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# Educational Access of Students with Low Vision in Schools of Soacha

Acceso a la educación de estudiantes con baja visión en algunas escuelas de Soacha

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## ABSTRACT

*Introduction:* in the political constitution of Colombia, education is described as a human right and a public service with a social function. Education seeks access to knowledge, to science, and to other goods and values of culture. *Objective:* To carry out a bibliographic review on the educational access of people with low vision in some schools in the municipality of Soacha. *Materials and methods:* Literature review through the compilation of laws, documents, articles and books on inclusive education, disability, low vision and educational access in databases such as ScienceDirect, Scielo, and documents obtained online and from the secretariat of education of the municipality between 1995 and 2017. *Conclusions:* In the municipality of Soacha, all institutions provide access for students with low vision and other disabilities pursuant to Article 11 of Statutory Law 1618 on the right to education. However, in most institutions, the lack of permanence of students with low vision in schools is the factor that decreases the number of enrolled institutions in the municipality.

**Keywords:** low vision, access to information.

## RESUMEN

*Introducción:* en la Constitución Política de Colombia, la educación se describe como un derecho humano y un servicio público con una función social. La educación busca el acceso al conocimiento, a la ciencia y a otros bienes y valores de la cultura. *Objetivo:* llevar a cabo una revisión bibliográfica sobre el acceso educativo de personas con baja visión en algunas escuelas del municipio de Soacha. *Materiales y métodos:* revisión de literatura mediante la compilación de leyes, documentos, artículos y libros sobre educación inclusiva, discapacidad, baja visión y acceso a la educación en bases de datos como ScienceDirect, Scielo y documentos obtenidos en línea y de la secretaría de educación del municipio entre 1995 y 2017. *Conclusión:* en el municipio de Soacha, todas las instituciones brindan acceso a estudiantes con baja visión y otras discapacidades de conformidad con el artículo 11 de la Ley Estatutaria 1618 sobre derecho a la educación. Sin embargo, en la mayoría de las instituciones, la falta de permanencia de los estudiantes con baja visión en las escuelas constituye un factor que disminuye el número de instituciones inscritas en el municipio.

**Palabras clave:** baja visión, acceso a la información.

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## INTRODUCTION

According to the United Nations (UN) *disability* is a concept that evolves and results from the interaction between people with impairments and the barriers due to attitude and environment that prevent their full and effective participation in society, on equal terms with others (1).

The Registry for the Localization and Characterization of Persons with Disabilities (RLCPD, for its initials in Spanish) is the only valid source of data on persons with disabilities in Colombia, which aims to gather the information at the national level required to support the development of plans, programs and projects, with the purpose of protecting and enforcing the rights of persons with disabilities in the country (2); based on this tool, in this paper we define whether this population of people with disabilities belongs to the contributory system or the subsidized system. In 2012, Gaviria and Burgos (3) published a table that shows that 69.62% in the department of Cundinamarca belonged to the subsidized regime, while 29.86% belonged to the contributory system (3).

There are four types of disabilities: motor, mental, multiple, sensory and communication disabilities; this last type of disability includes visual, hearing, and speech impairment (4).

The person with severe visual impairment or low vision is the one with a visual acuity lower than 20/60, 6/18, or 0.5 according to the LogMAR chart, with the best correction possible in the better eye and a smaller visual field of 10 degrees from the point of fixation (5), in which the sense of vision is the most important one for a good social, educational and work performance.

In Colombia, the first experiences of working with visually impaired people (LV, for its initials in Spanish) date back to the 1920s, and they refer to a set of services rendered to someone to help them with their needs. In the late 1930s, the National Federation of the Blind and Deaf was created by

means of Law 143 of 1938, which offered a set of exclusive social services for LV, such as schools, printing houses, daycare centers, and shelters (6).

Decree-law 1955 of 1955 dissolved the federation and replaced it with the National Institute for the Blind (INCI, for its initials in Spanish), which was under the control and supervision of the Ministry of Public Health. Eleven years later, with the inspection of the Ministry of National Education, the profile of the institute was defined as being of common, autonomous, technical and administrative nature and not a charity (6).

