

Research Article

Knowledge, Attitude, and Practice regarding HIV/AIDS among People with Disability in Hawassa City, Southern Ethiopia

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Background. People with disabilities are vulnerable group to be infected with HIV/AIDS and are challenged to utilize HIV/AIDS services. Hence, this study assessed knowledge, attitude, and practice about HIV/AIDS among disabled people in Hawassa city. **Methods.** A community-based cross-sectional study was conducted among 250 disabled people. All disabled people residing in Hawassa city during the study period were included. Pretested and structured questionnaire was used for data collection. Logistic regression analyses were used to identify the associated factors. **Results.** A high percentage (197 (79.8%)) of disabled people were knowledgeable about HIV/AIDS. Similarly, 190 (76%) of the respondents had a favorable attitude towards HIV/AIDS. In addition, being married (AOR = 2.20; 95% CI: 1.14, 4.27) and being employed (AOR = 2.85; 95% CI: 1.19, 6.81) were positively associated with knowledge about HIV/AIDS. Moreover, being a male (AOR = 2.83; 95% CI: 1.61, 2.90) and being married (AOR = 2.13; 95% CI: 2.25, 3.26) were also positively associated with having a favorable attitude towards HIV/AIDS. **Conclusions.** Significant numbers of disabled people were knowledgeable and had a favorable attitude towards HIV/AIDS.

1. Background

Disability is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives [1]. People living with disabilities are vulnerable groups to be infected with HIV/AIDS because of sexual violence and social exclusion factors such as being deprived of information, education, and communication [2]. People with disability lack basic knowledge about HIV and how it could be transmitted [2–7]. Discrimination and inequality also impair every aspect of their decision-making power and lives [2–4, 6–10]. Furthermore, disability affects sexual and reproductive health functions of women, consequently increasing the risk of sexual violence, unwanted pregnancy, and unsafe abortion [1–3, 5].

Health institutions where comprehensive HIV/AIDS service is provided are physically inaccessible and certain channels of communication are not appropriate for disabled people [7, 8]. Similarly, special schools for those with sensorial impairments are excluded from prevention campaigns [9–13].

Moreover, infrastructure is another challenge of disabled people to utilize HIV/AIDS services even after getting access to the healthcare facilities because the rooms are not suitable for the free movement [8].

There are an estimated 15 million people with disabilities in Ethiopia, comprising physical and intellectual disability, deafness, and blindness [14]; however, this study only focused on people with physical disability, deafness, and blindness. Very little is known about knowledge, attitude, and practice of disabled people towards HIV/AIDS in the study area. Hence, this study is aimed to assess knowledge, attitude, and practice regarding HIV/AIDS among people with disability in Hawassa city, southern Ethiopia. In addition, it is also intended to assess factors associated with the knowledge and attitude towards HIV/AIDS among disabled people.

2. Materials and Methods

2.1. Study Setting and Population. A community based cross-sectional study was conducted to assess knowledge, attitude, and practice about HIV/AIDS among disabled people in

Hawassa city, southern Ethiopia, from May to July 2015. Hawassa is an administrative city of Southern Nation, Nationalities and People Regional State located 275 km to the south of Addis Ababa. This administration city comprises a total population of 133,097 [15]. Moreover, it contains two hospitals and nine health centres.

2.2. Sample Size and Sampling Procedure. All people with physical disability, blindness, and deafness residing in Hawassa city during the study period were included in the study. To identify the study population, the preliminary survey was conducted by the principal investigators. Firstly, the principal investigators contact Southern Nation, Nationality and People Regional Health Bureau to identify all organizations participating in supporting disabled people in the city. Accordingly, Birhan Le Ethiopia disability association and Salu Meredadat and Blind people associations were identified as organizations providing different supports for disabled people in the city. Secondly, all people with physical disability, blindness, and deafness who are supported by these organizations were invited in the study and advised by staff of each organization and data collectors to avoid double count. Consequently, 193 people with physical disability, deafness, and blindness were invited to the study from this organization, while nine mentally disabled people were excluded from the study, since they were unable to provide the necessary data. Finally, respondents who were not incorporated under support organization were searched and included in the study, while they were begging around the mosque, church, and street during the study period. To do this, easily identifiable physical disabilities were used. Thus, 57 people with physical disability, blindness, and deafness were included in the study, while they were begging around the mosque, church, and street.

