

# Prevalence of Teenagers with Disabilities in a Medium-Sized Municipality

ORIGINAL

Evanira Rodrigues Maia<sup>1,2</sup>, Lorita Marlena Freitag Pagliuca<sup>3</sup>,  
Estelita Pereira Lima<sup>2</sup>, Jucier Gonçalves Júnior<sup>2</sup>,  
Crístenes Sanches Lucena Gomes<sup>2</sup>, Paulo César de Almeida<sup>3</sup>

- 1 Department of Nursing, University Regional of Cariri, Crato, Brazil.
- 2 Department of Medicine, University Federal of Cariri, Barbalha, Brazil.
- 3 Department of Nursing, University Federal of Ceará. Fortaleza, Brazil.

## Abstract

**Introduction:** Despite variations in the beginning and the end, adolescence is the second decade of life, 10-19 years. According to the World Report on disability among those individuals aged 0-14 years of age, 93 million had severe or moderate disabilities and 13 million severe disabilities. Therefore, this study aimed to identify adolescents with hearing, visual and physical impairment.

**Methods:** A quantitative transversal study of a medium-sized municipality. Data was collected at interviews conducted by community health workers, with an instrument containing sociodemographic data and impairment characteristics. Data was organized in spreadsheets and analyzed for correlations between types of disabilities and other variables by chi-square test. Statistical significance was verified by a 0.05 level.

**Results:** Physical disability prevailed over visual and auditory. An association was found between disability and level of education ( $p = 0.023$ ). Conclusion: Support and incentive education policies are necessary among the disabled.

## Contact information:

Lorita Marlena Freitag Pagliuca.

**Address:** Rua Alexander Baraúna, 1115,  
Rodolfo Teófilo, Fortaleza, CE, Brazil,  
63180000.

**Tel:** +055(85)33668462.

 [pagliuca@ufc.br](mailto:pagliuca@ufc.br)

## Keywords

Disabled Persons; Health Public Policy; Adolescent Health; Adolescent.

## Introduction

Adolescence can be conceptualized from different perspectives: biological, psychological, legal and sociocultural. However, none of

these alone are able to set this stage of human development [1]. Adolescence is the second decade of life, 10-19 years [2]. Despite variations in the beginning and the end, it is known that adolescence marks the transition into adulthood, both physically, and behaviorally.

Worldwide, there are over 500 million people with disabilities and their access to health systems are inadequate [3]. Machado, Scramin [4] it is known that 10% of people in developing countries, in times of peace, have a disability. Santos, Pequeno et al. [5] in relation to the distribution in Brazil, the existence of regional asymmetries and people with disabilities are found more often in the states of northeastern Brazil.

According to the World Report on disability among those individuals aged 0-14 years of age, 5.1% had severe or moderate disabilities and 0.7% severe disabilities, or 93 million and 13 million children, respectively. Among those with 15 years of age or more, figures were 19.4% and 3.8%, or 892 million and 175 million, respectively [6].

Hearing is the bilateral loss, partial or total loss, of forty-one decibels (dB) or more, as measured by an audiogram in the frequencies of 500 Hz, 1000 Hz, 2000 Hz and 3000 Hz. Visual impairment is classified as blindness when visual acuity equal to or less than 0.05 in the better eye with the best optical correction; low vision is when visual acuity is between 0.3 and 0.05 in the better eye with the best optical correction; moreover, cases in which the sum of the measurements of visual field in both eyes is equal to or smaller than 60°; or the simultaneous occurrence of any of the above conditions. Physical disability is the complete or partial change of one or more segments of the human body, leading to impaired physical functioning, appearing in the form of paraplegia, paraparesis, monoplegia, monoparesis, quadriplegia, tetraparesis, triplegia, triparesia, hemiplegia, hemiparesis, ostomy, amputation or absence of member, cerebral palsy, dwarfism, members with congenital or

acquired deformities, except cosmetic deformities and those that do not cause difficulties for the performance of duties [7].

Therefore, the objective was to gather information about deficiency in adolescents in a medium-sized municipality and correlate it with demographic data, thereby subsidizing social and health policies and provide conditions for the most reliable protection to the real needs of the affected and their families.

## Methods

This is a transversal and quantitative study in a medium-sized municipality. Respondents were all teenagers between 10 and 19 years with hearing, visual and physical disabilities, identified by community health workers in their areas of coverage.

Data collection was performed by interview with a questionnaire containing sociodemographic characteristics, being: gender, age, race, years of education and origin; type, cause and degree of disability. Questionnaires were administered during home visits by previously trained community health agents [8].

Data was organized in Excel 2010 spreadsheets and processed in Statistical Package for Social Sciences version 20.0 software. Associations between physical, visual and hearing impairments and other variables were carried out through the Chi-square test. Statistical significance was verified by a 0.05 level. The study respected international ethical principles in research with humans.

## Results

102 adolescents with disabilities were identified. **Table 1** presents the types of disabilities and socio-demographic characteristics and **Table 2** by type of disability.

