Original article

Health problems of children with disabilities with special reference to HIV/AIDS in Southern Ethiopia

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Abstract

Background: Disability is often addressed exclusively as a medical concern. The greatest problems facing persons with disabilities (PWDs) are social inequity, poverty, and lack of human rights protection. Among others, these are reflected in their health status.

Objective: To determine health problems encountered and associated factors; problems of access to health care and health information among Children with Disabilities (CWDs).

Method: The study used a cross-sectional survey design with both quantitative and qualitative methods. Data from CWDs was collected using a survey, focus group discussion (FGD) and observations; information about CWDs was also collected from key informants (KIs) using in-depth interviews. Survey data were analyzed using SPSS version 11.

Result: Eighty-seven percent of study participants experienced one or more health problems. Malaria-like illness and diarrheal diseases were reported as the main health problems. About 19% of them reported to have engaged in sexual intercourse, but none of them used HIV/AIDS preventive methods. Government health care facilities were the primary choice of health service for CWDs although most complained that the government health care facilities were not easily accessible because of economic problems, bureaucracies of the health institutions, negative attitude of health professionals and misconceptions of the society towards CWDs. More than half (52.0%) of them reported to have no health related information.

Conclusion: Majority of CWDs were not enjoying the health care provisions available in the study area because of the limited access to the government health care facilities. Their access to HIV/AIDS information is also limited. Sexually active CWDs practice unsafe sex, some are exposed to sexual and substance abuse; putting them at risk of HIV infection. The findings of this study calls for appropriate health promotion and disease prevention education for CWDs. The study also indicated that CWDs are a group that requires specific health attention within the context of people with disabilities. [*Ethiop. J. Health Dev.* 2013;27(2):94-103]

Introduction

Worldwide, one in ten persons or about 600 million people live with one or another kind of disability and 80% of these live in developing countries (1). In Ethiopia, an estimated 7 million people live with some kind of disability, which represents about 10% of the total population. Classification of disabilities show that visual impairment accounts for 42.2% of all disabilities while hearing impairment and disability from leprosy contribute 7.8% and 6.5%, respectively (2). Eighty-three percent of these people live in rural areas and 17.7% (174,941) of these disabled people reside in the Southern Nations Nationalities and Peoples Region (SNNPR) (3).

Although disability is often addressed exclusively as a medical concern, the greatest problems facing PWDs are social inequity, poverty, and lack of human rights protection. Their problems are not limited simply to a lack of medical care delivery (4).

According to Save the Children's report of 2008, 11,317,000 children do not get basic health care in Ethiopia (5). UNICEF (6) stated that PWDs, including children are less likely to receive medical care as compared to non-disabled individuals.

According to UNAIDS report of 2012 (7), in Ethiopia at the end of 2011, there were an estimated 790,000 people living with HIV (with females accounting for 60%); and 54,000 AIDS-related deaths. In addition, children under 15 years accounted for over 20% of people living with HIV in 2011. Furthermore, 950,000 children under the age of 18 years were orphaned due to the HIV/ AIDS (7).

Although AIDS researchers have studied the disabling effects of HIV/AIDS (8), little attention has been given to the risk of HIV/AIDS on individuals who have physical, sensory, intellectual, or mental health disability. This is a serious problem in the care of PWDs and has implications for both treatment and quality of life for these people.

Sexual transmission does not account for a high proportion of HIV infections in children, although in some countries children become sexually active at an early age. In countries where debut starts early and condom use is low, this creates a conducive situation for the sexual spread of HIV among children (9).

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Many studies have found that there is a common perception that PWDs do not require information about HIV and other STIs because this population is considered not to be sexually active (10-12).