2.3. Data Collection Tools and Procedures. Structured and pretested interviewer administered questionnaire was used for the data collection. Different literatures were reviewed to develop the tool and to include all the important variables that address the objectives of the study [2–8, 13, 14]. The instrument was pretested on 20 similar study participants who were living in the Shashemene town. Findings from the pretest were used to modify the instrument. Two B.S. nurses and one expert with sign language were recruited and facilitated the data collection process. Two-day training was given for the data collectors before the actual data collection. The questionnaire was designed to obtain information on sociodemographic characteristics, knowledge about sexually transmitted disease, HIV/AIDS, stigma towards people living with AIDS, risky sexual behavior and condom use, and attitude towards HIV/AIDS.

Knowledge about HIV/AIDS was measured by using six knowledge questions. Accordingly, the following knowledge questions were asked: Have you ever heard about HIV/AIDS? What was the source of information about HIV/AIDS? What is the difference between HIV and AIDS? Would you mention some modes of transmission for HIV? Can HIV be transmitted from mother to child? How HIV can be

transmitted from mother to child? Does the use of latex condom by a person with sexually transmitted disease reduce a transmission of HIV? What is the importance of medical help for an individual having sexually transmitted disease? Have you ever heard about AIDS treatment? In order to produce a more objective assessment of knowledge about HIV/AIDS, a scoring method was devised and a knowledge score for each participant was obtained by adding up the score for correct response given to selected questions in the questionnaire. A score of mean value and above (3–6) to knowledge-related questions was considered as knowledgeable, while a score of less than mean value (0–2) was considered as not knowledgeable. In addition, the attitude of disabled people towards HIV/AIDS was assessed by using ten questions. A 5-point Likert scale (strongly agree, agree, neutral or uncertain, disagree, and strongly disagree) was used to measure their attitude; individuals responding with “strongly agree” for positive attitude questions were given scores of 5 and those who responded with “strongly disagree” were given scores of 1, while the above scores were reversed for negative attitude questions. Finally the total score ($5 \times 10 = 50$) was dichotomized into favorable and unfavorable attitude taking the mean score (25) as a cutoff point (mean score or more = favorable attitude; less than the mean score = unfavorable attitude).

2.4. Data Management and Analysis. The collected questionnaire was checked manually for its completeness, coded and entered into Epi-Info version 3.5.1 statistical package, and then exported to SPSS version 20.0 for further analysis. Descriptive and summary statistics were presented by frequency tables. Both bivariate and multivariable logistic regression analyses were used to determine the association of each independent variable with the dependent variable. Significant variables in bivariate analysis ($P < 0.2$) were entered into a multivariable logistic regression model to adjust the effects of cofounders on the outcome variable. Odds ratios with their 95% confidence intervals were computed to identify the presence and strength of association, and statistical significance was declared if $P < 0.05$.

The quality of data was assured by proper designing and pretesting the questionnaires. Proper categorization, coding, and skipping patterns of questionnaires were used. Training was given for data collectors and supervisor before the actual data collection. Each piece of data was reviewed and checked for completeness, accuracy, clarity, and consistency by the principal investigator daily and the supervisor immediately after data were collected. The necessary feedback was offered to the data collectors in the next morning. Data cleanup and cross-checking were done before the analysis.

