

Research Article

Stigma towards People Living on HIV/AIDS and Associated Factors among Nurses' Working in Amhara Region Referral Hospitals, Northwest Ethiopia: A Cross-Sectional Study

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Introduction. HIV/AIDS-related stigma occurs in the world towards people living with HIV/AIDS in a different form. Stigma among nurses in health care setting is one of the main challenges towards the prevention and management of HIV/AIDS in developing countries. It is one of the main reasons keeping patients from seeking health care service. Therefore assessing the magnitude of stigma and associated factors towards people living on HIV/AIDS among nurses is of paramount importance for the quality of nursing care as well as service utilization. **Methods.** An institutional based cross-sectional study was conducted in March 2013. Pretested and structured questionnaire via self-administration was used in the tool of HIV/AIDS Stigma Instrument-Nurse (HASI-N). Data were entered using EPI info version 3.5.3 and transferred to SPSS version 20 for further analysis. Descriptive statistics were conducted to summarize the sample characteristics. A backward stepwise logistic regression model was fitted and adjusted odds ratio with 95% confidence interval was calculated to identify associated factors. **Results.** A total of 386 nurses participated yielding a response rate of 97.2%. Nearly two-thirds (64.5%) of them have shown stigma towards people living with HIV/AIDS in the health institution. Qualification level of diploma or certificate, lack of training, experiences of <06 years, low HIV patient caseload seen in the last six months, and the absence of guidelines/protocols about HIV/AIDS in their health institution were associated factors for stigma. **Conclusions.** The findings of this research showed high magnitude of stigma towards people living with HIV/AIDS among nurses. For stigma to be decreased nurses need to update their knowledge through training and experience sharing with senior staff. And it is crucial that the Ethiopian Ministry of Health, Amhara Regional Health Bureau, and the two hospitals work for decreasing stigma by creating educational development, ensuring accessibility of guidelines about HIV/AIDS, and providing access to training.

1. Background

The United Nations Program on HIV/acquired immune deficiency syndrome (UNAIDS) reported that globally there were an estimated 35.3 (32.2–38.8) million people who were living with HIV in 2013. Even if the proportion of countries documenting the existence of HIV-related legal services increased from 45% in 2008 to 55% in 2012 stigma occurs by different means. It is still one of the major challenges

for management and control of HIV/AIDS epidemic [1, 2]. The incidence of HIV in Ethiopia reduced by 90% between 2001 and 2012. With this significant reduction the current incidence and prevalence of HIV are still a concern for the government as well as community [3, 4]. According to an Ethiopian Demographic and Health Survey (EDHS) report, the HIV prevalence among adults aged groups (15–49 ys) was 1.5%; specifically the prevalence in Amhara region is almost in line with a national prevalence 1.6% [5].

In addition to the medical problems people living on HIV/AIDS (PLHA) face different problems including social problems, like stigma. "A stigma has been defined as a miss identity whereby a person or a group is seen as being inferior because of an attribute or disease they have such as HIV/AIDS." Even though the presentation worldwide is different across the countries and organizations, HIV/AIDS-related stigma by health professionals is still high [6, 7]. It also remains one of the barriers for effective prevention and management of HIV/AIDS.

Stigma on HIV patient is shown to affect the quality of life of the patient especially when it is experienced by health professionals like nurse and other health care workers, since their access to care and adherence to the medication might be affected.

However, the extent of stigmatization towards PLHA by nurses' is not fully understood. Different researchers have tried to find the main reason and factors of why nurses' demonstrate stigma particularly towards PLHA. The major reasons identified by different research are lack of in-depth knowledge [8–10], the perception of incurable natures of HIV [8], fear of being infected with HIV [10, 11], the notion that HIV is transmitted through sexual intercourse [10], and lack of orientation regarding policies against HIV [8, 9, 11].

In Africa, even if the most important activities of health care services are delivered by nurses, there is limited published data that explores the relationship between stigma towards PLHA and nursing professionals [12, 13]. In Ethiopia, at different time, researchers have tried to address the impact of stigma towards PLHA in health institutions by health professionals, including nurses. However, it was difficult to find full data that shows the magnitude of stigma, especially by nurses [14].