According to the Committee on the Rights of the Child (CRC) (13), while children are valued in Ethiopia, their needs and rights do not seem to be given the appropriate attention commensurate with this attitude. For one thing, there is shortage of information in Ethiopia in putting to practice some of the provisions of CRC (14) and Standard Rules on the Equalization of Opportunities for PWD (SREOPWD) (15). Moreover, access to existing health care, access to health - related information were found to be main concerns associated with CWDs. In this connection, the objective of this study was to examine the health status of CWDs, and specifically, to assess the health problems they encounter and associated factors; problems related to health care access including access to health-related information.

Methods

Study Area and Population

The study was conducted in three purposely selected towns in SNNPR: Arba Minch, Wolaita Soddo and Hawassa, located at 505, 390 and 275 km south of Addis Ababa, respectively.

For this study a *Child* was defined as a person up to the age of 18 years and below (16). A d*isability* refers to any restriction or lack of ability to perform an activity in a manner or within the range considered normal for human beings (17).

The study population consisted of CWDs about whom information was collected from persons working in different organizations (named as key informants or KIs) such as governmental organizations (GOs), non-governmental organizations (NGOs) and community-based organizations (CBOs). The GOs included the zonal justice offices, the health office, the labor and social affaires offices, the agricultural offices and educational offices. The NGOs were organizations giving the humanitarian services in the study towns. The CBOs were "*idir*" leaders, and community elders. People selected from all of these were used as Key Informants (KIs) in this study.

Study Design and Data Collection Tools

A cross-sectional survey design and both quantitative and qualitative methods were used in the study.

A multistage sampling method was used to select the survey participants. The estimated total population of children with disabilities in each study town was obtained from respective offices of their administrative councils.

For sample, size determination of the quantitative study (survey data), single population proportion formula was used by considering the proportion of children with access to health services (P) is 16% (5); 95% confidence interval (CI); 5% margin of error; 10% non-response rate; and a design effect of 3. The sample size obtained was then adjusted a finite study population using a correction factor.

Quantitative data on demographic characteristics of the participants, health problems encountered, knowledge, attitudes and practices related to HIV/AIDS; access to health care including health-related information were collected from CWDs using a structured individual questionnaire. The survey questionnaire was completed by interviewers recruited from those who had completed secondary school education. To interview CWD with hearing impairments, interviewers who knew sign language and had experience in this area were used.

Qualitative data were collected by using focus group discussions (FGD), in-depth interviews and observations.

For the FGD, a guideline was developed and used to obtain detailed and additional information that was expected to reinforce the accuracy and validity of the quantitative data. These included factors that exposed them to diseases or affect their health; problems related to access to health service and information; risk of sexual abuse and use of habit forming substances (substance abuse). A purposive sampling method was used to select the discussants from the target population and about 10% of the source population was selected for the discussion. In each study town, two FGDs each with five CWDs were conducted. The discussion groups were guided by a moderator and assisted by note takers and a cassette recorder was used to document the discussions. The principal investigator and a supervisor, who could speak the local language acted as a moderator, and a note taker, respectively. Discussions were conducted in places frequented by the discussants and in a language that was spoken by all the participants.

The in-depth interviews were held with key informants (KI) using a semi-structured questionnaire. KIs were selected purposively from different organizations based on their experience with children and position in the community. They were asked to provide information related to the families' and the community's is attitude towards CWDs, perception of their access to health care information and services, their behaviors and habits, pattern of using habit forming substances, and overall situations of CWDs in the study areas. In each study town, ten KIs took part and the interviews were conducted in their respective offices or places convenient to them.

Observations were made using check list to document the situation (factors that affect their health), the children's personal attributes including clothing and personal hygiene; risk of sexual abuse and use of habit forming substances; and activities of the CWDs in different places including their living conditions. These included, for example, whether they lived on the street or in churches, or begged.

Quality Assurance

All the original data collection tools were prepared in English and translated to Amharic (the local language) and then back to English by an independent person to ensure the accuracy of the translation, to verify consistency and content of the tools which were pre-tested before the launching the main study. Apparent problems in the content of the tools were resolved during the pre-test.