2.5. Ethical Considerations. Ethical clearance was obtained from the Institutional Review Board of College of Medicine and Health Sciences, Hawassa University. Permission letter was granted from the Zonal Health Department to respective health institutions. Verbal consent was obtained from each study subject prior to the data collection process. Those who were not willing to participate in the study were not forced

to be involved. Their privacy was maintained. To keep their confidentiality, personal identifiers were not used.

3. Results

3.1. Background Information of the Respondents. A total of 250 people with disability were included in the study. About half (127 (50.8%)) of the respondents were males. The major ethnic composition of the study population was Wolaita (63 (25.2%)). 106 (42.4%) of them were Orthodox religion followers. Nearly half (122 (48.8%)) were single. Regarding educational status, 100 (40%) of them completed secondary education. About two-thirds (157 (62.8%)) of them had physical disability and 29 (11.6%) had more than one sexual partner (Table 1).

3.2. Knowledge of Respondents about HIV/AIDS. A high percentage (197 (79.8%)) of disabled people in this study were knowledgeable about HIV/AIDS. Most of the respondents (243 (97.2%)) heard about HIV/AIDS. The sources of information were mass media (32 (12.8%)) and healthcare facility (26 (10.4%)) and in 181 (72.4%) of the respondents the sources of the information were more than one. More than half (140 (56%)) of the respondents did not know the difference between HIV and AIDS. 51 (24.4%) of them responded that HIV can be transmitted through mosquito bite; and 36 (14.4%) of them replied that HIV can be transmitted by eating in the same eating utensils HIV-positive people use. Similarly, 69 (52.8%) of them said that HIV can be transmitted through kissing HIV-positive person. Majority (204 (81.6%)) of respondents knew that HIV can be transmitted from mother to child and only 77 (30.8%) of them mentioned the mode of transmission as during pregnancy, delivery, and breast-feeding. A small proportion (21 (8.4%)) stated that there is no need for medical help for an individual having sexually transmitted disease and 32 (9.2%) of them replied that they could not reduce HIV transmission by using latex condom. 102 (40.8%) were not aware of AIDS treatment.

3.3. Attitude and Practice of Respondents about HIV/AIDS. In this study, 190 (76%) of the respondents had a favorable attitude towards HIV/AIDS. Most (219 (87.6%)) of people with disabilities perceived themselves as at risk of contracting HIV. Similarly, 168 (67.2%) of them felt that their disability could increase risk of contracting HIV and majority of the respondents (231 (92.4%)) thought that sexually active disabled people should go for HIV testing only before having sex. Moreover, 85 (24%) of the respondents believed that condom promotion encourages sex. About two-thirds (171 (68.4%)) of them disagreed with the idea of condom being safe to use (Table 2).

Regarding practice about HIV/AIDS, more than two-thirds (188 (75.2%)) of the respondents did not test for HIV in the last three months (Table 3).

3.4. Factors Associated with Knowledge about HIV/AIDS among Disabled People. In bivariate analysis, the factors found to be significantly associated with the knowledge about

HIV/AIDS were sex, marital status, occupation, and type of disability. However, in multiple logistic regression analysis, marital status and occupation of disabled people were significantly associated with knowledge about HIV/AIDS. Those who were married were about two times more likely to be knowledgeable about HIV/AIDS than their counterparts (AOR = 2.20; 95% CI: 1.14, 4.27). Similarly, those who were employed were about three times more likely to be knowledgeable about HIV/AIDS compared to those who were unemployed (AOR = 2.85; 95% CI: 1.19, 6.81) (Table 4).

3.5. Factors Associated with Attitude towards HIV/AIDS among Disabled People. In bivariate analysis, the factors found to be significantly associated with the attitude towards HIV/AIDS were age, sex, marital status, and type of disability. However, in multiple logistic regression analysis, sex and marital status of disabled people were significantly associated with the attitude towards HIV/AIDS among disabled people. Those who were male were about three times more likely to have a favorable attitude than females (AOR = 2.83; 95% CI: 1.61, 2.90). In addition, those who were married were about two times more likely to have a favorable attitude compared to unmarried counterparts (AOR = 2.13; 95% CI: 2.25, 3.26) (Table 5).