This research will be a point of departure for further study. Moreover, it will help planners and policy makers to design best interventions towards the control and prevention of stigma towards PLHA.

2. Materials and Methods

An institution based cross-sectional study design was conducted among nurses working at Amhara Region Referral Hospitals in Northwest Ethiopia. In Amhara region northwest direction there are two referral hospitals, namely, Gondar University Hospital and Felege Hiwot Referral Hospital.

Gondar University Hospital is one of the tertiary level hospitals located in Gondar town, Northwest Ethiopia, 740 km away from Addis Ababa. There are 520 beds and about 448 Health Care Workers (HCWs) of whom 255 were nurses. Nurses are assigned to all departments of the hospital. The Felege Hiwot referral Hospital is also a tertiary level and referral hospital located in Bahir Dar town, Northwest Ethiopia, 554 Km away from Addis Ababa. The hospital has 300 beds and approximately 142 nurses. These hospitals are rendering service for more than 5 million of the population in their respective catchment area. The study was conducted at March 2013 GC.

All nurses who are working in these hospitals were the source population and those nurses who were avail during the study period were included in this study.

The sample size was calculated based on a single proportion formula by using the assumption of 95% confidence interval, 50% of single population proportion (because there is no study in the area), and considering 5% margin of error to yield the final sample size of 384. However, the numbers of nurses who are working in both hospitals were 397. Therefore all nurses were included.

The dependent variable that is stigma was measured by a validated tool (HIV/AIDS Stigma Instrument-Nurse (HASI-N)) which was prepared by the study conducted in three phases in five African countries (Lesotho, Malawi, South Africa, Swaziland, and Tanzania) from 2004 to 2006. It is defined as those nurses having scored one (once) and above in the tool in the last three months [9].

Perceived institutional support is one of the independent variables/factors we used in this research; it is defined as the perception of nurses regarding their institutional support in relation to supply or equipment, protocols, policy to prevent stigma in health institution, and implementation of that policy. Also the number of patients who received services by nurses for the past six months was grouped into two; delivered services for less than ten HIV/AIDS patients in the last six months were grouped into low HIV/AIDS caseload and delivered services for 10 or more patients in the last six months were grouped into high HIV/AIDS caseload. This grouping was supported by other research conducted in Southern Ethiopia [15].

Data were collected by using structured, pretested and self-administered English version questionnaire. Four B.S. nurses have facilitated the data collection process.

For dependent variable, the HASI-N questionnaire, the participants were asked to note how often they have notified the stigma during the past 3 months (0: never, 1: once or twice, 2: several times, or 3: most of the time). The responses for each item were grouped into two: never (0) for no nurses notifying the stigma, and from once to most of the time was grouped into a yes (1) for nurses notifying the stigma.

Data were entered by EPI info version 3.5.3 and exported to SPSS version 20 statistical package for further analysis. Using binary logistic regression for each independent variable against dependent variable, the strength of the association and their statistical significance (OR) and 95% confidence interval was calculated. Those variables having *P* values less than 0.2 in bivariate analysis were entered into the multivariate analysis using backward likelihood ratio method. The final result was interpreted based upon their association of significance (i.e., *P* value is below or equal to 0.05).

Ethical clearance was obtained from an institutional review committee of College of Medicine and Health Sciences, University of Gondar. Communication with Gondar University Referral Hospital and Felege Hiwot Referral Hospital administrator was made through an official letter from the School of Nursing. The purposes and the importance of the study were explained to each study participant and then written informed consent was secured. Confidentiality

was maintained at all levels of the study by making the data collection anonymous.

3. Results

3.1. Sociodemographic and Personal Characteristics of Study Participants. A total of 386 of nurses with a response rate of 97.2% returned the questionnaire. About half (50.5%) of them were females and married. The mean age of respondents was 28.8 years (SD = 06 years). Nearly half of them (44.8%) were in the age group of 25–29 years. The mean monthly income was 2213 ETB (SD = 676.7); more than half, 197 (51%), had a monthly income of 2250 ETB or more. The majority (82.9%) of nurses was orthodox in their religion (Table 1).

