

School Enrollment among Children with Disability in Rural Eastern Ethiopia: A Community-Based Survey

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Received date: June 29, 2016; Accepted date: October 27, 2016; Published date: November 03, 2016

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Abstract

Background: Information about school enrollment with disability (7-14 years) is not readily available in Ethiopia. This study assessed current school enrollment in Eastern Ethiopia.

Methods: We conducted a cross-sectional community-based study among households in Kersa Health and Demographic Surveillance System in Eastern Ethiopia. A household survey identified school aged children with disability. Then, a structured and pretested questionnaire was used to assess current school enrollment.

Results: A total of 305 school aged children with disability were enrolled in this study. Of which 151 (49.5%); (95% CI=43.9%, 55.1%) were currently at school. Bullying and lack of resources were the most common problems for low proportion of school enrollment. Proportion of children with hearing loss was very high as compared with other categories. Children with multiple disabilities (AOR=0.40; 95% CI=0.18, 0.88) were less likely to be enrolled to school. Male children with disability (AOR=2.40; 95% CI=1.47, 3.92) and those from households with high wealth index (AOR=1.96; 95% CI=1.08, 3.57) had a better chance for school enrollment.

Conclusion: School enrollment for children with disability was very low. Efforts need to be intensified to reinforce regulations that favor enrollment of children with disability to regular schools.

Keywords: School enrollment; School aged children with disability; Bullying; Hearing loss; Multiple disabilities

Introduction

Disability is a barrier to schooling [1] mainly due to discrimination [2] and children with disability can be enrolled in ordinary schools with some adjustment of school environment [3]. However, school enrollment of children with disability (CwD) in developing countries is very low [4] and enrollment in general is below 10% in many countries where statistics is available [2,5,6]. The rights of children with disability (CwD) are grossly neglected, especially the right to education [4]. Children with disability in developing countries suffer several constraints to get education and school enrollment rate is only 1-3% in special schools [5] and <10% get enrollment in general [6] which leaves the vast majority of children with disability totally out of school [2,5].

Many studies tried to identify the factors associated with low school enrollment of children with disability. The lack of preparedness in the school system and societal failure to cater for special needs children are the causes for the low enrollment. Embedded in the Societal factors associated with low enrollment include poverty [2,7] and negative attitude [7-10]. The school system also lacks adequate number of skilled teachers trained in special need education [8,11-13], lack of budget and appropriate resources to provide streamlined education [5,14], and their infrastructures are not suitable for children with

disability [2,14]. Teasing and bullying [7,12,14] and labeling [12,15,16] of children with disability by the school community is another source of barrier. The scale of the problem is also often hidden due to lack of reliable data obstructing attention for action from responsible government bodies [3,13,14,17,18]. Therefore, this study aimed to assess school enrollment status of children with disability and the factors associated with it in rural Eastern Ethiopia.

Methods

This cross-sectional study was conducted among school aged children with disability (7-14 years) in 12 Kebeles (the smallest administrative units) of Kersa district, Oromia region, eastern Ethiopia. These 12 kebeles are under Kersa Health and Demographic Surveillance System (Kersa HDSS) field site and had 13,000 households with estimated total population of 63,000 during survey [19,20]. From the study of the same authors, there were about 9,405 school aged children (7-14 years) in Kersa HDSS field site [20].

A community based cross-sectional survey was conducted to identify school aged children with disability through a house to house visit. The entire households with target children were included in this study. Biological mothers or other adult guardians were interviewed by the trained data collectors using structured and pretested questionnaires. Screening questions were adopted from UNICEF 'Ten questions (TQs)' and Washington Group Short Set (WGSS) questions (Cappa; Gottlieb). The tools have been used in several low income

countries, where post screening verification by specialist is not possible due to resource constraints (Muga; Zaman). Data were collected by lay interviewers who had at least 10 years of education and who received a three day training given by the researchers. In addition, data collectors were accompanied by a person with a disability during the data collection in order to increase acceptance.