4. Discussion

The study assessed the knowledge, attitude, and practice regarding HIV/AIDS among people with disability in Hawassa city, southern Ethiopia. In this study, 79.8% of people with disability were knowledgeable about HIV/AIDS (95% CI: 75.3–83.6). The present finding is lower than the studies conducted among people without disabilities. For instance, the study done in Lao, Japan, reported that 97.7% and 92.0% of the respondents knew that HIV can be transmitted by sexual intercourse and through sharing needles, respectively [16]. Similarly, the study conducted in Mekelle, Ethiopia, also reported that 85.5% of the respondents had a good level of knowledge about HIV/AIDS [13]. The possible explanation for this difference might be the fact that people with physical and intellectual disabilities are less likely to be knowledgeable than people without disabilities. For example, people with hearing impairments are not reached by the usual HIV/AIDS awareness, as they are not a part of these communication networks [5, 7]. However, this finding is higher than the study conducted in Johannesburg, South Africa (49%) [3], and lower than the study done in Addis Ababa, Ethiopia (83.6%) [4]. This difference might be due to difference in the study population, because the study of Johannesburg was conducted among mentally ill patients, which could be associated with cognitive impairment [5]. The other possible explanation for this difference might be the difference in the age of the respondents. For instance, the study of Addis Ababa was conducted among young disabled people.

This study reported that 76% of the respondents had a favorable attitude towards HIV/AIDS (95% CI: 71.8–80.4). This finding is higher than the studies done in Addis

TABLE 1: Sociodemographic characteristics of the study respondents, Hawassa city, 2016.

Variables (<i>n</i> = 250)	Frequency	Percentage
<i>Sex</i>		
Male	127	50.8
Female	123	49.2
<i>Age</i>		
15–19	22	8.8
20–24	78	31.2
25–29	54	21.6
30–34	40	16.0
35–39	22	8.8
40 and above	34	13.6
<i>Ethnicity</i>		
Sidama	62	24.8
Wolaita	63	25.2
Gurage	36	14.4
Amhara	50	20.0
Oromo	18	7.2
Tigrrie	8	3.2
Others*	13	5.2
<i>Religion</i>		
Orthodox	106	42.4
Protestant	97	38.8
Muslim	26	10.4
Catholic	9	3.6
Others**	12	4.8
<i>Occupation</i>		
Governmental	30	11.9
Nongovernmental	117	46.4
Student	84	33.3
Others***	17	6.7
<i>Income per month with birr</i>		
<500	23	9.1
500–1000	67	26.6
1001–1500	23	9.1
1501–2000	13	5.2
2001–3000	19	7.5
>3000	9	3.6
Has no income	96	38.1
<i>Marital status</i>		
Unmarried	122	48.8
Married	64	25.6
Divorced	35	14.0
Widowed	29	11.6
<i>Educational status</i>		
Read and write only	17	6.7
Primary education	57	22.6
Secondary education	100	39.7
College/university	65	25.8

TABLE 1: Continued.

Variables (<i>n</i> = 250)	Frequency	Percentage
<i>Type of disability</i>		
Physical disability	157	62.8
Blindness	45	18.0
Deafness	41	16.4
More than one disability	7	2.8
<i>Cause of disability</i>		
Vehicle accident	47	19.0
Disease	134	54.0
Congenital/inborn	67	27.0
<i>Number of sexual partners</i>		
Have one sexual partner	70	28.0
Have two and more sexual partners	29	11.6
Have no sexual partners	151	60.4

*Kambata, Hadiya, and Dawuro; **Pagan and Waqeffata; ***trader and private worker.

Ababa (21.6%) [4] and Leo, Japan (55.7%) [16]. The possible explanation for this difference might be the difference in the sociodemographic characteristics of the respondents and time of the study. For instance, in the study of Addis Ababa, only young disabled people participated with a less likelihood to perceive about HIV acquisition. In addition, the study of Leo, Japan, was conducted among male school students without disability in 2010.

