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Article

Socioeconomic Inequalities in Social Protection Among People with Disabilities in Ecuador: A Cross-Sectional Study

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Abstract

In 2007, Ecuador ratified the United Nations Convention on the Rights of People with Disabilities and introduced a national social program to improve access and quality of life for people with disabilities. This study assessed disability prevalence and socioeconomic inequalities in three social protection outcomes: household visits, benefits received during visits, and official disability accreditation. A cross-sectional study analyzed data from the 2014 national population-based survey showed a 3.84% disability prevalence. Overall, 37% of respondents reported at least one household visit among them, 77% received a benefit and 60% had official accreditation. Marked socioeconomic disparities were observed. Visits were less frequent among individuals without formal education (AD: -28.93; 95% CI: -35.66, -22.19) and those in the poorest households (AD: -16.40; 95% CI: -21.34, -11.46). Participants with primary education were less likely to receive benefits (AD: -14.23; 95% CI: -27.44, -1.02), while Afro-Ecuadorian (AD: 24.15; 95% CI: 7.93, 40.38) and Indigenous individuals (AD: 23.13; 95% CI: 10.30, 35.95) were more likely to receive them. Conversely, those with primary (AD: 12.51; 95% CI: 5.94, 19.07) and secondary education (AD: 10.34; 95% CI: 3.48, 17.21) were more often accredited than those with higher education. Although the program reached many individuals, access remained unequal.

Keywords: people with disabilities; inequalities; Ecuador; social protection

1. Introduction

More than 1.3 billion people (16% of the world's population) have a disability [1]. People with disabilities (PWD) are at increased at risk of developing several diseases such as depression, asthma, diabetes, stroke, obesity, and poor oral health. Likewise, they may die up to 20 years earlier than people without disabilities [1,2]. These health inequities are often not due to disability itself, but to structural challenges that PWD faces. Thus, PWD are disproportionately exposed to stigma, discrimination, poverty, limited education, unemployment and restricted access to healthcare services, all of which contribute to a vicious cycle of social injustice [3–5].

Although the prevalence of disability across the Region of the Americas differs, the average prevalence in 2021 was estimated to be between 14% and 19%; likewise, the World Bank reported that nearly 52 million households in the region have at least one family member with some form of disability [6,7]. Ecuador, like other countries in the region, has a high degree of variation in disability prevalence, ranging from 2% to 13% [6,8]. Several provinces in the Andean region of the country, mainly in urban areas (Bolivar, Chimborazo, Cañar), have reported a higher proportion of PWD than the national average. The most recent available report highlighted that PWD faces significantly lower

levels of educational and employment opportunities, along with higher levels of poverty [9,10], a situation that has been further exacerbated by the COVID-19 pandemic [11].

In 2007, Ecuador signed the United Nations (UN) Convention on the Rights of Persons with Disabilities, and in 2008 a revised national Constitution included 21 relevant articles to guarantee their rights in several social areas [12]. Following this mandate, Ecuador strengthened its national health and social programs to address disability in a comprehensive manner in 2009 through the so-called “Manuela Espejo Mission”. This program established a comprehensive national strategy by deploying medical teams to conduct home visits once or twice each month throughout the country. The initiative aims to provide healthcare services, distribute assistive technology devices—such as hearing aids, communication tools, wheelchairs, and glasses—and supply medications, while also identifying additional individuals with disabilities within communities, particularly in rural areas [13]. Later, in 2012, the government approved a comprehensive Disability Law granting benefits in several social areas, prioritizing medical care, rehabilitation and economic support [14].

In terms of funding, the government invested more than \$100 million between 2007 and 2017 into the “Manuela Espejo Mission” programme [15]. This program, which initially received technical support from the Cuban government, was integrated as a routine programme into the Ministry of Social Welfare (MSW) and the Ministry of Public Health (MoPH). As a result, PWD identified during the household visits were registered to have access to health programs and socio-economic benefits such as the Bonus Joaquin Gallegos Lara (Bono Joaquin Gallegos Lara in Spanish), which provided funds to caregivers in cases of severe disability of any family member, and directly to PWD if they lived in extreme poverty.

However, despite these significant interventions, little is known about the social and health impacts of such programs on PWD. This study, therefore, aimed to i) determine the prevalence of disabilities and social protection among PWD, and ii) assess the social inequalities in social protection among PWD in Ecuador.