**Table 1.** Distribution of the number of teenagers, according to sociodemographic characteristics

Sociodemographic characteristics	Physical Impairment	Hearing Impairment	Visual Impairment	p
	n (%)	n (%)	n (%)	
Gender				
Male	36 (52.9)	8 (11.8)	24 (35.3)	0.415 <sup>1</sup>
Female	17 (50.0)	8 (23.5)	9 (26.5)	
Age (years)				
10 – 14	29 (53.7)	5 (9.3)	20 (37.0)	0.185 <sup>1</sup>
15 – 19	24 (50.0)	11 (22.9)	13 (24.1)	
Skin				
White	18 (72.0)	2 (8.0)	5 (20.0)	0.080 <sup>1</sup>
Black/Mulatto	35 (45.4)	14 (18.2)	28 (36.4)	
Education (years)				
None	31 (68.9)	3 (6.7)	11 (24.4)	0.023 <sup>2</sup>
1 to 4	8 (28.6)	6 (21.4)	14 (50.0)	
5 to 9	10 (55.6)	4 (22.2)	4 (22.2)	
Secondary	4 (36.4)	3 (27.2)	4 (36.4)	
Origin				
Urban region	28 (60.9)	7 (15.2)	11 (23.9)	0.208 <sup>1</sup>
Rural region	25 (44.6)	9 (16.1)	22 (39.3)	

<sup>1</sup>: Chi-square test; <sup>2</sup>: Fisher-Freeman-Halton test

**Table 2.** Distribution of the number of teenagers, according to disability characteristics

Characteristics of disability	Physical Impairment	Hearing Impairment	Visual Impairment	p
	n (%)	n (%)	n (%)	
Level				
Total	26 (49.1)	10 (18.9)	17 (32.0)	0.675 <sup>1</sup>
Partial	27 (55.1)	6 (12.3)	16 (32.6)	
Cause				
Congenital	43 (61.4)	9 (12.9)	18 (25.7)	0.090 <sup>2</sup>
Accident	6 (33.3)	3 (16.7)	9 (50.0)	
Prior Complications	4 (28.6)	4 (28.6)	6 (42.8)	

<sup>1</sup>: Chi-square test; <sup>2</sup>: Fisher-Freeman-Halton test

## Discussion

In the investigated group, there was a predominance of male adolescents living with physical disabilities, followed by visual and auditory. Among 102 college students where 51 were disabled, (45.1%) were registered as having a physical disability, followed by hearing (33.3%) and visual (21.6%) [9]. Mueller-Johnson, Eisner et al. [10] in a sample of 6,649 adolescents in Swiss schools, 360 (5.1%) were identified with physical disabilities.

In the analyzed disabilities, physical predominated among those who were black or mulatto (72.0%) and there was no statistical significance presented between disabilities in the study ( $p = 0.080$ ). In another study where 8,326 people were assessed in a cross-sectional research, there were no differences between color/race [11].

An association was found in the sociodemographic characteristics only between disability and level of education ( $p = 0.023$ ). Among those who were disabled, illiteracy predominated, while the hearing and visually impaired had schooling between one and four years of study. Therefore, these data were surprising, as visually and hearing impaired children require special conditions of education to be literate, with experienced teachers in Braille or sign language, so apparently more complex demands are being met than those imposed by physical barriers.

A study of 123 patients with disabilities reported that half had no schooling, a small portion reached high school (11.4%) and held no university degree [5]. Freire, Gigante et al. [12] however, in a study of 1,842 deaf people of at least 15 years old, education was 11 years or more (33.7%), with 96.4% being literate, although without specification of the language by the authors.

Parents of children and adolescents with disabilities considered it difficult to obtain enrollment for their children, with the greatest difficulties being related to the acceptance of the child by the school [13]. Shandra, Avery et al. [14] poverty, inadequate housing and low education levels in adults were

twice as likely - and unemployment of an adult five times more likely - in families with several members with disabilities compared to families without disabilities.

There was a level of total or partial disability adopted in this study, and there was no significance to the type of disability ( $p = 0.675$ ). However, in the cause, despite the association with type not being statistically significant ( $p = 0.90$ ), the highest percentage of congenital/genital defects was among the physically disabled. It is known that lack of assistance in pregnancy is a major cause of disability, and poor prenatal care is responsible for 16.8% of cases, followed by those which are the result of genetic defects being responsible for 16.6% [15].

In a study of 8,974 newborns, 17 had hearing impairment, (64.7%) of these with probable etiology prenatal causes, and (36.4%) confirmed genetic origin or (36.4%) presumed heritability [16]. There is evidence that unhealthy eating habits and physical inactivity, which lead to obesity, also substantially contribute to the global burden of disease, death and disability [17-20], Khandaker G, Muhit et al. [21] as well as infectious diseases.

For the visually impaired, the highest percentages were those caused by accidents (47.0%) and complications from previous diseases (42.8%). It is estimated that about 950,000 deaths are due to external causes among children under 18 years of age every year, and over 10 million from impairments [22].

Disabled adolescents are exposed to additional risks to their physical integrity and health. Some reports warn that high school students with disabilities are more likely to be victims of violence compared to those without disabilities [23], and high school girls from this experience are more likely to suffer mental health damage and use drugs [24]. Denny, Silva et al. [25] this vulnerability is evident in a New Zealand study that evaluated 9,107 students aged 9-13 years, of which 18% in the sample were living with chronic illness or disability; they had high levels of depressive symptoms and recognized the

impact of illness or disability on their everyday activities (18%) and socialization skills (40%).

## Conclusions

Physical disability had the highest prevalence, followed by visual and auditory impairments, respectively. There was statistical correlation between the type of disability and the level of education, and this correlation is also evidenced in the literature. Most of the illiterate and more than half of those between five and ten years of study have physical disabilities; while exactly half of those with one to four years of schooling have visual impairment. Black and brown color skin are more associated with physical and hearing impairments, while visual impairment was evenly distributed between the two categories. The highest percentage of congenital causes was found among the physically disabled. Among those with visual impairment, accidents and complications from diseases were the main causes.

Therefore, despite the implementation of public policies for prevention of disability, they are very weak in facing the real demand that the problem requires. Also, due to the complexity of the sample, it requires physical and technical organization associated with political effort to fulfill the strategies by responsible institutions/organizations.

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