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Full Length Research paper

Study on the knowledge, attitude and practice about HIV/AIDS and its influencing factors among pregnant mothers in the social institute of health and hygiene of Dakar

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Pregnant women are at higher risk of transmitting the infections to their foetus. This prompted the "prevention of mother to child transmission (PMTCT) program" in Senegal since 1998. The objective of this cross sectional study was to determine the knowledge, attitude and practice of pregnant mothers in the social Institute of health and hygiene of Dakar towards human immunodeficiency virus/ acquired immune deficiency syndrome (HIV/AIDS) and its influencing factors. Data were obtained through self administered questionnaires. Only 32.2% of the respondents have good knowledge, compared to 67.8% who had poor knowledge ($p < 0.001$). Majority of them (56.4%) have good attitude and practice towards HIV/AIDS compared to the remaining poor attitude and practice respondent (44.4%) ($p < 0.001$). Radio/TV (90.2%) and reading materials (83.9%) were the main sources of obtaining information. Main predictors for having good knowledge towards HIV/AIDS were women aged over 30 years old, have high education, who perceived on having good knowledge towards HIV/AIDS and received health education from health staffs. Meanwhile, predictors for having good attitude and practice towards HIV/AIDS were women having high education and received health education from health staffs. Therefore, implementation of PMCTC must be reviewed regularly to ensure the program reach its targets.

Key words: human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), mother to child transmission, knowledge, attitude and practice.

INTRODUCTION

Despite the low and stable HIV prevalence in Senegal, less than 1% in the general population, all genetic subtypes are documented in Senegal. The in-country genetic subtype distribution consist of 84.6% of subtype A described, 6.5% of subtype B, 4.7% of subtype C, 2.5% of subtype D, 1% of subtype E, 0.03% of subtype F, 1.2% of subtype G, and 0.03% of subtype H respectively (Toure-Kane et al., 2000). As in other West and West-Central African countries, subtype A is predominant (Kanki et al., 1997). HIV/AIDS is one of the major medical and public health problems in the world including Senegal. The terms HIV and AIDS have been largely understood within the biomedical conceptual framework. It basically refers to the intrusion of a specific virus that is the human immunodeficiency virus (HIV) into the human body and causes the body to lose its natural defense mechanisms (UNAIDS/WHO, 2010). With the increase in the human immunodeficiency virus (HIV) infection among children, Senegal has established "prevention of mother to child transmission" (PMTCT) program since 1998. However less is known about women's understanding of

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HIV/AIDS, and their attitudes towards HIV. According to WHO report, 40 million people have been infected with HIV in 2010. By its wide distribution around the world, 3 million people die each year according to UNICEF, one out of six of the total death related to HIV/AIDS is represented by children under the age of 15 (WHO/UNICEF, 2010).

Senegal is labelled as a country with a concentrated epidemic. It is based on the low infection rate among the general population with the prevalence of less than 1% based on the nationwide antenatal screening program (UNAIDS/WHO, 2010). Therefore, the main objective of this study was to determine the knowledge, attitude and practice of pregnant mothers in Dakar towards HIV/AIDS and its influencing factors; mainly on demographic characteristics and social history of these women. Opinions and ideas of how to mitigate this problem and curbing the spread of HIV/AIDS were also asked to our respondents.

MATERIALS AND METHODS

This was a cross-sectional study which was carried out at the social Institute of health and hygiene in Dakar from March 1st 2010 to November 30th 2010. Respondents were chosen through simple random sampling after attaining the registration list. Sample size was calculated by using formula (Lwanga et al., 1991) with reference to prevalence of awareness of coexistence of HIV and pregnancy among pregnant women (Mwapasa et al., 2006). After adjusting for non response of 10%, the final sample size required was 205 respondents. The instrument used was a set of questionnaires designed to assess awareness of the women about HIV/AIDS, evaluate their knowledge of possible transmission, prevention, treatment, and clinical signs. Data was analysed using the SPSS for Windows statistical package version 13.0 which was licensed through the university. For the descriptive analysis, frequency distributions were generated for all categorical variables. Means with standard deviation were determined for quantitative variables. Meanwhile, t-test was conducted to demonstrate any significant different between scores. Statistical significance was set at $p < 0.05$.