Training was given to both interviewers and supervisors before data collection and the principal investigator regularly monitored and followed the data collection process.

The filled survey questionnaires were edited and checked for consistency, errors and completeness before the data entry.

Data Analysis

After editing, data were analyzed using SPSS version 11 (18). Frequencies, percentages and proportions were computed for descriptive data as appropriate.

At the end of each FGD, the researchers and supervisors discussed the findings from the qualitative study and described the respondents in terms of key variables. The data were put in order, reduced, classified, coded and summarized for ease of interpretation and drawing conclusions separately and in connection to findings from quantitative study.

Ethical Considerations

Ethical approval was secured from the Research Ethics Committee of the SNNP Regional Health Bureau. The purpose of the study and the anonymity of respondents were explained to each participant. Besides, they were informed that participation in the study was voluntary. Local authorities and community leaders were briefed about the objective of the study before entering the field to collect data.

Results

Demographic Characteristics of Respondents

A total of 173 CWDs participated in the survey, among whom 61 were from Wolaita Sodo, 54 from Arba Minch, and 58 from Hawassa. Of the total respondents, 102 (59%) were males and 71 (41%) were females (Table 1).

The CWDs ranged in the age from 5 to 18 years. About half (86 or 49.7%) of the respondents were in the age group of 15 to18 years, 30% from10 to14 years, and 20.2 % were in the youngest age group of 5 to 9 years of age. The mean age of CWDs was 13.7 years.

Among the children surveyed, 23.1% were illiterate, 12.1% could read and write, 50.9% attended primary, and 13.9% secondary school.

Table 1: **Demographic characteristics of disabled children in three major towns of Southern Ethiopia (n=173)**

Characteristic	Disabled children	
	Frequency	Percentage
Age		
5-9	35	20.2
10-14	52	30.1
15-18	86	49.7
Sex		
Male	102	59.0
Female	71	41.0
Educational level		
Illiterate	40	23.1
Read and write	21	12.1
Primary (grades 1-8)	88	50.9
Secondary (grades 9-12)	24	13.9
Religion		
Orthodox	74	42.8
Catholic	3	1.7
Protestant	89	51.4
Muslim	6	3.5
Others	1	0.8

Types and Causes of Disabilities

Among the CWDs interviewed, 30.1% had complete or partial visual impairment, 49.1 % had motor disorders that resulted in problems in moving or walking, 20.8% had complete of partial hearing impairment, and 10.4% were mentally retarded. The reported causes of disabilities were chronic illness (39.3%), unknown reasons (25.4 %), accidents (16.2%), hereditary (1.7%) and other reasons (17.3%) (Table 2).

Table 2: **Percentage distribution of reported types and causes of disability by respondents (n = 173)**

Variables	Respondents	
	Frequency	Percent
Types of disability*		
Hearing impairment (deaf and hard of hearing)	36	20.8
Motor disorder	85	49.1
Mentally retarded	18	10.4
Visual impairment (blind and partially sighted)	52	30.1
Leprosy (lepromatous)	2	1.2
Others	4	2.3
Causes of disability*		
Chronic illness	68	39.3
Accidents	28	16.2
Hereditary	3	1.7
Unknown reasons	44	25.4
Others	30	17.3

*More than one type and cause of disability is possible, and therefore the sum of percentages may be more than a hundred

Health Problems Related to HIV/AIDS and Reproductive Health

Eighty-seven percent of the children reported experiencing one or more health problems encountered within six months preceding the study (Table 3).

A certain malaria-like illness was the main health problem reported by 78.1% of the respondents, while other reported illnesses included: diarrhea (37.1%), respiratory tract infections (24.5%), eye problems (23.8%), and others such as mental disorders and skin diseases (Table 3).