The questionnaire was first prepared in English language and then translated to the local language (Afan Oromo) then it was piloted in one of the nearby district. The questionnaire was administered to all households having the target school aged children with disability (CwD) 7-14 year, in the study area. The questionnaire included a series of questions divided in the following sections: (a) Gender, (b) Age during disability onset in years, (c) Status of multiple disabilities, (d) Status of assistive device availability, (e) Educational status of mother, (f) Reasons for not being enrolled, (g) Household socioeconomic status and (h) School enrollment status of the CwD. We developed household wealth index from nine asset variables using principal component analysis [21,23] as a proxy for household socioeconomic status and classified the score into three categories using terciles.

Trained data collectors gathered all the required information through face-to-face interview with caregiver of the children using structured questionnaire. The completed questionnaires were checked for completeness and consistency during submission at the end of every data collection day. Double data entry and cleaning were done using EPIDATA version 3.1. Data were exported to STATA version 12 for analysis. Frequency distributions and cross-tabulations were run to establish prevalence estimates and describe school enrollment status by disability type.

Bivariate analysis was performed using stepwise logistic regression techniques to identify factors strongly associated with school enrollment status (Not enrolled=0, enrolled=1). Variables with an odds ratio with a p-value of 0.25 or less [24] at the bivariate analysis were considered for possible entry in the multivariate logistic regressions. We included age during disability onset, maternal and paternal education status in the multivariable model though they cannot fulfill p-value of 0.25 since they were identified as important factors previously [24]. The following explanatory variables were included in the model: gender, age of child during disability onset in years, status of multiple disabilities, educational status of mother, educational status of father and household wealth index. In the logistic model, the association between factors and outcomes was measured by odds ratios (ORs) and their 95% confidence intervals (CIs) and a p-value of 0.05 or less to define as statistically significant. The study was approved by the Ethical Committee of the Haramaya University and the National Ethical Review Board. We also obtained permission to conduct the study from the concerned local administrative officials. Participation into the study was on voluntary basis and participants were assured of confidentiality of the information collected in this study. Written consent was obtained from respondents.

Result

A total of 320 school aged children with disability (7-14 years old) identified through a household survey were invited to participate in the study and 305 accepted the invitation making a response rate of 95.4%. The male-female ratio was 1.36 with 58% boys and 42% girls. The mean current age of school children was 9.8 years (SD ± 2.1). Most of the children 176 (57.7%) age category were 10-14 years old, whereas 129 (42.3%) were preadolescents 7-9 years. Majority, 291 (95.4%) and

275 (90.2%) of school aged children with disability (CwD) were from illiterate mothers and fathers respectively. Respondents for the majority of children, 296 (97.0%), were biological mothers Table 1 and only 4 (1.3%) of school aged CwD had assistive device from which share of the female was 1(25%).

Variables	n	%
School enrollment among school aged CwD** repossrtd during HH survey (n=305)		
No	154	50.5
Yes	151	49.5
Child age during disability onset reported during HH survey (n=305)		
Inborn	48	16.0
<1	19	6.0
1-4	129	42.0
5-9	97	32.0
10-13	12	4.0
Gender of school aged CwD** reported during HH survey (n=305)		
Male	176	58.0
Female	129	42.0
Gender of school aged CwD** reported as enrolled during HH survey (n=151)		
Female	50	33.0
Male	101	67.0
Number of disabilities per child among school aged CwD** (n=305)		
One	209	69.0
Two	37	12.0
Three	19	6.0
Four and above	40	13.0
Educational status of Mother of school aged CwD** (n=305)		
Illiterate	291	95.0
Literate	14	5.0
Educational status of father of school aged CwD** (n=305)		
Illiterate	275	90.2
Literate	30	9.8
Household socioeconomic index (n=304)		
Low	101	33.0
Middle	103	34.0
High	100	33.0

Table 1: General characteristics of school aged children and households (HHs), Kersa district eastern Ethiopia, 2014. **CwD=Children with disability.