2. Materials and Methods

Data Source and Population

We analyzed secondary data from the latest National Living Standards Measurement Survey, conducted in 2014 by the National Institute of Statistics and Census (Instituto Nacional de Estadísticas y Censos – INEC in Spanish) [16]. This survey gathers sociodemographic and socioeconomic details including age, gender, residence, education, healthcare use, insurance status, household income, and disability type status (classified as physical, cognitive, hearing, visual, psychosocial) which is based on the national MoPH classification of disabilities [17]. Out of 106,694 survey participants, 4101 individuals responded affirmatively to the question, “Do you have any disabilities?” and were identified in this study as people with disabilities (PWD).

Exposure Variables

The study assessed the following socioeconomic variables: i) Ethnicity (self-reported as Mestizo, Indigenous, White, Afro-Ecuadorian, Mulato), ii) Education level (postgraduate, secondary, primary, basic, none), and iii) Household wealth index (based on 15 household’s assets and divided into five quintiles from richest to poorest) [18]. These variables were selected due to their relevance as social stratifiers, access to resources, and survey availability.

Social Protection Outcomes

Three social protection outcomes were measured by the following questions: i) Household visits, which was determined by asking participants, “Did the Manuela Espejo Mission visit you during the last 12 months?”; ii) The receipt of benefits was assessed using the following the question: “Have you received any benefit (medical care, medicines, assets, household goods, clothing, legal advice, and access to education or employment) during the visits from the Manuela Espejo Mission?”—

respondents answering “yes” were considered beneficiaries; and iii) Official accreditation was captured with the question, “Do you have a disability card issued by the government?” This card is provided by the MoPH following a comprehensive assessment and where a person should certificate at least a 30% disability rating according to the technical manual on disabilities issued by the MoPH [19]. Obtaining this card officially recognizes a person with a disability and allows them access to the social benefits provided for in the disability law [12].

Data Analysis

Descriptive statistics were estimated as frequencies and percentages for the entire population. Binomial regression was applied to estimate absolute differences as the measure of association along their 95% confidence intervals for inferential purposes. Gender, age, and disability type (physical, cognitive, hearing, visual, psychosocial, multiple), were used as covariates in the crude model; the adjusted model included additionally those socioeconomic variables that were statistically significant in the crude model. Sample weights were applied for all analyses, which were conducted using Stata 15.1.

3. Results

The proportion of PWD in the survey was 3.84%. Table 1 shows the main sociodemographic characteristics of the sample. Physical disability accounted for the highest proportion at 39%. Of the group, 54% were male and approximately 32% were aged over 65 years. Two thirds (66%) of respondents lived in urban areas, and 73% identified themselves as Mestizo, followed by the Indigenous (15%). Most participants had little education: 24% were illiterate, 52% finished only primary school. Around 32% belonged to the lowest 20–40% income group, and 65% lacked health insurance. Of the entire sample, 37% (n=1652) indicated that their household had received a visit from the national social protection programme. Of all the PWDs who reported a household visit, 77% (n=1283) received a benefit during that visit. Most benefits distributed were household goods, including kitchen and bedroom items (73%), while medical supplies and healthcare accounted for 11%. Sixty percent of the interviewees had received an official certification.

Table 1. Socio-economic characteristics and prevalence of social protection outcomes in PWDs 2014.

Variables	Frequency (n)	Percentage (%)	Household visits (n/%)	Benefits on visits (n/%)	Official accreditation (n/%)
Total population surveyed: 106694	4101	3,84	1652 / 37,22	1283 / 77,26	2453 / 59,81
Type of disability					
Physical	1616	39.41	23,79	27,91	21,82
Cognition	745	18.17	42,26	34,15	43,31
Visual	598	14.58	10,16	12,11	11.02
Hearing	569	13.87	8,15	9,38	10,81
Multiple	446	10.88	12,69	14,79	8,99
Psychosocial	127	3.10	2,97	1,65	4,05
Sex (gender)					
Men	2222	54.20	52,58	55,56	56,31
Women	1878	45.80	47,42	44,44	43,69
Age groups (years)					
>65	1292	31.51	28,52	30,53	21,21