In the present study, only 62 (24.8%) and 42 (16.8%) of the respondents were tested for HIV in the last three months of the study and ever used condom during sex, respectively. This finding is in line with studies conducted in Addis Ababa, Ethiopia [4], and Nigeria [5]; however, it is lower than the study conducted in Leo, Japan [16], and Mekelle city, Ethiopia [13]. The difference observed between these studies might be due to difference in the study population and variable measurement.

Furthermore, marital status was found to be significantly associated with knowledge about HIV/AIDS among disabled people. Those who were married were about two times more likely to be knowledgeable about HIV/AIDS than unmarried counterparts. This might be due to the information gained during HIV testing and counseling before marriage and the level of the attention taken for the health of the family. Moreover, those who were employed were about three times more likely to be knowledgeable about HIV/AIDS compared to unemployed counterparts. The possible explanation could be the fact that those who were employed are often literate and economically independent compared to unemployed counterparts, which would improve accessibility to information. Also, higher disability rates are associated with higher rates of illiteracy and unemployment and lower occupational mobility [9, 10, 14].

In this study, being a male was also significantly associated with having a favorable attitude towards HIV/AIDS. This might be due to the fact that males with disabilities attend school more frequently than females with disabilities and most of girls with disabilities are illiterate [17, 18].

TABLE 2: Attitude of respondents towards HIV/AIDS, Hawassa city, 2016 ($n = 250$).

Variables	Strongly agree	Agree	Neutral or uncertain	Disagree	Strongly disagree
Do you feel that people treat you differently because of your disability?	45 (18%)	140 (56%)	24 (9.6%)	38 (15.2%)	3 (1.2%)
A person with disability is vulnerable to HIV infection	89 (35.6%)	130 (52%)	10 (4%)	18 (7.2%)	3 (1.2%)
A person with disability who is sexually active should go for HIV testing only before having sex	78 (31.2%)	153 (61.2%)	14 (5.6%)	4 (1.6%)	1 (.4%)
A person with disability who is sexually active should go for HIV testing at any time	52 (20.8%)	171 (68.4%)	19 (7.6%)	7 (2.8%)	1 (.4%)
A person with disability should protect themselves against HIV/AIDS	95 (38%)	139 (55.6%)	11 (4.4%)	5 (2%)	0
A person with disability needs to have knowledge about HIV/AIDS to make an informed decision before having sexual intercourse	114 (45.8%)	129 (51.8%)	2 (0.8%)	5 (2%)	0
My disability increases the risk of contracting HIV	51 (20.4%)	117 (46.8%)	16 (6.4%)	63 (25.2%)	3 (1.2%)
I receive pressure from my parents not to have sexual relationship	9 (3.6%)	82 (33.1%)	40 (16.1%)	97 (39.2%)	22 (8%)
Condoms encourage sex	17 (6.8%)	68 (27.2%)	28 (11.2%)	93 (37.2%)	44 (17.6%)
Condom is not safe to use for disabled people	6 (2.4%)	46 (18.4%)	27 (10.8%)	105 (42%)	66 (26.4%)

TABLE 3: Practice of respondents about HIV/AIDS, Hawassa city, 2016 ($n = 250$).

Practice of disabled people about HIV/AIDS	Frequency	Percentage	
Did you visit the healthcare facility for the past six months to enquire about HIV/AIDS matter?	Yes	76	30.4
	No	174	69.6
Have you tested for HIV in the last three months?	Yes	62	24.8
	No	188	75.2
Have you had sex in the last six months?	Yes	98	39.2
	No	152	60.8
Have you ever used condom during sex?	Yes	42	16.8
	No	208	83.2
How often have you been using condom?	Usually	26	10.4
	Occasionally	16	6.4

In addition, those who were married were more likely to have a favorable attitude towards HIV/AIDS compared to unmarried counterparts. This might be due to the fact that male individuals are more economically independent and educated compared with females, which might influence their level of knowledge and attitude towards HIV/AIDS [9, 10].