Concerning perceived religion most of the nurses 229 (59.3%) were perceived somewhat religious. Nearly two-thirds of nurses (61.9%) had a first degree. The median year of experience of nurses was 05 years (IQR = 06). More than half (54.1%) of them had an experience of less than or equal to five years. Two hundred and sixteen (56%) of respondents did not attend training regarding the prevention of stigma towards HIV/AIDS. Regarding HIV/AIDS-related health care service 263 (68.1%) of nurses delivered care in the past six months. Most of them provided care to a group of 10 or more patients (median = 13, IQR = 14) (Table 2).

Two-thirds (66.3%) of the nurses mentioned that they had an equipment/supply in their institution which helps to prevent stigma in their institution, followed by implementation of policy related to institutional support, and guideline/protocols-related institutional support.

From the total of 386 nurses who were participating in the study, about two-thirds (64.5%) of nurses perceived stigma towards PLHA in the last three months in their health institutions. The stigma scores ranged from once to most of the time, with total mean and standard deviation of 0.65 and ± 0.48 , respectively (Table 2).

3.2. Factors Associated with Stigma towards PLHA. In the bivariate logistic regression analysis, stigma was significantly associated with age, sex, monthly income, qualification, experience, training related prevention of stigma, giving health care service, and numbers of HIV/AIDS patients caseload for the last six months. However, in the multivariate logistic regression analysis qualification level, experience, the presence of training including prevention of stigma of HIV/AIDS and HIV patient caseload was associated with the stigma (Table 3).

Those nurses who had diploma or certificates were about 3.6 times [AOR = 3.63, 95% CI (1.27, 10.33)] more likely to have a stigma towards PLHA as compared to those having the first degree or above. Nurses who had 5 years or lesser year of experience were 5.32 times [AOR = 5.32, 95% CI (2.01, 14.08)] more likely to have stigma than those who experienced 5 years or more. Those who did not receive any training on stigma prevention towards PLHA were about 4 times [AOR = 3.94, 95% CI (1.51, 10.27)] more likely to have a stigma as compared to those who had training. Moreover, those nurses who were perceived as low HIV caseload for delivering service in the last six months by nurses were 4.6 times [AOR = 4.64,

TABLE 1: Sociodemographic characteristics of nurses, working at Amhara Region Referral Hospitals, Northwest Ethiopia, 2013 ($n = 386$).

Variables	Frequency	Percentage	Mean (SD)
Age in years			28.8 (6)
20–24	85	22	
25–29	173	44.8	
30–34	74	19.2	
>34	54	14	
Sex			
Male	191	49.5	
Female	195	50.5	
Marital status			
Single	178	46.1	
Married	199	51.6	
Divorced/separated	9	2.3	
Monthly salary (ETB)			2213 (676.7)
1416 ETB or below	47	12.2	
1417–2249 ETB	139	36	
2250 or above	200	51.8	
Religion			
Orthodox	320	82.9	
Muslim	47	12.2	
Protestant	18	4.7	
Catholic	1	0.3	

ETB: Ethiopian Birr, SD: standard deviation.

95% CI (1.57, 13.70)] more likely to have stigma than those who give nursing care or other health services grouped as a high case load in the last six months.

Concerning perceived institutional support all four variables, which were equipment, policy on the protection of those diagnosed with HIV/AIDS from stigma in health institutions, the implementation of the policy, and presence of guidelines or protocols for prevention of stigma, they were significantly associated with stigma increment in the bivariate logistic regression analysis. However, only perceived guidelines or protocols were significantly associated with stigma in multivariate analysis. Those who were unaware of the presence of guidelines or protocols were 4 times [AOR = 4.19, 95% CI (1.31, 13.41)] more likely to have a stigma towards PLHA as compared to those who were aware of protocols or guidelines (Table 3).

4. Discussion

Stigma observed among nurses towards PLHA during delivering health service in health institution is one of the main challenges in the prevention and management of HIV/AIDS in developing countries. This study was aimed to assess the magnitude and associated factors of stigma towards PLHA among nurses working at Amhara region Referral Hospitals in Northwest area.