40-64	1284	31.32	28,61	28,59	36,12
20-39	788	19.24	20,54	18,36	22,39
10-19	485	11.83	16,20	18,89	14,55
0-9	250	6.11	6,12	3,63	5,74
Residence					
Urban	2695	65.72	60,44	70,70	67,13
Rural	1405	34.28	39,56	29,30	32,87
Ethnicity					
Mestizo	2984	72.76	76,20	74,10	76,43
Indigenous	612	14.92	7,64	4,73	6,73
Mulato, others	265	6.46	9,15	12,17	10,05
White	135	3.29	4,21	6,80	4,27
Afro	105	2.56	2,79	2,20	2,52
Education					
Postgraduate (highest)	275	6.86	2,67	1,37	7,78
Secondary	704	17.54	12,94	14,21	17,15
Primary	1567	39.00	37,87	42,95	36,20
Basic	521	12.98	15,51	15,07	14,16
None (lowest)	948	23.62	31,01	26,40	24,71
Household wealth index					
Q1 (richest)	932	23.13	15,27	21,92	23,18
Q2	899	22.31	21,92	20,22	22,07
Q3	893	22.16	24,57	24,10	22,98
Q4	697	17.31	22,32	19,07	17,74
Q5 (poorest)	608	15.08	15,93	14,70	14,02
Health insurance					
Insurance	1436	35.03	28,87	29,55	37,42
Uninsured	2664	64.97	71,13	70,45	62,58

Table 2 presents the crude and adjusted associations between the socioeconomic variables and the social protection outcomes. The crude model displayed important inequalities among the low-educated and low-income groups regarding household visits, and among those with low education and a white ethnic background concerning social benefits. There were also moderate inequalities among individuals with primary and secondary education. In the adjusted model, for household visits, all education and wealth quintiles groups received statistically significant fewer visits than the reference groups, those with tertiary education and the richest respectively. Those with only primary education (AD: -14.23; 95% CI: -27.44, -1.02) reported fewer benefits than the high educated, whereas Afro-Ecuadorian (AD: 24.15; 95% CI: 7.93, 40.38) and Indigenous individuals (AD: 23.13; 95% CI: 10.30, 35.95) obtained significantly greater benefits compared to the reference white group. Finally, related to the accreditation, those with primary (AD: 12.51; 95% CI: 5.94;19.07) and secondary education (AD: 10.34; 95% CI: 3.48;17.21) level had substantially more significant chances of getting official accreditation than the postgraduate group; no differences were found among those with basic (AD: 2.87; 95% CI: -4.52;10.27) and no education (AD: 4.62; 95% CI: -2.32;11.58). The poorest group was more likely to be accredited than the richest group, though the difference was not statistically significant (AD: 4.52; 95% CI: -0.86;9.91).

Table 2. Absolutes differences and their 95% confidence intervals (CI) in outcomes by socioeconomic groups in PWDs 2014.

Model 1 (crude)							Model 2 (adjusted)					
Variables	Household visits		Benefits on visits		Official accreditation		Household visits		Benefits on visits		Official accreditation	
	Difference	95% CI	Difference	95% CI	Difference	95% CI	Difference	95% CI	Difference	95% CI	Difference	95% CI
Education												
Postgraduate	Reference		Reference		Reference		Reference		Reference		Reference	
Secondary	-13.02	-19.63;-6.41	-14.42	-28.46;-0.37	9.35	2.55;16.15	-9.88	-16.53;-3.23	-12.54	-26.56;1.47	10.34	3.48;17.21
Primary	-21.74	-27.82;-15.67	-15.30	-28.53;-2.08	12.34	6.09;18.59	-16.45	-22.81;-10.10	-14.23	-27.44;-1.02	12.51	5.94;19.07
Basic	-30.13	-37.05;-23.20	-11.29	-25.13;2.54	2.55	-4.56;9.67	-24.76	-31.92;-17.59	-10.34	-24.16;3.46	2.87	-4.52;10.27
None	-34.54	-40.90;-28.18	-8.34	-21.67;4.97	5.23	-1.31;11.78	-28.93	-35.66;-22.19	-7.88	-0.12;5.42	4.62	-2.32;11.58
Ethnicity												
White	Reference		Reference		Reference		Reference		Reference		Reference	
Afro	-6.10	-17.59;5.37	20.33	4.38;36.27	-2.61	-14.24;9.01	*		24.15	7.93;40.38	*	
Mulato	-1.43	-9.81;6.94	7.01	-5.15;19.18	-7.16	-15.64;1.32	*		7.67	-4.64;19.99	*	
Mestizo	-3.56	-10.66;3.52	15.81	5.47;26.16	-5.12	-12.31;2.06	*		15.96	5.46;26.46	*	
Indigenous	-3.52	-12.25;5.21	24.51	11.97;37.05	2.31	-6.53;11.15	*		23.13	10.30;35.95	*	
Wealth												
Q1 (richest)	Reference		Reference		Reference		Reference		Reference		Reference	
Q2	-12.02	-16.40;-7.65	12.75	5.78;19.72	0.70	-3.69;5.27	-8.55	-13.00;-4.10	*		-0.41	-5.00;4.18
Q3	-16.73	-21.13;-12.35	11.30	4.49;18.11	-2.08	-6.57;2.40	-11.10	-15.70;-6.50	*		-3.48	-8.23;1.26
Q4	-23.48	-28.17;-18.80	14.44	7.50;21.39	-1.36	-6.16;3.43	-16.40	-21.34;-11.46	*		-2.23	-7.34;2.86
Q5 (poorest)	-14.77	-19.65;-9.89	12.74	5.26;20.23	4.36	-0.64;9.36	-5.76	-10.97;-0.54	*		4.52	-0.86;9.91