Currently, the INCI provides technical assistance in formal education, as well as training for work and health: It advises the different agents of the General System of Social Security in Health (SGSSS, for its initials in Spanish) about the integral rehabilitation model, and it also trains educational institutions in the development of preventive programs in visual health and territorial entities for assisting the population with LV (7).

In 2012, according to RLCPD, the percentage of occurrence of visual impairment in the department of Cundinamarca was of 20.81%, ranking third after the Amazon region with 50.0% and Guaviare with 23.08% (8).

Soacha is located in the central area of the country, in the department of Cundinamarca with an urban area of 19 km<sup>2</sup> and a rural area of 165.45 km<sup>2</sup> (9); in 2013, this municipality had a population of 488,995 inhabitants, with the tenth highest population in the country. Due to their geographic location and economy, many of the people who arrive there are displaced by violence, and come from the lower socio-economic levels, namely 1, 2 and 3 (10). As a result, most of the population are part of the SISBEN, which is a general-purpose system used to select beneficiaries of social subsidy in Colombia. In terms of geography, Soacha has 368 districts, 152 of which are informal or illegal, and are located in high-risk marginal zones with the highest index of poverty at the urban level.

According to the World Health Organization's (WHO) approach to visual impairment, in which there is a higher incidence of blindness and low vision in areas with a low income population, Soacha is prone to a high population of people with low vision (11); in fact, the Ministry of Health and Social Protection reports a total of 15,884 visually impaired people in the department of Cundinamarca, 2,793 of whom are located in the municipality of Soacha, consisting of 1,554 women and 1,239 men, respectively (12); as for the children population in Soacha, 939 were reported as being visually impaired in 2005 (13). This is proof of the high number of people with visual impairment in Soacha.

In terms of educational inclusion in this municipality, the United Nations Development Program (UNDP) reported a significant decrease in the inclusion of children with sensory, physical and mental disabilities in the educational system, with 4,155 students enrolled in 2005 and 769 in 2011. As for visually impaired people, there were 10 students reported in 2005, and 16 in 2011 (14).

Soacha has 21 official schools and 185 private schools, for a total of 206 institutions, according to the Secretariat of Education and Culture (15). In 2010, the integrated system of enrollment (SIMAT, for its initials in Spanish) carried out a census to identify how many students with visual impairment were enrolled at a national level, which revealed that 11,556 students with visual impairment were enrolled in Colombia for that same year; however, as far as Soacha is concerned, only 24 students were reported as enrolled, 17 of whom were diagnosed with low vision and 7 with blindness, in a total of 12 institutions (16). Therefore, it is important to identify the possible reasons that cause a low incidence in the access to education of students with low vision in some of the public and private institutions in the municipality of Soacha, as compared to the 939 children with visual limitation reported in 2005. This is taking into account the number of visually impaired inhabitants shown in the census, compared to the number of enrolled students with

this type of disability, as well as the high number of institutions in this municipality, compared to the low number of educational establishments reported in the census as accepting students with low vision. According to Article 67 of the political constitution of Colombia, *education* is a fundamental right to which a person is entitled, as well as a public service with a social purpose, which seeks to provide people with access to knowledge, science, and other goods and values of culture. It is also defined by the equity of conditions of all citizens, regardless of their physical, mental, economic, ethnic and cultural condition in access to knowledge (17).

It is for this reason that this bibliographic review was carried out, in order to identify how much access students with low vision (LV) have to secondary education institutions in the municipality of Soacha, taking into account the definition of *inclusive education* by the United Nations Organization for Education, Science and Culture (UNESCO):

[...] all children and young people with and without disabilities or difficulties learn together in the various educational institutions regular (preschool, college/high school, and college), with an appropriate support area; More than the type of educational institution that the children attend, it has to do with the quality of the experience, with the form of supporting their learning, their achievements and their total participation in the life of the institution. (18)

And the definition of *educational access*, mentioned in Decree 1421 of 2017 as the process that includes the different strategies that the educational service must carry out in order to guarantee the entry into the educational system of all people with disabilities, in conditions of accessibility, adaptability, flexibility and equity with other students and without any discrimination (19).

The article sought to analyze the current situation of access to education and gather information that will contribute to generating the necessary

strategies to provide the affected population with new access routes and thus generate a better development of the person and everything involving their quality of life. This justification will encourage us to raise awareness among the relevant actors about how to continue and optimize management in the inclusive education of visually impaired people, by checking whether they comply with the provisions of article 11 of Statute Law No. 1618 of 27 February 2013 on the right to education (20), and thus improving their quality of life.

