

MAPPING THE SOCIAL ISSUES IN THE EDUCATIONAL DOMAIN: AN EXPLORATORY STUDY AMONG VISUALLY DISABLE STUDENTS

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Abstract: The inclusive development of visual disable population is becoming a global concern. Visually disabled people are excluded from the main stream and faced different problems in the society, such as lack of mobility, lack of access, infrastructure limitation, stream limitation, etc. Education can improve opportunities and participation of people with visual disability in the society.

Aim: To explore the problems of visually disabled students in the context of education and identify the problems faced in availing services for visually disabled students.

Research design: An exploratory study

Sampling and method: Both purposive and snowball sampling technique was used. About 53 visually disable students of school, colleges and Panjab University were interviewed from 1st August 2018 to 31st January 2019 in Chandigarh, India.

Finding: There were 53 visually disable students (31 males and 22 females) who belonged to age from 13 to 24 years. Approx. 42 visually disable students were availing available government schemes and facilities. Around 28 visually disable students faced stigma overtly and covertly in the society. They were facing different problems like inadequate infrastructure, stream limitation, and insufficient materials and so on.

Conclusion: There is a need to adopt comprehensive approach for resolving the issues of visually impaired students.

Keywords: Availing Services, Education, Issues, Society, Visually Blind Students.

Introduction: Sight among all senses (sight, hearing, smell, touch and taste) is considered essential in the society.¹ Loss of vision or visual impediments affect the development of affected individuals, their family and ultimately the society. According to World Health Organization (2010), approximately 285 million people were visually impaired and 39 million people out of them, were blind in the world.² Around 23.5% of the world's blind population resides in India.³ About 320,000 children are suffering blindness.⁴ Children with visual disability may confront the problem of spatial understanding and adapt 'Blindism' (inappropriate non-verbal behaviour) which further impedes their confidence, physical mobility, personal development and social interaction with sighted people.⁵

A stereotypical persistence of society restricts children with visual disability to perform many activities, like walking, cooking, assessing building or transportation, shopping etc without any support. This is resulted in lack of education, skill, training and self dependency. This is also influenced their potentiality of earning and ability of doing those job which require vision. They have to depend on their family members for providing care and incurring finance in their treatment.^{5, 6 & 7}

The inclusive development is a global concern for the empowerment of visually disabled population. There is a requirement of interdisciplinary approach which encompasses medical, social, economic, psychological, legal and political aspect.⁷ The adoption of Person with Disability (Equal opportunities, protection of right and full participation) act 1995, Biwarko Millennium (2002) and UN Convention on the Right of Person with disability (2008) brings alteration in the outlook from providing institutional care to human right, inclusive and equality for disable population, including visually impaired people.^{7, 8 & 9} This also shows a change in the framework from the Medical Model of Disability to Social Model of Disability to glance on disability.^{8 & 9}

Advocates of Medical Model of Disability believe that disability is abnormal and exclusion of disable population is the result of that abnormality. They focus on the adjustment to environment through care, treatment, and rehabilitation. While advocates of Social Model of Disability consider that society is responsible for creating barrier in the participation of visually disabled person in the society.^{7 & 10} There is a requirement of interdisciplinary approach which encompasses medical, social, economic, psychological, legal and political aspects of blindness.⁷ Education plays an important role in bringing equity, improving employment opportunities, and facilitating people's participation in the society.^{11 & 12} But this requires additional study resources and equipments and modification in curriculum which are emphasizing on listening skill and communication.¹³ The present study focuses on the problems that students with visually impairment of Chandigarh confronted in the context of education.

Literature review

The study of Hirshoren and Schnittjer (1983) described the most common problems of visually impaired children and youth (64 boys and 40 girls). Conduct problem, personality problem, inadequacy-immaturity and socialized delinquency were most common problems.¹⁴

Wild and Hinton (1993) carried out study on eight visually impaired students (seven men and one women) of Loughborough University where tactile method was using for resolving problems in lectures, text or course book, field works, laboratory class which contained visual elements. The study showed favourable attitude of visually impaired students towards the tactile method for transferring information. There was a requirement of training among teacher regarding the use of tactile method.¹⁵

Hodges and Keller (1999) discussed the perception of six visually impaired students of college regarding the challenge that they confronted in the inclusive education system. The problem of mobility, predominantly in transportation and developing social relation with other sighted students were influencing their social activity in the campus.¹⁶

In the study of Dawodu and Ejegi (2001) with 14 blind students in Benin City, factors were discussed for under utilization of available facilities in education. Costly transportation, lack of residential schools, unavailability of school in rural areas, indifferent attitude towards the education of disable person and lack of awareness were identified factors for under utilization.¹¹