The above reports by the respondents were supported by the results from FGD which indicated that CWDs frequently faced different diseases some of which were related to their disabilities and others not. But one of the children among the FGD participants stated:

"Usually we don't care about diseases associated with our disability, because we feel that they are not curable. What worries us more is getting food on a daily basis".

The FGDs also revealed that the basic needs of most of the CWDs were dependent on begging on the streets and feeding themselves with leftover foods obtained from hotels or restaurants. This had negative consequences on their health. For example, one of the FGD participants, who was visually impaired said:

"Usually I don't expect to get meals at home because my family is poor. My meals are dependent on what I get by begging. If I get some money, I buy leftover food for my meals".

This information was supported by another FGD participant who was a physically handicapped child, who added:

"The food people give us when we beg is usually leftover and sometimes could make us sick because it is very old".

Of those children reporting health problems, 88.1% attended government health facilities including hospitals, health centers and clinics, 27.8% attended private health facilities and 3.3% used traditional medicine. Furthermore, 5.3% of those who reported health problems did not seek any medical treatment (Table 3). Even though the majority of CWDs reported access to government health facilities, what was found from the FGDs did not agree with the overall survey results that showed the presence of factors (such as the negative attitude of health professionals) that limited accessing health care and health- related information, including information about HIV/AIDS. For example, one of the physically disabled children said:

"When I go to the health center to seek free medical treatment, they ask me to bring a supportive letter for being poor from the kebele, but I am not registered in any of the kebeles in the town".

Another child added:

"I am usually afraid to go to government health facilities because some health workers are not happy to treat me due to my poor physical condition or communication problem in the cases of those who cannot hear well".

The in-depth interview results also showed that CWDs lack information related to services provided free of charge. For example, a health professional that participated in the interview said:

"Th*e public, including CWDs, are not well informed on health services provided free of charge in government health institutions nationwide*".

The in-depth interview results supported the FGD results revealing additional factors (misconception and negative attitudes) within the community that limited health care access. Accordingly, most families did not want their children with disabilities to be seen outside and kept them in the home. As a result, they were not vaccinated and did not receive medical treatment when necessary. For example, most key informants said:

"M*ost parents are ashamed of their CWDs and wished to keep them hidden. Even if the parents are not ashamed, often neighbors will criticize parents for allowing CWD to be seen outside the house*".

Furthermore, most KIs indicated lack of clear guidelines that allowed CWDs free access to health care facilities and lack of information about health services provided free of charge by government facilities, such as treatment for malaria and TB.

Only 48% of them attended one or more health education programs and among those who did, 85.5% participated in personal hygiene and sanitation education programs; 66.3% on STD and HIV/AIDS; 62.6% on communicable diseases, and 49.4% on family planning and unwanted pregnancy- related issues (Table 3).

Table 3: **Percentage distribution of health problems encountered, source of health care and health education attended as reported by respondents**

Characteristic	**Respondents**	
	Frequency	**Percent**
Faced health problems (n=173)		
Yes	151	87.3
No	22	12.7
Diseases encountered* (n=151)		
Malaria-like febrile illness	118	78.1
Mental problem	14	9.3
Respiratory tract diseases	37	24.5
Diarrheal diseases	56	37.1
Skin disease	14	9.3
Eye problems	36	23.8
Sources of health care* (n=151)		
Government health Facilities	133	88.1
Private health facilities	42	27.8
Traditional medicine	5	3.3
Did not go anywhere	8	5.3
Attended health education (n=173)		
Yes	83	48.0
No	90	52.0
Topic for health education* (n=83)		
Personal hygiene	71	85.5
Sexually transmitted diseases	55	66.3
Family planning	41	49.4
Communicable diseases	52	62.6

*More than one kind of disease, source of health care and topics of health education is possible. Therefore, the sum of percentages may be more than a hundred.