This study has some limitations. Firstly, even if disabled people who were not included under support organization were tried to be identified by staff working at supporting organization, there might be missed respondents, particularly those who were not begging at mosque, church, and street. Secondly, the current study did not include mentally disabled individuals or people with intellectual disability. Lastly, since information about HIV/AIDS practice was obtained from respondents through an interview, response and social desirability bias are also potential limitations of this study. In addition, this study did not assess factors determining practice regarding HIV/AIDS.

5. Conclusions

This study found that the disabled participants in this study were reasonably knowledgeable with regards to HIV and AIDS and that their attitudes were also largely positive in nature. However, more than two-thirds of the respondents did not visit the healthcare facility for HIV/AIDS matter in the last three months. A higher level of knowledge was associated with being employed and being married. Further male participants and those who were married were more likely to have positive attitudes. In the light of these findings, it is recommended that ensuring access of HIV/AIDS counseling and testing services for disabled people is crucial to improve HIV/AIDS practices.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

TABLE 4: Bivariate and multivariate analyses of factors associated with knowledge about HIV/AIDS among disabled people in Hawassa city, southern Ethiopia ($n = 250$).

Variables	Knowledgeable	Not knowledgeable	COR (95% CI)	AOR (95% CI)	P value
<i>Age</i>					
15–19	20	2	0.38 (0.72, 2.05)	**	
20–24	68	10	0.56 (0.19, 1.64)		
25–29	36	18	1.92 (0.70, 5.27)		
30–34	31	9	1.12 (0.36, 3.41)		
35–39	15	7	1.80 (0.53, 6.11)		
40 and above	27	7	1		
<i>Sex</i>					
Male	104	23	1.45 (0.79, 2.69)	**	
Female	93	30	1		
<i>Marital status</i>					
Married	92	36	2.41 (1.27, 4.58)	2.20 (1.14, 4.27)	0.013
Not married*	105	17	1		
<i>Type of disability</i>					
Deafness	35	4	1		
Other types of disability	162	49	2.65 (0.89, 7.81)	**	
<i>Employment</i>					
Employed	179	41	2.91 (1.11, 5.77)	2.85 (1.19, 6.81)	0.024
Unemployed	18	12	1		

*Single, divorced, and widowed. **Not significant in backward stepwise logistic regression. 1: reference.

TABLE 5: Bivariate and multivariate analyses of factors associated with attitude towards HIV/AIDS among disabled people in Hawassa city, southern Ethiopia ($n = 250$).

Variables	Favorable attitude	Unfavorable attitude	COR (95% CI)	AOR (95% CI)	P value
<i>Age</i>					
15–19	17	5	0.62 (0.18, 2.10)	**	
20–24	55	23	0.87 (0.36, 2.08)		
25–29	43	11	0.53 (0.20, 1.42)		
30–34	34	6	0.36 (0.12, 1.13)		
35–39	18	4	0.46 (0.12, 1.70)		
40 and above	23	11	1		
<i>Sex</i>					
Male	102	21	2.15 (1.17, 3.93)	2.83 (1.61, 2.90)	0.001
Female	88	39	1		
<i>Marital status</i>					
Married	50	14	1.17 (1.89, 2.56)	2.13 (2.25, 3.26)	0.024
Not married*	140	46	1		
<i>Type of disability</i>					
Deafness	30	9	1*		
Other types of disability	160	51	1.37 (0.76, 2.47)	**	

1: reference. *Not married. **Not significant in backward stepwise logistic regression.

Authors' Contributions

Mekdes Mekonnen and Tsigereda Behailu participated in the design of the study and data collection, analyzed the data, and drafted the paper. Negash Wakgari participated in the analysis and drafted and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

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