The magnitude of stigma among nurses towards PLHA was 64.5%. This result is lower than the study conducted

TABLE 2: Personal characteristics and stigma score of nurses, working at Amhara Region Referral Hospitals, Northwest Ethiopia, 2013 ($n = 386$).

Variable	Frequency	Percentage	Median (IQR)
Perceived religiosity			
Very religious	137	35.5	
Somewhat religious	229	59.3	
Not religious	20	5.2	
Professional qualification			
Certificate/diploma	135	35	
First degree	251	65	
Years of experience			5 (6)
7 months up to 5 years	209	54.1	
Greater than 5 years	177	45.9	
Training about stigma			
Yes	170	44	
No	216	56	
Giving health care service for PLHA in the last six months			
Yes	263	68.1	
No	123	31.9	
Numbers of HIV/AIDS clients seen in the last six months ($n = 263$)			13 (14)
Low caseloads (less than 10 HIV/AIDS clients)	94	35.7	
High caseloads (10 or more than 10 HIV/AIDS clients)	169	64.3	
Stigma			0.65 (0.48)
Yes	249	64.5	
No	137	35.5	

IQR: Interquartile Range, PLHA: People living with HIV/AIDS.

in five African countries, 80.3% [16], albeit higher than the studies conducted in India (55%) and the USA, ranged from 29% to 41% on those HASI-N tool components [17, 18]. The possible reasons for the difference may be due to the difference in health institution structure such as infection prevention procedures, organizational systems to decrease the risk of exposure from HIV/AIDS, resource utilization, or availability in health sectors and differences in professional safety. Also, in the studies conducted in India the inclusion of health professionals was extended to other health professionals such as physicians and laboratory technicians.

Those professionals having certificate/diploma were about 3.6 times more likely to have a stigma as compared to those having a degree or above. The finding is consistent with studies conducted in Southern Ethiopia and China [9, 19]. The possible reasons might be due to the difference in job description which in turn leads to different working environment that might create stigma and less access to further study; those nurses might be assigned in more challenged and have less access to HIV/AIDS care strategies, in addition to decreased awareness and knowledge about modes of transmission and risk of exposure types seen in their lower educational curriculum.

Those nurses with 05 years' experience or less were more than five times more likely to have a stigma as compared to those who had above 05 years' experience in their profession. This result is consistent with studies conducted in China and

Ethiopia [9, 19]. This could be due to the fact that more experienced nurses had more exposure to, and awareness of, HIV/AIDS management and prevention. However, the finding contradicts the findings of medical professionals of Southeast China and Turkish nurses and midwives [11, 20]. The possible reason for the difference may be due to the difference in their professional qualification or perhaps some nurses had a little patient contact in their assigned unit/ward.

Those who were not trained on awareness of stigma towards HIV/AIDS were about four times more likely to experience stigma than those who had training. This finding is in line with the studies conducted in Southern Ethiopia, Cuba, and China [9, 19, 21]. The possible reason may be due to increased knowledge gained by training having an impact on control of stigma towards PLHA. Receiving training on stigma might not directly impact on nurses' stigmatizing behavior at work, but it can be an influence on nurses' general stigma towards PLHA.

Those who were perceived to have low HIV caseload were about 4.6 times more likely to show HIV/AIDS-related stigma as compared to those who were perceived as having a high caseload in the last six months. This result is consistent with a study conducted in Southern Ethiopia and Barbados [9, 22]. The possible explanations could be that, with increased exposure to a number of PLHA on an everyday basis, this may lead to close contact with the patient and result in more experience and increased confidence in how to

TABLE 3: Bivariate and multivariate analysis of factors associated with stigma towards PLHA among nurses, working in Amhara Region Referral Hospitals, Northwest Ethiopia, 2013 ($n = 386$).