Personal hygiene of CWDs was a concern in this study. A total of 81% children washed their bodies and cloths each week, 12.7% once every two weeks and 2.9% of them once a month. However, observations of clothing, wearing of shoe and other garments associated with hygiene revealed that most of the CWDs had no footwear, and had only worn and tattered clothes. Their faces and hairs also did not appear clean. According to most of the FGD participants, reasons for poor personal hygiene were financial. For instance, a visually impaired FGD participant child said:

"W*e have to travel to rivers to wash, which was sometimes difficult to access for the blind and for those with severe physical disabilities*".

Around 19% of the children reported to have ever experienced sexual intercourse, but none of them practiced any of the known HIV/AIDS prevention methods such as the use of condoms. This is supported by the FGD that indicated some of the CWDs to be sexually active, but did not know how to practice any of the safe sex methods, particularly the use of condoms.

One hundred eighteen (68.2%) of the respondents believed that sexually transmitted infections including HIV/AIDS were the worst consequence of sexual intercourse before marriage. Other reported consequences included unwanted pregnancy (47.4%), maternal and child mortality (41.0%), population growth (37.0%) and other health problems (6.9%) (Table 4).

The qualitative results of the study showed conditions that put CWDs at risk of becoming infected with HIV. According to the FGD, some of CWDs were homeless and passed nights outside under plastic sheets and similar shelters. Because of their living conditions and their disabilities, many lived in the streets and were vulnerable and exposed to violence, physical and sexual abuse like rape. For example, one of FGD participant female child mentioned:

"Rape and rape attempts happen to some of the female CWDs, but usually these actions are kept secret because of shame".

A KI from a health office said:

"I *heard of a young disabled child that reported to health centers because of rape-associated complications*".

Results from both FGD and KIs indicated that some of the CWDs drank alcohol and chewed *khat*. For example, one severely physically disabled FGD participant said:

"S*ome felt hopeless and frequently keep on drinking alcohol and chewing khat as long as they get them"*.

About 80% of the children had heard about sexually transmitted infections (STIs). Moreover, 66.5% of them had heard about HIV/AIDS (Table 4). All the FGD discussants had heard about HIV/AIDS.

Table 4: **Respondent's sexual practice, knowledge about consequence of sex before marriage and information about HIV/AIDS (n=173)**

Characteristic	Respondents	
	Frequency	Percent*
Ever had sexual intercourse		
Yes	12	6.9
No	161	93.1
Consequence of sex before marriage*		
Unwanted pregnancy	82	47.4
Sexually transmitted diseases (STDs)	118	68.2
Child and mother mortality (death)	71	41.0
Health problem	86	49.7
Population growth	64	37.0
Others	12	6.9
Heard about HIV/AIDS		
Yes	138	79.8
No	35	20.2
Source of information about HIV/AIDS*		
Radio	100	57.8
Television	50	28.9
School	77	44.5
Health institution	28	16.2
Organization working with children	20	11.6
Social gathering	7	4.0
Newspaper	15	8.7
Community chatting	55	31.8
Others	2	1.2

*More than one consequence of sex before marriage and source of information are possible; therefore, sum of percentages may be more than a hundred.

Among the respondents who had heard about HIV/AIDS, 57.8% heard about it from the radio followed by school (44.5%), chatting or discussion among community members (31.8%), television (28.9%), health facilities (16.2%), organizations working for the welfare of children (11.6%), newspapers (8.7%) and social gatherings (4.0%) (Table 5). Out of these, the majority (90.6%) knew the mode of HIV transmission and was able to specify one or more of the common ways of transmission. Of those who reportedly knew the modes of transmission, a large proportion (90.6%) mentioned that HIV could be transmitted by sexual intercourse. Blood transfusion was mentioned by (54.3%) followed by mother to child transmission (53.6%) and contaminated utensils 44.2% (Table 5).