4. Discussion

This study found ongoing socioeconomic inequalities in social protection for people with disabilities in Ecuador. Whereas lower-income and less-educated individuals had fewer household visits, higher benefits were observed among Afro-Ecuadorian and Indigenous groups. In addition, individuals with primary or secondary schooling were more likely to get disability accreditation.

The study found a lower proportion of persons with disabilities in Ecuador compared to other countries in the region like Panama (10.2%), Mexico (6.58%), and Brazil (29.1%), based on the 2010 data. These differences likely reflect regional variations in data collection, definitions or demographics [19]. The study's reported prevalence may underestimate the actual figures, as projections from Ecuador's 2022 census suggest rates closer to 7% [20,21]. However, publicly data from the MoPH from 2023, reported a prevalence of 2.6% of persons with disabilities in Ecuador.

The findings showed that most individuals with disabilities were adults aged 40 to 65 years, with physical disabilities representing the most prevalent type. This indicates that a notable share of the working-age or economically active population has been impacted. These circumstances may stem from disabilities acquired in childhood, chronic diseases or from exposure to traffic accidents, which have become a significant and increasing public health issue in the country and the region [22]. A 2019 study found that, over the past decade, traffic accidents accounted for the highest Disability-Adjusted Life Years (DALYs) among young adults in Ecuador [23].

Despite significant government investment in disability programs, certain socially disadvantaged PWD received less household visits or benefits, including healthcare. A systematic review in LAC found similarly a persistent health inequity in access to general care for this group [24]. Many PWD studies have evidenced how various social and economic factors limit access to healthcare services [25–27]. In this study we observed that Afro Ecuadorians and Indigenous reported more access to benefits during the visits which is a positive outcome related to the program, since usually these groups experience greater disparities in access to healthcare services [28].

At the same time, even if official accreditation rates were high, many PWD remained unaccredited. Obtaining accreditation is typically a detailed process involving several appointments and consultations with medical specialists to gather clinical reports, which can be challenging to access in specialty hospitals. Individuals with limited access to education or living in rural areas may face greater challenges during this process, which can result in a lower likelihood of obtaining official accreditation, restricting their entitlement for social benefits [29].

Methodological considerations

This study presents both strengths and limitations to consider. First, the survey enabled identification of the disability situation following a broad state intervention involving numerous households nationwide. This study is, to our knowledge, the first to analyze socioeconomic inequalities among people with disabilities. Second, responses to the question "*Do you or do you not have a disability?*" were self-reported, which could lead to a misclassification on one hand and misestimation of the true accreditation rate on the other. Third, the accuracy of respondents' self-reported disability was not verified against the national government disability database. Finally, recall bias may have influenced participants' responses regarding visits and benefits during the interview process.

5. Conclusions

This study shows that the Ecuadorian government's comprehensive approach to social protection for people with disabilities might have contributed to significant progress during this period. However, certain inequalities were observed, mostly among socially disadvantaged groups. Specific interventions to achieve adequate social protection for the most disadvantaged groups and reduce social inequalities in social protection are required. Policy and decision-makers should

continue to strengthen the current national programs, paying special attention to intersecting factors like poverty, education, and social status.

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Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

PWD	People with disabilities
MoPH	Ministry of public health
MSW	Ministry of social welfare
INEC	Instituto Nacional de Estadísticas y Censos
UN	United Nations

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