78.85%) and the least scored among the 4 components was for the questions related to prophylaxis with an average score of 95 (54.28%). The mean score of knowledge was 9.12 ± 2.4 .

Table 1: Demographic details of private practitioners.

Demographic profile	
Age (years)	N (%)
<30	9 (5.1)
31-40	91 (52.0)
41-50	63 (36.0)
>50	12 (6.9)
Sex	
Male	94 (53.7)
Female	81 (46.3)
Specialization	
Obstetrics and gynecology	128 (73.1)
Pediatrics	47 (26.9)
Years of experience (years)	
<5	9 (5.1)
6-10	54 (30.9)
11-15	61 (34.9)
15-20	41 (23.4)
>20	10 (5.7)
Duration into PPP program (months)	
<6	60 (34.2)
7-12	54 (30.9)
13-18	61 (34.9)

Overall attitude towards care of HIV infected mothers and children were positive among 69.21%. The attitude towards care of the patients scored higher of about 159

(90.85%). Only about half 94 (53.71%) of the private practitioners were having positive attitude towards PPP. The mean score for attitude was 12.56 ± 1.9 .

The practice among the private practitioners on care of HIV infected mothers and children was average amounting to 64.21%. The component of prevention scored higher of about 124 (70.85%) than treatment which scored less of 102 (58.28%). The mean score for practice was 7.21±3.7. Knowledge, attitude and practice of the respondents are given in Table 2.

There was significant association with specialization of the private practitioners with regard to knowledge, attitude and practice with a p value less than <0.05 on t test. Also the years of experience had significant relation with knowledge and practice, r=-1.08 (Pearson's correlation), p<0.01 (Table 3 and 4).

Table 2: Knowledge attitude and practice of private practitioners.

Attribute	Variable	Correct response, N (%)
Knowledge	Transmission	113 (78.85)
	Symptoms and diagnosis	138 (64.57)
	Treatment	120 (68.57)
	Prophylaxis and prevention	95 (54.28)
Attitude	Patient care	159 (90.85)
	Awareness and health education	123 (70.28)
	Treatment	109 (62.28)
	Public private partnership	94 (53.71)
Practice	Prevention	124 (70.85)
	Treatment	94 (53.71)

Table 3: Association between demographic variables and knowledge, attitude and practice.

	KAP	N (%)	Mean (SD)	P value
Gender	Male	92 (52.5)	31.8 (9.4)	0.75*
	Female	83 (47.5)	33.2 (6.8)	
Specialization	Obstetrics and gynecology	135 (77.1)	36.7 (4.6)	0.04*
	Pediatrics	40 (22.9)	29.8 (7.5)	

*: t-test.

Table 4: Relation between demographic variables and knowledge, attitude and practice.

KAP	Mean (SD)	Co-relation coefficient (r)	P value
Age	28.6 (11.1)	-1.08	0.04
Years of experience	34.8 (5.6)	-1.46	0.01
Duration of PPP	31.2 (4.3)	0.784	0.45

DISCUSSION

The knowledge, attitude and practice of private practitioners play an important role in reducing the burden of the disease. Proper treatment, prophylaxis, prevention and creating awareness among the patients will ensure better management for both the patients as well as community.

In this study information was collected regarding knowledge on transmission of the disease, symptoms and diagnosis, treatment, prophylaxis and prevention. Also, the reported attitude and practices towards patient care, prevention and treatment was taken into consideration and this can lead to bias. The practices have to be observed in order to reduce the biased reporting. This is one of the limitations of the study.

In this study the knowledge among the private practitioners was average amounting to 66.56%.

Inadequate knowledge on modes of transmission and percentage of transmission leads to wrong attitude and improper implementation of health promotion and prevention activities in context of HIV/AIDS. Many practitioners are not aware of the development of resistance between both seropositive couples, and they advise usage of condoms only to PPTCT. Many of the practitioners are unaware of color coding and universal precautions.