Table 5: **Distribution of respondents by knowledge about the modes of transmission and methods of prevention of HIV/AIDS**

Characteristics	Respondents	
	Frequency	Percent
Ways of HIV transmission (n=138)**		
Sexual intercourse	125	90.6
Blood transfusion	75	54.3
Mother to child	74	53.6
Contaminate utensils	61	44.2
HIV/AIDS can be prevented (n-173)*		
Yes	161	95.4
No	8	4.6
Methods of HIV/AIDS Prevention (n=173)*		
Sex with single partner	88	50.9
Use of condom	105	60.7
Abstinence	112	64.7
Stop promiscuity	28	16.2
Other	1	0.6
HIV/AIDS can be cured (n=173)		
Yes	7	4.0
No	166	96.0

*More than one response is possible. Therefore, of sum of percentages may be more than a hundred.
**Based on respondents who heard about HIV/AIDS (Table 4).

One hundred sixty-six (96%) of the respondents believed that HIV/AIDS is not a curable disease but it could be prevented for which the methods mentioned were: sexual abstinence (64.7%), using condoms (60.7%), having a single sexual partner (50.9%) and avoiding multiple sexual partners (16.2%) (Table 5).

Almost all of KIs understood the serious problems the CWDs faced in the study area and they also indicated the absence or limited disability related awareness creation programs for parents, community and CWDs; the absence of any organized community effort to address their problems and illnesses; and the lack of sustainable rehabilitation and support programs.

Discussion

Research shows that the major causes of disabilities are economic factors such as poverty, child developmental factors that can exist during prenatal and postnatal periods, environmental factors including toxins that can affect the developing fetus, prenatal infections that cause congenital hearing defects, mental retardation and associated speech and language delays, and chronic illness of the mother and other health-related conditions (19).

Providing of health care to women during pregnancy and delivery; early childhood health care including immunization, prevention and timely treatment of infectious diseases will reduce and even prevent disability in children (6). Moreover, according to UNICEF (6), for various reasons, CWDs often miss vaccinations and/or treatments for easily treatable diseases (that could otherwise become life-threatening or cause disability) such as fever and diarrhea.

Eighty-seven percent of the CWDs in the present study reported experiencing one or more health problems, the main ones being communicable diseases, except for some cases of eye and mental problems. In particular, a malaria-like illness was reported to be the main health problem, possibly due to the fact that malaria is endemic in the study area.

The quantitative study results indicated that most of the CWDs were from poor families and they ate a meal only when it becomes available. The FGD results showed that most of these poor CWDs fed themselves with leftover food obtained by begging or through purchase from hotels or restaurants. Eating such leftover foods or foods handled in poor hygienic conditions would have exposed them to diarrheal diseases which accounted to 37.1% of the reported diseases. This finding is consistent with Gross and Rosenberg (20), and the high prevalence of diarrheal diseases in this study may be is attributable to the eating habits of CWDs.

Government health care facilities were the primary choice of health service for CWDs. The reported reason for this is the government health care services are cheaper than those of the private facilities. Furthermore, diagnosis and treatment of diseases such as malaria and TB were free of charge. Those who reported having gone to private facilities did so only during emergency situations or only for buying medicines.

Although most of the CWDs used government health care facilities, the FGD participants complained that they are not always easily accessible to them. One of the reasons mentioned for this was the bureaucratic hassle for getting verification for being poor from "*kebele*".

The FGD results also revealed that some CWDs are afraid to go to government health facilities because some health workers are not happy to treat them because of their poor physical conditions or due to communication problems (in the case of those who have hearing difficulties). This is consistence with a study by Richard et al. (21) where homeless people, including CWDs were documented to fear visiting health care facilities because of previous bad experience. This indicates that the health professional's attitudes and behaviors towards CWDs affect health care seeking. The negative attitudes of health professionals towards CWDs in both developed and developing countries is also substantiated by the studies of Save the Children (22) and UNICEF (6).