## METHODOLOGY

A bibliographical review was made of the articles and documents compiled in the ScienceDirect and Scielo databases, and references were taken from different online texts, laws, articles and statistics, as well as from official municipality websites and from the Secretariat of Education of Soacha, using search words like *educational access*, *low vision*, *education* and *Soacha*, between the years 1995 and 2017.

## DISCUSSION

Educational inclusion dates back to more than three decades and, particularly in Colombia, it emerged during the 1970s. It is a similar process in almost every country, since it begins as special education, goes through school integration and other different experiences, and concludes as equal opportunities or egalitarian education (21).

However, having equal opportunities does not mean that everyone should be treated in the same way; similarly, in education, equal treatment of the students is not the answer because children are not all the same and should not be treated as if they were. As such, it is necessary to implement the principle of justice, seeking equity for all. As an example, consider the education of blind children: if they were to be exposed, along with their peers, to teaching with a high visual content, they would obviously not be provided with equal opportunities in their education (22).

In the United States, for instance, inclusion is an extensive process that began in 1869 and has since undergone modifications. In the amendments to the Individuals with Disabilities Education Act (IDEA 1997) and Law 105-17 (21), ten aspects were defined that supported an inclusive approach in the education of students with disabilities, including that “States must set performance targets for students with disabilities, which should be consistent with those established for all children” and allocate funds for the training of general education teachers, and training funds for teachers may be used to assist the professional development of general educators who provide services to students with disabilities (23). In Colombia, on the other hand, Subsection 2 of Decree 1421 of August 2017 provides that, for each student with disability reported in the SIMAT registration system, a 20% or additional percentage of resources will be granted, according to the budget assigned by the Nation based on level and zone. These funds can be invested in hiring human resource support, such as typists or staff who knows sign language (24). As a result, one could say that the laws in Colombia and the United States are similar, and that they differ only on the time they were stipulated.

Soacha currently has a support staff to determine the difficulties of students, including psychologists, otolaryngologists, a typist and counselors, but no participation of optometry. This has been found to be a disadvantage, since the personnel from the Secretariat of Education and schools fail to determine whether a student has low vision as provided in the decree, and therefore a wrong diagnosis could result in mismanagement of the resources. As for private institutions, they must ensure and guarantee the accessibility, resources and reasonable accommodation of students with disabilities (24).

Recent statistics show that enrollment of blind students in schools in the United States is increasing, according to the 2012 Statistical Report of the Department of Education of the National

Center for Education; in the fall of 2009, about 95% of students from the ages of 6 to 21 who have some kind of disability were educated in general schools (25), as opposed to the municipality of Soacha, which has a small number of children with disabilities enrolled in public institutions and, to an even lesser extent, in private institutions. Comparing the general population of disabled people in this municipality, out of the 939 visually impaired children reported in the municipality in 2005, only 24 students were reported as enrolled in public and private institutions in the municipality. Therefore, instead of an increase in inclusion, there is a decrease in the number of children enrolled.

Regarding previous articles related to the different types of disability, it was found that, although there are laws that promote education as a fundamental right for all without exception, as mentioned in Statutory Law No. 1618 of 27 of February 2013 (26), teachers and institutions are still underprepared for handling students with disabilities (27).

In a study carried out in 2011 in Bogotá, 367 teachers from public institutions were interviewed in order to determine the readiness of teachers towards disabled students. Interviewees found that less than one-third of teachers feel apt, prepared to educate and teach people with physical, sensory or mental disabilities (28). It is concluded that the legislation, despite having adequate bases that promote inclusion, do not generate training to generate permanence of these students, because support staff alone is not enough to cover the needs of students with visual limitation.

Educational inclusion has to do with the participation and good performance of all students, with a high quality in learning and taking care not to marginalize anyone (29); it is understood as the search for better ways to respond to diversity, and it is about learning how to live with difference in such a way that it is seen in a more positive light as an incentive to encourage learning in children (30). Educational inclusion requires changing the

educational system completely, from educational institutions to government agencies that monitor them in order not only to provide easy access but also to guarantee the permanence of students with visual impairment or with any other type of disability in school, as regulated by law (19).