RESULTS

A total of 220 antenatal mothers who attended the antenatal clinic were approached for this study, however only 205 antenatal mothers agreed to participate in the study, giving response rate of 93.2%. Those who refused to participate were mothers who did not get consent from their spouse, commitment to their family and jobs and feeling of fear. Table 1 showed the demographic and social history of the respondents. Radio/TV was the main source of information about HIV/AIDS (90.2%), followed by reading material (83.9%) as indicated by (Table 2). Only 32.2% of the respondents have good knowledge compared to 67.8% who had poor knowledge ($p < 0.001$); however, more than half of them (56.4%) have good attitude and practice towards HIV/AIDS compared to the remaining poor attitude and practice respondent (44.4%) ($p < 0.001$).

Bivariate analysis indicated that for mothers aged above 30 years old ($p = 0.016$, prevalence odds ratio [POR] = 2.09, 95% CI 1.15 to 3.80), have high education ($p = 0.002$, POR = 7.07, 95% CI 2.09 to 23.94), have permanent job ($p = 0.010$, POR = 2.28, 95% CI 1.22 to 4.24), who perceived to have good knowledge ($p = 0.047$, POR = 3.06, 95% CI 1.02 to 9.21) and received health education from health staffs ($p < 0.001$, POR = 1.56 95% CI 1.56 to 6.07), significantly associated with good knowledge toward HIV/AIDS.

As for good attitude and practice towards HIV/AIDS, only having high level of education ($p < 0.001$, POR = 6.52, 95% CI 2.81 to 15.11), received health education from health staffs ($p < 0.001$, POR = 3.27, 95% CI 1.82 to 5.90) and never experienced domestic or sexual violence ($p = 0.041$, POR = 0.42, 95% CI 0.18 to 0.97) were significant. Upon controlling for confounders (Table 3), only mothers aged above 30 years old, have high education, who perceived to have good knowledge and received health education from health staffs, significantly associated with good knowledge toward HIV/AIDS. As for having good attitude and practice, mothers with high education and received education from health staffs remained significantly associated even though the association is slightly attenuated.

DISCUSSION

Most of the respondents were between 24 to 29 years of age with the mean age of 28 years old, of low income status which is quite similar to the findings of Barcellos from Brazil (Barcellos et al., 1996). 30.2% of the respondents were of primigravida status. Almost 50% had initial sex at the age range of 20 to 24 years old, 92.2% did it with their now current husbands. As in other study (Frater et al., 2002), girls who enjoyed sex were usually with their then current boyfriends that later will become their husbands. For those who had intercourse with different partners, majority did not use condoms even though the intercourse was among friends or anyone else. This showed the risk exposed to these women, and if they had been infected would be passed unto their unborn child. 13.2% had experienced some form of sexual/domestic violence before and these groups were more at risk because of previous negative experiences but also risks of HIV that could have occurred without their own knowledge. 93.2% of the respondents did not know anyone infected with the disease. 62.4% admitted that they received health education from the health staffs. The question is the method use in educating mothers in health centres was adequate or it is just a futile effort of the health staff. Of course, this question poses a significant alarm to the health department since PMTCT program had been in place since 1998. The percentage that received health education is relatively low and does not even cover 80%

Table 1. Demographic characteristics and social history of respondents (n = 205).

Demographic characteristics and social history	Frequency (n)	Percent (%)
Nationality		
Senegalese	195	95.1
Non-Senegalese	10	4.9
Age (years)		
(mean ± sd) (27.64 ± 5.94)		
15-19	16	7.8
20-24	53	25.9
25-29	58	28.3
30-34	48	23.4
≥ 35	30	14.6
Marital status		
Single	1	0.5
Married	203	99.0
Divorced	1	0.5
Education level		
No education	9	4.4
Primary level	29	14.1
Secondary level	140	68.3
Tertiary level	27	13.2
Occupation		
Not working	124	60.5
Self employed	19	9.3
Private employee	33	16.1
Government employee	29	14.1
Monthly income ($)		
< 50	132	64.4
50-100	27	13.2
100-200	22	10.7
200-300	10	4.9
≥300	14	6.8
Ever heard of HIV/AIDS		
No	13	6.3
Yes	192	93.7
Perception on how much knowledge		
Poor	156	76.1
Good	49	23.9
Known anybody with HIV/AIDS		
No	191	93.2
Yes	14	6.8
Received health education from health staffs		
No	77	37.6
Yes	128	62.4
Experienced domestic or sexual violence		
No	178	86.8
Yes	27	13.2

Table 2. Sources of information.