In the present study, financial problems of the family or CWDs were reported to be among the main reasons for not seeking any form of medical treatment. In agreement with these results, UNICEF (6) described families living in poverty have children who are much more vulnerable to sickness and infections, especially during infancy and early childhood, and therefore, are also less likely to receive adequate health care or to be able to pay for basic medicines.

According to the results of the in-depth interview some parents do not want to take their child with a disability for medical treatment because of the shame that this may bring to the family, Therefore, the negative attitudes and misconceptions of parents and the community at large can be considered to be barriers to the health service access by some of the CWDs.

Even though most (85.5%) of the respondents reported to have participated in health education related to personal hygiene, close observations indicated that the status of their personal hygiene was generally poor. According to most of the FGD participants, reasons for this were financial problems in buying soap, the lack of or difficulty in accessing washing facilities nearby and, to some extent, lack of knowledge with some of them about the effect of personal hygiene and sanitation on their health. Those, who had not any health education, were vulnerable to problems of personal hygiene and consequent communicable diseases.

The UN Convention on the Rights of the Child (14), which Ethiopia has ratified, under its Article 24, states that every child has the right to enjoy the highest attainable standard of health and to have access to facilities for rehabilitation and treatment of illness. According to Wazakili et al. (24), providing effective health service for CWDs improves their lives and their families' ability to ensure that their children receive the best quality health care. However, in consistent with this study, dissatisfaction with access to health care services by people with disabilities has been reported in the medical literature (25-27).

Rehabilitation International (28) estimates that only 2% of disabled children in developing countries have any form of rehabilitation assistance or services. Similarly, and consistent with the FGD and KI results of the present study, Waterston and Goldhagen (23) showed that the vast majority of children with disabilities have no access to rehabilitative or support services.

Most (77.4%) of the CWDs in the present study reported to have heard about STIs and HIV/AIDS only from radio and community chatting, as the involvement of health care institutions in making children knowledgeable on HIV/AIDS has been seen to be poor. Consequently, those CWDs who were sexually active or those who ever had sexual intercourse reported to have never used any of HIV prevention methods. In agreement with this, a study from South Africa (24) indicated that young people with disabilities have limited factual knowledge about sexuality and HIV/AIDS**.** Data from UNAIDS and WHO (29) have also indicated that HIV/AIDS information available to young people are limited and that only less than 40% of them had basic information about the disease, and as described by Yousafzi and Edwards (30), they do not learn the coping skills that are required for prevention. The importance of such health information should be viewed from the perspective the International Planned Parenthood Federation (IPPF) Charter on Sexual and Reproductive Rights' (31) that states "No person shall be discriminated in their access to information, and sexual and reproductive health care services, on the grounds of mental or physical disability". This is also supported by several studies that showed the absence of any difference in sexual activity between the disabled and the non-disabled (32-34), and the fact that behavioral risk factors for HIV-related to sexual activity among PWDs are similar to those for the general population (35, 36).

The above discussion suggests that almost all services are organized for able-bodied persons and, therefore, PWDs have little access to HIV/AIDS information and services. HIV prevention messages and communications are often inaccessible to people who have visual or hearing impairments, and health services are of limited access to people with physical disabilities. A Global Fund Health Impact Evaluation Report of Ethiopia (37) has also pointed out that restrictions of PWDs in the home environment, a low income, and low levels of education are the most important factors for poor access to HIV/AIDS interventions and services.

According to the Ethiopian HIV/AIDS Behavioural Surveillance Survey (BSS) (9), sexual transmission does not account for a high proportion of child infections but in some countries, children are sexually active at an early age. In sub-Saharan Africa, 16% of young females between the age of 15 and 19 years and 12% of young males reported having sexual intercourse before they were 15 in 2007. Sexual activity at an early age is conducive to the sexual spread of HIV among children, especially in areas where condom use is low and HIV prevalence is high. FMOH (9, 38) indicated that the lower the age of first sex, the higher the lifetime risk of HIV infection. Thus, some of the CWDs in the present study, who were sexually active but with limited knowledge to practice safer sex, might have put themselves at risk for getting HIV/AIDS. Moreover, children are also at risk of becoming infected with HIV through sexual abuse and rape (2, 39), and the qualitative study result of the present have indicated the presence of rape and rape attempts among CWDs.