The right of all children to education is enshrined in the United Nations Declaration of Human Rights and reiterated in many national policy approaches. Sadly, millions of children do not have access to this right, either because of lack of knowledge of the benefits offered by government entities, due to economic aspects, or simply because the aids required for handling these people with limitations are not raised (31). One example of this is that a high percentage of the population in Soacha is rural, where children with or without disabilities face difficulties going to school.

Currently, the municipality of Soacha is initiating advocacy campaigns to inform parents about inclusive education and improve teacher training in management of classrooms including children with visual impairment and other disabilities through support staff and talks about the signs of visual impairment in children, in order to register them in the SIMAT; however, no significant changes have been observed in this regard yet. In terms of visually impaired people, the person in charge of the training is a typhlician; typhology is understood as the set of techniques, knowledge and resources aimed at ensuring that the blind and visually impaired have the appropriate means for the correct use of technology and materials in order to promote their personal autonomy and full social, labor and educational integration (32).

These aspects could be improved with the participation of parents, teachers, institutions and visual health professionals to ensure that the students have good social relationships and thus help their self-esteem, guaranteeing a better quality of life through government aids that provide the necessary materials for education and for maintaining an active

communication (25). This is according to the paper by Pablo Martín Andrade, “La acción del maestro itinerante y del PT en los centros educativos,” which mentions the bases of a good educational inclusion, such as internal factors like curricular adaptations and external factors like material aids for the student’s good performance and his or her direct relationship with their families (33).

It is important to emphasize that inclusion does not only depend on the state because, as mentioned above, the family is also important. In fact, in the case of the visually impaired child, the family plays a critical role because parents and relatives provide the child with the stimulation and opportunities they need to get to know the world around them (34).

Lack of stimulation of visually impaired children can be exacerbated if they are also deprived of formal education, a fact that not only limits their intellectual development, but also the development of socialization skills, preventing the adequate integration into their age group and into society in general (35).

The social aspect is one of the factors that stand out about educational inclusion in Mexico. People with disabilities were often gathered in groups and protected by their families and surroundings, since it was thought that, in order to better adapt to their environment, people with disabilities should coexist, study and work with people with the same problem, thus avoiding the competition and mistreatment of others who did not have their disability.

In education, it has become commonplace to refer to the need to teach children in the “least restrictive environment.” The abundance of these negative formulations is due to the fact that barriers and obstacles to participation are more evident and easier to emphasize than participation itself (36). Therefore, it is necessary to highlight the positive aspects in inclusive education as a motivation to strengthen the educational growth of students with low vision or some other type of disability.

Conversely, in 1998, Barton describes that inclusive education should not entail ending an unacceptable system of segregation and forcing all students with disabilities into an ordinary system with no changes; the school system as we know it will have to change in terms of facilities, curricular aspects, and teaching styles, because inclusive education entails the participation of all children, young men and women and their family unit (37). This contrasts with what has become evident during the visits to public schools in the municipality, where the Secretariat of Education has conducted awareness-raising practices for teachers with the intent of eliminating the concept of *special education* and integrating inclusive education, while maintaining equity among all students.

The literature shows two very important points of view in which students with low vision are identified and their protection cannot be overlooked, since education used to be very limited, particularly for visually impaired people (38). UNESCO talks about the fundamental right that every person has to receive education regardless of race, sex or social status, as well as the rights of persons with disabilities (39).

This is compared to what has been evidenced in the visits to public schools in the municipality of Soacha, where the secretary of education conducts awareness practices for teachers with the goal of eliminating the concept of *special education* and integrating an inclusive education, thus maintaining equity among all students in the classroom and identifying the difficulties that students may have, as well as talking to the parents of children suffering from low vision in order to include them in the student’s learning process.

It was observed that some schools in the municipality of Soacha have educational strategies and teachers trained to teach children with disabilities, but that they are limited by a lack of materials that would otherwise allow them to improve their teaching.