As per report of caregivers, 151 (49.5%); (95% CI=43.9%, 55.1%) children with disability was attending school (enrolled in school) at the time of the study and this finding favored males, 101(67.0%) Table 1. From all school aged children with disability (CwD), proportion of

children with hearing disability was high and about half of school aged children with hearing and vision disabilities were reported as being enrolled. But, enrollment of children with other disabilities was very low Figure 1.

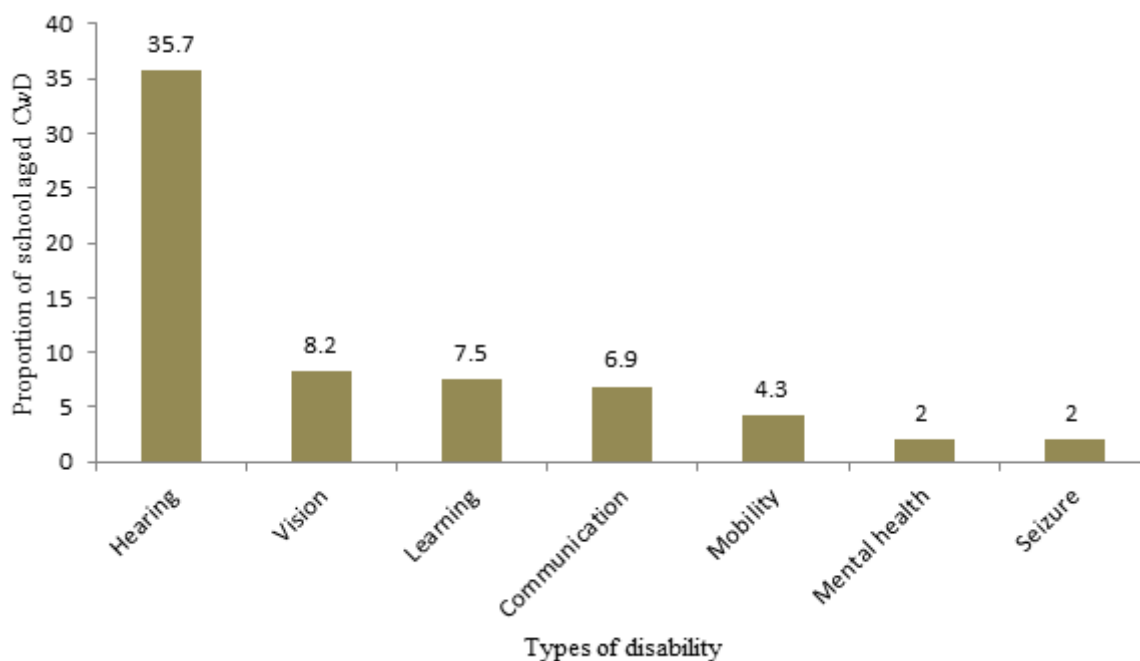


Figure 1: Proportion of school aged children with disability (CwD) school enrollment status by the type of disabilities, Kersa district eastern Ethiopia, 2014.

As per report of the caregivers, major reason for not enrolling CwD were due to bullying 76 (49.4%; 95 CI=36.1%, 57.3%) followed by cannot afford 49 (31.8%; 95% CI=26.6%, 37.0%), inaccessible school

environment and distance for options 29 (18.8%; 95% CI=14.4%, 23.2%) Figure 2. Only 4 (1.3%; 95% CI=0.001%, 2.6%) of school aged CwD have assistive device of which only one (25%) was female.