Source of information	Frequency (n)	Percent
Radio/TV	185	90.2
Books/Magazine	172	83.9
Health staff	156	76.1
School	128	62.4
Friends	101	49.3
Siblings	76	37.1
Father	62	30.2
Mother	61	29.8
Religious House	50	24.4

Table 3. Predictors influencing good knowledge, attitude and practice toward HIV/AIDS (n = 205).

Predictor	Beta	Standard error	Wald	P value	POR	95% CI
Knowledge[a]:						
Age						
≥30 (referent)						
<30	0.83	0.35	5.75	0.017	2.33	1.16-4.54
Education level						
Low (referent)						
High	1.66	0.65	6.44	0.11	5.24	1.46-18.83
Perception on how much knowledge						
Poor (referent)						
Good	1.37	0.37	13.82	<0.001	3.93	1.91-8.07
Received health education from health staff						
No (referent)						
Yes	1.00	0.38	6.84	0.009	2.73	1.29-5.78
Constant	-2.77	0.68	16.44	<0.001	0.06	
Attitude and practice[b]:						
Education level						
Low (referent)						
High	1.61	0.45	12.69	<0.001	4.50	2.06-12.11
Received health education from health staff						
No (referent)						
Yes	1.05	0.32	10.72	0.001	2.87	1.53-5.39
Constant	-1.66	0.46	12.98	<0.001	0.19	

Backward stepwise (LR) multiple logistic regression applied.
No multicollinearity problem and interaction reported.
[a]Model adequacy was checked by using Hosmer and Lemeshow test = 0.86, overall PORrectly classified percentage (72.7%) and area under the curve = 0.77. Nagelkerke R Square = 0.28.
[b]Model adequacy was checked by using Hosmer and Lemeshow test = 0.81, overall PORrectly classified percentage (68.3%) and area under the curve = 0.72. Nagelkerke R Square = 0.27.

of women population. This is not surprising, as these women were of low risks groups and were not HIV reactive, so most of the counselling devoted to them would also cover other important issues pregnancy and health related issues as well and not concentrated upon mother-child transmission of HIV/AIDS only. Some of these mothers were unable to differentiate between HIV and AIDS, while some assumed that HIV and AIDS are

the same. These could be because during health promotion or dissemination, the term HIV/AIDS were used interchangeably, thus creating these confusions. Even some health care personals interviewed could not tell HIV apart from AIDS. Majority of our respondents possess good attitude and practice as in other study (Zewudie et al., 2002) .Their scores on attitude and perception were higher than the group from the poor attitude, perception.

From 205 women, 67.3% of them have discussed with someone on HIV/AIDS to increase knowledge although at very infrequent frequencies. These discussions were usually with their husbands, health care workers and friends. Thus husbands/partners, health care workers must also possess adequate knowledge so as to promote good attitude and practice as well. This was congruent with 76.1% of the respondents perceived that they possess very low HIV/AIDS knowledge. 72.5% felt that they were not ashamed to discuss these issues. 68.3% felt no hatred and in fact sympathizes with infected persons. 65.4% still wants to communicate and keep in touch with HIV infected persons. A high percentage of women would permit to be tested at 85.4%. 82.9% of our respondents had not been HIV tested prior marriage, since only 52.2% had known about this test availability. This reflects that the voluntary counselling and HIV testing (VCT) was not well spread among women that were in the intention of getting married or among already married women. The relationship between a person's knowledge and attitude, perception was significant in this study at $p = 0.001$. The full results of women knowledge are not presented in this article. The significant relationship was in concordance with other studies (Mazloomy et al., 2006; Barcellos et al., 1996).