UNESCO highlights some of the questions asked by the educational and administrative staff that cares for blind and low vision students at the top level: How do I apply the exam? Should I give equal or different treatment to students without disabilities? Will I be cruel if I reproach him? (40). In some subjects, especially those related to symbols and visual aspects, the teachers' fear of answering these questions depends not only on lack of training but also on the state's contribution to the institutions for the support and use of new technologies to guarantee a pleasant learning for students with disabilities (41).

Based on results of this article, we were able to verify found that there is a concern among teachers in this position about lack of preparation, even though they receive training from the secretary of education, in addition to not having enough equipment or instruments for reinforcing their teaching methods (42).

It is noted that low vision in Colombia, as mentioned in the article "Baja visión en Colombia: una situación invisible para el país" by Maria del Pilar Oviedo, occurs not only in healthcare, but that it is even more noticeable in education, due to the fact that the percentage of students with low vision is lower as compared to other disabilities, such as cognitive impairment, and thus it loses relevance (43). Low vision has serious human and socioeconomic consequences in all societies, and costs associated with loss of productivity and rehabilitation and education pose a significant economic burden on the individual, the family, and society (44). Likewise, the socioeconomic effects of visual impairment are articulated into the community's poor preparedness to face new development challenges, expressed in a lower capacity for basic learning (reading and writing), learning of new technologies, and the realization of activities lead to a climate of work that supports such a risk (45). Managing change is a central factor in creating conditions that encourage the development of more inclusive practices.

According to higher education institutions (IES, for its initials in Spanish), there are different barriers for learning and participation of the student population with disabilities, for which inclusive education processes in the academic programs are designed, which aim to train inclusive teachers, generating research processes on the issue of inclusive education and educational quality with an inclusive approach (46). Porter (47) identified three factors that will allow the construction of inclusive educational institutions, programs and classrooms:

1. Performing a diagnosis and analysis in the leadership of the policy of inclusion, administration and implementation of the inclusive program.
2. Describing the program's needs to implement an inclusive teacher training plan.
3. Implementing guidelines for strategies that provide support for the class teacher who teaches an inclusive class, including staff development strategies, problem-solving peer teams, inclusive instructional strategies, and curriculum.

These proposals, which would be very important to establish in schools, are a great step forward in the education of children with low vision because, nowadays, speaking of inclusive higher education in Colombia has to do with the 21-first-century university reviewing its inclusive management policies as a guiding principle to fight against social exclusion (48). It would be interesting to implement these factors in the institutions of the municipality of Soacha in order to create a more complete environment for the inclusion of students with disabilities, since there are no reports that specify the changes made by the schools.

Higher education in Colombia should be the social laboratory to think about the dynamics of inclusion and to build inclusive societies (49). In this sense, higher education in Colombia has some shortcomings that are evidenced through

the statistics unveiled by the system of prevention and analysis of school dropout rates in higher education institutions (48).

Associated with the above, the Ministry of Education of Colombia proposes inclusive education as the strategy to promote and implement the process of identifying and overcoming the learning barriers of the student population, characterizing them and generating institutional projects that promote the students' access to education, as well as their permanence in school and graduation (50).

Inclusive education incorporates the constitutional rights to the policies and strategies promulgated by the Ministry of Education to delimit its object and to reflect on the teaching-learning-evaluation process for the different population groups, to identify learning barriers in higher education institutions, and to guarantee attention to diversity (51).

## CONCLUSION

All institutions in the municipality of Soacha provide access for students with low vision and other disabilities based on Article 11 of Statutory Law No. 1618 on the right to education. However, in most institutions the lack of permanence is the factor that decreases the number of children enrolled in institutions.

School permanence of students with low vision in the municipality of Soacha may be affected by different aspects:

- The distance between housing and institutions, teacher training for handling students with disabilities;
- Social aspects due to lack of interest and time of parents in the educational support of students with visual limitation;
- Management of the resources destined for the materials required for the education of children with low vision and training of teachers.

Sometimes the low-vision diagnosis of a student with correctable refractive state is overlooked or confused, due to lack of knowledge about the term *low vision*.

It is important for optometrists and educators to work together to detect the population with visual impairment in time and to have a more accurate or data about children with low vision in the SIMAT, such that this disability is known as a current interest situation in the municipality of Soacha and resources can be invested in this problem.

A more in-depth study of the current state of access and permanence of low vision children is required, since the documents and information on inclusive education in the municipality are few.

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