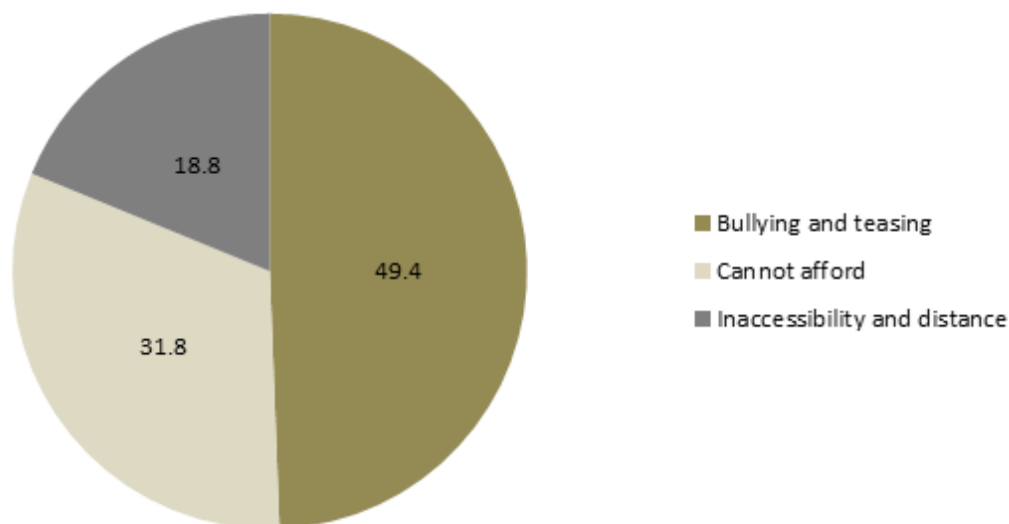


Figure 2: Proportion of reasons for not enrolling children with disability to school, Kersa District Eastern Ethiopia, 2014.

The multivariate analysis indicated that having multiple disabilities of 4 and above (AOR=0.40; 95% CI=0.18, 0.88) negatively affected school enrollment. Higher household wealth index (AOR=1.96; 95% CI=1.08, 3.54) and being male (AOR=2.40; 95% CI=1.47, 3.92) favor school enrollment Table 2.

Explanatory variables	Crude		Adjusted	
	OR	95% CI	OR	95% CI
Number of disabilities				
One	Reference			
Two	0.71	0.35, 1.43	0.68	0.32, 1.42
Three	0.49	0.18, 1.29	0.42	0.15, 1.16
4+	0.40*	0.20, 0.82	0.40*	0.18, 0.88
Household wealth index				
Low	Reference			
Middle	1.64	0.96, 2.61	2.01*	1.12, 3.65
High	1.89*	0.87, 2.37	1.96*	1.08, 3.57
Age of child during disability onset				
Inborn	Reference			
<1	0.86	0.29, 2.70	0.51	0.16, 1.59
01-Apr	1.03	0.53, 3.02	0.8	0.39, 1.63
05-Sep	1.37	0.68, 4.70	0.98	0.46, 2.09
Oct-13	3.55	0.08, 14.77	2.11	0.48, 9.38
Gender				
Female	Reference			
Male	2.13**	1.34, 3.38	2.40***	1.47, 3.92
Maternal educational status				
Illiterate	Reference			
Literate	1.02	0.35, 2.98	1.17	0.35, 3.86
Paternal educational status				
Illiterate	Reference			
Literate	0.88	0.41, 1.88	0.99	0.41, 2.35

Table 2: Factors associated with CwD school enrolment; Kersa District Eastern Ethiopia, 2014 (n=305). *p<0.05; **p<0.01; ***p<0.001; Pseudo R2=0.0711; BIC=5.649; CwD=child with disability.

Discussion

This survey identified prevalence of school enrolment among school aged children with disability (CwD) in Eastern Ethiopia using structured and pretested assessment tool. In addition, the study revealed most common risk factors of school enrolment. Available studies were urban based and respondents were contacted through organizations that offer support for the persons with disability and these organizations have limited reach to rural areas where disability is

more prevalent [3] and some did not disaggregate school enrolment by gender and age [2], disability type [14,25]. Therefore, this study tried to narrow these gaps.

Low school enrolment in general can be attributed to poverty [7,26], negative attitudes [7-10,12], unskilled and inadequate number of teachers being trained in special needs education [8,11,13,14], lack of budget and appropriate resources [5,14], inaccessible infrastructure and lack of options [2,14], teasing and bullying [7,12,14] which extend our findings.