A similar study was conducted in Odi Hospital, Tshwane district on, 'Knowledge and practice of the PMTCT of HIV guidelines amongst doctors and nurses' in 2016. Average percentage of knowledge was 60.8% and practice percentage was 77%. Regarding knowledge, the question on HIV counseling and testing scored an average 93.1%, while that on doses of drugs used in the PMTCT guidelines scored 17.7%. For practice questions scores ranged from 71 to 82%.⁹

In a study conducted by Nikole et al on, 'Knowledge, Attitudes and Practices on Prevention of Mother to Child Transmission of HIV among Health Care Providers at University Teaching Hospital and In the Lusaka' in 2010 stated knowledge among the health care providers was ranging between 60%-70%. Attitudes towards PMTCT were good (95%). The practice of PMTCT interventions was acceptable (>80%). There was statistically significant association between age and knowledge of health care providers.¹⁰

In our study, the overall knowledge (66.56%), attitude (69.21%) and practice (64.21%) fell in the range of average scoring. Also there was better knowledge on symptoms and diagnosis than treatment. There was significant association between age, years of experience and specialization with regards to knowledge attitude and practice. However, there was no association found between duration of engaging in Public Private Partnership and knowledge.

In a study conducted by Okike et al, knowledge, attitude and practice of general medical practitioners in Port Harcourt towards the prevention of mother-to-child transmission of HIV in 2011 says, the knowledge on treatment was 58.7%. About half of the doctors had negative attitude towards patient care or delivery. 40.66% of respondents do not offer antenatal or delivery services to HIV positive women and 42% would screen pregnant women without consent. Most of the respondents (89.3%) agreed that their knowledge, attitude and practice of PMTCT was deficient and 90.1% were willing to attend an update course.¹¹

A study by Aishat et al, on PMTCT of HIV/AIDS: Perception of Health Care Workers in Rural Areas of Oyo State in 2016 states, knowledge of PMTCT of HIV was poor among the health care workers (69.1%). However, more than half (58.3%) had good attitudes towards PMTCT of HIV/AIDS. Predictors of good knowledge was cadre of occupation and years of experience which is similar to our study.¹²

Also, a study conducted in Ethiopia by Tigabu et al in 2018 on knowledge, attitude and practice towards PMTCT of HIV/AIDS among pregnant mothers, revealed that majority of the women knew about mother-to-child transmission and PMTCT of HIV or AIDS, Also had positive attitude towards PMTCT of HIV or AIDS and all of the respondents have been practiced PMTCT. The respondents' education level has been significant in the study.¹³

CONCLUSION

The study shows that there is significant acceptance of the PPTCT public-private partnerships (PPP) program among the private health care providers. The broad understanding related to HIV cause and transmission amongst the health care providers is good. However, specifics especially figures related to rate of transmission

etc. needs update. In addition, though there is significant reduction in 'fear of infection' (common reason for stigma and discrimination of PLHIV) among private health care providers it is still a cause of concern. While the private health care providers have accepted to PPTCT_PPP intervention there still exists certain anxiety related to possible loss of non-PLHIV clientele, enhanced demand on documentation and cost implications thereof.

The program gives unique opportunity to the State to enrol more private practitioners, educate and empower them to address their concerns and issues. The tripartite arrangement of a technical assistance partner, government and private health care provider seems an ideal arrangement. It is important that these partners sustainably deliver their obligations on time. This could have a far-reaching impact on the reach of PPTCT services in the community, assuring near 100% coverage of services to women and children.

ACKNOWLEDGEMENTS

We would take this opportunity to acknowledge our deep sense of gratitude to the dean and director of Bangalore Medical College and Research Institute, Bengaluru for permitting us to take up this in three districts of Karnataka. We would also like to thank the Director, PPTCT_PPP program, whole heartedly, for his support towards this study. We sincerely thank all the Private practitioners and the Programme Officer, of PPTCT_PPP program. We thank all the authorities for helping us in this study. Lastly, we would like to thank the team members of this study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Jagadish DMH, Gudegowda KS, Sobagaiah RT, Neela VV. Knowledge, attitude and practice among private medical professionals enrolled in public private partnership program for prevention of mother to child transmission of human immunodeficiency virus in three districts of Karnataka. *Int J Community Med Public Health* 2019;6:4381-6.