Variables	Stigma		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes	No		
Age in years				
20–24	69	16	8.63 (3.94, 18.91)	
25–29	136	37	7.35 (3.75, 14.40)	
30–34	26	48	1.08 (0.52, 2.27)	
35 or more	18	36	1	
Sex				
Male	116	75	0.72 (0.47, 1.10)	
Female	133	62	1	
Monthly salary (ETB)				
1416 or below	39	8	3.53 (1.57, 7.94)	
1417–2249	94	45	1.51 (0.96, 2.38)	
2250 or more	116	84	1	
Qualification				
Diploma/certificated	112	23	4.05 (2.43, 6.77)	3.63 (1.27, 10.33)
Degree and above	137	114	1	1
Experience				
07 months–05 Yrs	174	35	6.76 (4.23, 10.82)	5.32 (2.01, 14.08)
Greater than 05 Yrs	75	102	1	1
Training				
Getting training	78	92	1	1
Not getting training	171	45	4.48 (2.87, 7.00)	3.94 (1.51, 10.27)
Giving health care service				
Yes	161	102	1	
No	88	35	1.59 (1.00, 2.53)	
HIV case load				
Low HIV caseload	79	15	5.59 (2.98, 10.48)	4.64 (1.57, 13.70)
High HIV caseload	82	87	1	1
Supply/equipment IS				
Yes	150	106	1	
No	99	31	2.26 (1.41, 3.63)	
Policy to protect HIV/AIDS patients				
Yes	119	79	1	
No	130	58	1.49 (0.98, 2.27)	
Implementation of policy				
Yes	70	56	1	
No	49	23	1.70 (0.93, 3.13)	
Guidelines/protocols IS				
Yes	125	110	1	1
No	124	27	4.04 (2.48, 6.59)	4.19 (1.31, 13.41)

OR: odd ratio, ETB: Ethiopian Birr, and IS: institutional support.

manage this client group. Moreover, those nurses with high caseloads are most likely to have been assigned to the anti-retro viral therapy (ART) service unit and will have better knowledge of HIV/AIDS than others.

Those who were not aware of the presence of protocols were four times more likely to show stigma than those who were unaware of the presence of protocols or guidelines. This result is in line with a study conducted in Cuba [21] and

Southern Ethiopia [9]. The possible reasons may be a lack of specific protocols or guidelines leading to nurses perceiving more stigmatization than others. Also, those who were aware of the presence of protocols or guidelines may have received more training and were, therefore, aware of stigma reduction strategies such as the use of protocols and guideline manuals.

The study has several limitations. First, the cross-sectional design of this study limits our ability to make causal inferences. Second, since this study is done on nurse professionals only it is difficult to compare this finding across different professionals.

5. Conclusion

In general, this study shows that the magnitude of stigma towards PLHA among nurses is found to be high. Professional level diploma/certificates, an experience of less than or equal to 5 years, not receiving training, low HIV caseloads in the last six months, and not being aware of institutional support in the form of guidelines were associated factors for stigma towards PLHA. Even if all nurses included in this research are working in the resource limited country and have difficulties in their working environment, nurses need to pay attention to providing quality of nurses care for PLHA.

Due to stigma, the quality of nursing care towards PLHA may not fully address their health care needs. Giving supportive monitoring, close mentoring to all levels of nurses, ensuring the availability of guidelines and protocols, and creating opportunities for nurses to attend different seminars and HIV/AIDS training are recommended to decrease stigmatization among nurses.

Conflicts of Interest

The authors declare that they have no competing interests.

Authors' Contributions

Mohammed Hassen Salih wrote the proposal, participated in data collection, analyzed the data, and drafted the paper. Gizachew Assefa Tessema and Endeshaw Admassu Cherkos approved the proposal with revision; Abebaw Jember Ferede and Degefaye Zelalem Anlay participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

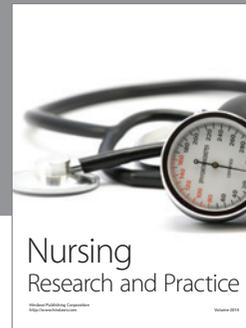
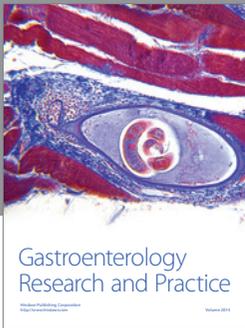
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