As reported by caregivers, most common barriers for CwD not to be enrolled were bullying which was followed by can't afford, inaccessible school environment and distance to look for options. Different studies support these findings stating that CwD receive labels with various dehumanizing names [12,15,16] and their parents become victims of isolation in which this labeling in class rooms affect being in school [12,15,14]. Distance to school constitutes an educational barrier for many girls which is intensified for girls with disability [7,27]. Children with disabilities and their parents often have few options when choosing whether to send their child to a mainstream or special school which is especially critical problem in rural areas [2] as well due to inaccessible school environment [14]. In our study area, there were regular schools which were set for able bodied children and parents have no option in case of inconveniences. Here, we need to focus on awareness creation of the community including teachers and better to have options for CwD.

In this report, enrolment was higher than that of UNICEF estimates (10%) for developing countries [6], Susan estimates (<10%) for Asia and Pacific Regions [28] Taiseera estimates (28.5%) for Oman [27] and UNESCO estimates (2%) for developing countries [5,17]. Though we cannot be sure situation of school enrollment in the mentioned countries for comparison, our study extends findings of Miller and colleagues [29] in South Africa which states CwD were dumped into the mainstream schools either by parents or education system as no other options forcing the child to adapt to education [5,13,28,29]. Therefore, instead of preparing children to fit into existing schools, we have to prepare schools so that they can be places that deliberately reach out to all children [5,17] for the success of universal primary education [18] and fixing the broken promise of education for all [17].

In this study, there were high proportion of males and as well in the multivariate analysis, the association was very strong favoring enrolment that extend different study findings elsewhere [6,9,17] which could be explained by invisibility [30] either due to cultural bias against women leading to preferential treatment [17,31] or die due to poor care and parent reluctance to disclose in fear of stigma and discrimination [5,17] or hidden away by the families [7,19]. Gender bias in access to rehabilitative services and devices is in itself a barrier to education for girls with disability [7]. As per suggestion of Jill, it is context specific and we need to focus on most excluded segment of population [32].

Our study showed as multiple disabilities negatively affected school enrollment and it is significant statistically. This finding is in agreement with study finding done by ACPF in 4 African countries including Ethiopia [2,33]. In addition, it is known that the number of disabilities influences the degree of severity and children with multiple disabilities tended to experience a higher overall degree of severity [10] and this severity hinders CwD not to attend school because of intensive demand [14,17].

This study identified that school enrollment of CwD was better among households of high wealth index indicating poverty is one of the main barriers to education for children with disabilities [2]. Gender disparity favoring male likely to be wider if sending the child to school costly or if disability-related equipment or special transportation is needed [7]. Therefore, needy segment of population has to be supported to actualize declaration of education for all [5,17,18].

Some of the potential limitations of the study include not considering school completion rate [11,15]. School completion rates provide a much stronger test of universal primary education than enrolment alone [17,25]. However, it was not possible to track children to school and verify individually because parents of children with disability were not willing for the procedure. Future studies need to address this limitation by negotiating with parents or by following children enrolled in school in collaboration with the school authorities. No physical examination was done by us and disability classifications were entirely dependent on the assessments of our responders though we have to trust maternal concerns as the majority of respondents were biological mothers.

In conclusion, proportion of school aged CwD reported to have been enrolled in school was low. Efforts (like making school environment and curriculum accessible to CwD, availing teachers trained in special need education with teaching aids, necessary budget allocation and community awareness creation) must continue to reinforce legislation that support indiscriminate school enrollment and universal child education [13].

Acknowledgement

Authors would like to thank Haramaya University and Addis Continental Institute of Public Health for the financial and technical support for the study. M. Miles "West Midlands, UK" and Dr Marguerite Schneider, disability studies researcher, Alan J Flisher Centre for Public Mental Health, University of Cape Town, South Africa for material provision and guidance. Special thanks to the Eastern Hararghe zonal office, Kersa district office of Labor and Social Affairs, Education, Health and Women and Child Affairs, Kersa Health and Demographic Surveillance, and the study Kebele officials for facilitating the field work. We also thank the study respondents for their cooperation.

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