From this study FGD, results indicated that the average time spent, that is, 2.5 min per women for HIV counselling, its health education and promotion were too short. These counselling sessions were usually given just prior the HIV rapid test taken. This is not a solitary problem and was confounded by high number of mother attendees to clinics but also due to shortage of nurses and health care workers. Nurses already burdened by attending to the high volume of women also provide routine investigations (Lwanga et al., 1991), for example, the antenatal blood screening and checking women weight gain and blood pressure. They usually did not receive specific trainings on HIV counselling as well. These trainings are usually coordinated by the state or national level. Attendees of state/central level trainings are carefully selected, based on name rotations and availabilities of staffs in the clinics as not to jeopardise clinics working services. However, the competencies of trainee nurses in providing health education and promotions may not be a good initiative if they were left on their own to provide counselling as it will need skills and sufficient knowledge on HIV/AIDS. If health educations provided by the trainees were monitored and assessed regularly, these activities will be an added investment not only for trainees' confidence building but also to health care development as a whole. In the national PMCTC guidelines, it was not mentioned of at least how many minutes these counselling should be provided. Radio and TV were the main source of information about HIV/AIDS (90.2%) followed by reading materials (83.9%). Women in this study recommended increased effort to HIV/AIDS related health promotion with the purpose of disseminating HIV/AIDS knowledge. However, these methods may not be appropriate among other groups in the society, for example, men or from other "at risk" groups such as gays/lesbians/convicts.

Conclusion

Prevention of mother to child transmission (PMTCT) program must be enhanced to ensure that targets of pregnant mothers especially the higher risks were covered by the program. There is an urgent need for HIV prevention efforts to be made especially on health education not only among clients of health care but also among health providers. Health educators should tailor education programs for pregnant women especially those who are at risk, particularly those with lower education level, to enhance their knowledge about HIV and to improve their attitude and practice towards HIV/AIDS.

REFERENCES

Barcellos N, Bet E, Malmann M, Ribeiro MC,Osanai M, Athayde MI, Correa CC, Peroni E, Willers D, Rigotti GM, Alves IA, Loureiro R (1996) Risk perception knowledge and risk behavior for HIV-infection among pregnant women who attend public maternity of Porto Alegre, Brazil. Int. Conf. AIDS, 11: 341

Frater AJ, Dunn DT, Beardall AJ, Toure-KC, Laurent C (2002) Comparative response of African HIV-1-infected individuals to highly active antiretroviral therapy. AIDS, 16(8):1139-46.

Kanki PJ, Peeters M, Gueye-Ndiaye A (1997). Virology of HIV-1 and HIV-2: implications for Africa. AIDS, 11(Suppl B): S33-42.

Lwanga SK, Lemeshow S (1991). Sample Size determination in health studies: A practical manual.

Mazloomy SS, Anarak MS, DehghaniTafti AA, Tabibnejad N, Sheikhha MH (2006). Knowledge and attitude about HIV/AIDS among pregnant women in Yazd, Iran. Iranian J. Reprod. Med., 4: 29-33.

Mwapasa VA, Rogerson SJB, Kwiek JC, Wilson DDF, Tadesse EG, Chaluluka EE (2006). Maternal syphilis infection is associated with increased risk of mother-to-child transmission of HIV in Malawi. AIDS, 20: 1869-1877.

Touré –Kane C, Vergne I, Laurent C, Sow PS, Diakhate N, Ngom-gueye F, Toure MA, ,Faye MA, Gueye M, Laniece I, Liegeois F , Mboup S , Ndoye I, Delaporte E (2002) Faible taux de survenue de souches VIH-1 résistants aux ARV chez les patients sous traitement ARV.ANRS-ISAARV, Collection Sciences sociales et sida, Paris; 157-65.

UNAIDS/WHO (2010). Report on the global AIDS epidemic.

WHO/UNICEF (2010). HIV epidemic report in Uganda 2008/2009

Zewudie T, Legesse W, Kurkura G (2002). Knowledge, attitudes and Practices among barbers in South-western Ethiopia. Afr. Newslett. Occup. Health Saf., pp. 1269-1271.