Key informants in the present study pointed out that some of the CWDs were observed using habit-forming substances such as *khat* and alcohol. According to earlier studies (40, 41), *khat* and alcohol use substantially and significantly increase the likelihood of having unsafe and multiple sexual partnerships. This shows that CWDs who have habits of substance abuse and who are sexually active are at risk of getting HIV/AIDS.

Conclusion and Recommendations

This present study revealed that although the government health care facilities are readily available in the study area, CWDs had a rather limited access to them because of their reduced status and discriminatory treatment by some health professionals, bureaucratic barriers in health institutions, the economic problems and misconceptions in the community.

Therefore, a comprehensive health intervention programs to CWDs need to be designed and implemented so that they can get access to existing health care facilities, particularly to the government ones. The bureaucratic barriers in the health institutions should be eliminated by setting clear guidelines to allow access by CWDs to them. Health professionals must also be trained to provide appropriate health care to CWDs and to consider CWDs equal to children who have no disabilities. CWDs and/or their care takers should be informed about health care facilities and services that are provided free of charge. In addition, appropriate awareness creation programs must be designed and implemented about CWDs to their parents and the community.

The present study also indicated that CWDs are a group that requires specific attention within the disability context. However, the importance of including PWDs in general AIDS campaigns or designing disability-specific interventions is not given proper attention by some organizations working in the area of HIV/AIDS. Therefore, it is recommended that, if the goal of HIV/AIDS prevention and control is to be achieved, CWDs must be protected from all forms of mistreatment particularly sexual abuse and rape. Hence, HIV/AIDS programs should include the CWDs among their target groups.

The findings of this study clearly indicated the great importance for health promotion and disease prevention education for CWDs. Therefore, information dissemination or health education methods (including that of personal hygiene and HIV/AIDS) appropriate to CWDs should be carefully selected and implemented. Some of the CWDs were observed using habit-forming substances such as *khat* and alcohol. This indicates that CWDs are at risk of substance abuse and consequently, those who are sexually active are at risk of getting HIV/AIDS. Therefore, appropriate education programs that make them aware of the risk of substance abuse should be designed and implemented.

Despite tremendous efforts to improve health care access and to fight the HIV/AIDS epidemic in the country, a considerable proportion of children living in vulnerable situations, including CWDs, are not enjoying the health care provisions of the Committee on the Rights of the Child (CRC) and the Standard Rules on the Equalization of Opportunities (SREOPWD). This is due to the limited resources in the health care sector to see to it that the rights and needs of the disabled are addressed and respected. Rehabilitation is not available in most areas and, when available, it only reaches out to very few of those in need. If there is to any success in ensuring equity in child health care for all children and meet the special needs of children, roles and capacity to integrate a rights-based approach is necessary. Thus, it is recommended that the government take comprehensive and aggressive measures to put into practice the provisions of the CRC for all children in general and the CWDs in particular.

There are various proclamations related to the wellbeing of children in the country and continuous efforts have been made to improve the conditions of children. Despite all these attempts, the impact of efforts made by government offices charged with the responsibility for serving and defending the rights of children seems low. Therefore, in addition to the recommendations mentioned, strong enforcement of guidelines, legislation and laws related to children's rights are also stressed herewith.

Acknowledgments

The study was financially supported by the United Nations Children Fund (UNICEF) Country Office for Ethiopia through the SNNPR Labor and Social Affairs Bureau.

I would also like to thank Dr. Minhaj Alama, and Indian colleague at the School of Governance and Developmental Studies, Hawassa University, for giving voluble comments on the drat manuscript.

I am also very grateful to all individuals who participated in this study.

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