Arrigo (2005) illustrated advantages and disadvantages of E-learning among visually impaired students. On one side, internet helped in receiving information, enhancing social interaction between visually impaired students and sighted people and improving their participation in the society. On other hand, it became a source of digital divide and added extra cost on students through the use of adaptive technology. There was a need to consider the need, capacities and knowledge of visually impaired students while designing technology.¹⁷

Beck-Winchatz and Riccobono (2008) delineated issues of visually impaired students in the stream of Science, Technology, Engineering and Math. Despite of the interest in these streams, visually impaired students confronted problems like inaccessibility of classroom materials, unavailability of materials, limitation of graphical information, unfamiliarity of teachers with non-visual learning techniques, lack of confidence, expensive education and lack of confidence. The partnership of NASA and consumer directed organization would improve qualities and opportunities for people with visual impairment.¹⁸

Sahasrabudhe and Palvia (2013) conducted qualitative study on five blind students of India and subsequently an online survey on 27 visually blind individuals to understand their academic problems in reading, writing, learning math and science due to blindness and strategies for resolving these problems in higher education. Participants faced inabilities or difficulties in reading written or electronic materials, in taking notes or writing exam, learning concepts of maths or science, understanding accounts and conducting experiments. Along with blindness, unavailability of educational material and resources, visual nature of the curriculum, lack of skill, negative attitude of instructor and risk in experiments identified as a cause of these problems.¹⁹

Otyola et al. (2017) carried out a cross sectional study among 200 respondents, consisting of 50 visually impaired students, 50 lecturers, 50 University administrators and 50 non-visually impaired students in Makerere and Kyambogo University of Uganda. The authors identified the constraining limitations that faced by visually impaired students from the viewpoint of selected respondents. Lack of skill in using Braille, inadequate availability of material and resources, problem of writing during lecture and exam, lack of mobility, insufficient trained staff, non cooperative staff and negative attitude were recognized as a problem.²⁰

Aim & Objectives:

To explore the problems of visually disabled students in the educational domain.

To identify the problems faced in availing services for visually disabled students.

Method and material:

An exploratory study was conducted among visually disabled students from the institute for the blind, different colleges and Panjab University of Chandigarh. Both purposive and snowball sampling technique was used. About 53 visually disabled students of school, colleges and Panjab University were interviewed from 1st August 2018 to 31th January 2019 (including data interpretation and analysis). A total of 39 visually blind students of Institute for the blind were interviewed purposively. Around 14 visually blind students of

colleges and Panjab University were selected through sampling technique of snow ball for interview. Researchers took one hour to two hour for interview with respondents. Both closed and open ended questions were asked in the interview. The collected data were descriptively analysed and *T-test*, *two-tailed Karl Pearson's correlation coefficient* and *Spearman's Rank correlation coefficient* were also used. The *percentage*, *mean*, *median*, *standard deviation (SD)*, *standard error (SE)*, and *significance (P value)* were interpreted by using SPSS (Statistical Package for Social Sciences).

Results and discussion: The results and discussions as per the study conducted and responses given by interviewed visually disabled students of different institutions of Chandigarh about the problems faced during their studies as well as daily life. The results and discussions are as follows:

Table 1: Socio-demographic profile of visually blind students of various institutes on the base of region:

Permanent residence	Religion		Gender		Total	
			Male	Female		
Urban	Hindu	Age	13 – 17	4	2	6
			18 – 22	1	1	2
		Total		5	3	8
	Sikh	Age	13 – 17	2		2
			18 – 22	2		2
		Total		4		4
	Muslim	Age	18 – 22	1		1
		Total		1		1
	Do not want to disclose	Age	13 – 17	2		2
			18 – 22	1		1
		Total		3		3
	Total	Age	13 – 17	8	2	10
			18 – 22	5	1	6
		Total		13	3	16
Semi-Urban	Hindu	Age	13 – 17	0	1	1
			18 – 22	1	2	3
		Total		1	3	4
	Sikh	Age	18 – 22		2	2
		Total			2	2
	Muslim	Age	18 – 22	1		1
		Total		1		1
	Do not want to disclose	Age	18 – 22	1		1
		Total		1		1
	Total	Age	13 – 17	0	1	1
			18 – 22	3	4	7
Total			3	5	8	
Rural	Hindu	Age	13 – 17	5	7	12
			18 – 22	4	3	7
		Total		9	10	19
	Sikh	Age	13 – 17	1	2	3
			18 – 22	0	1	1
			23 – 27	0	1	1
	Total		1	4	5	
	Others	Age	13 – 17	1		1
		Total		1		1
	Do not want to disclose	Age	18 – 22	1		1
			23 – 27	3		3
Total			4		4	

	Total	Age	13 – 17	7	9	16
			18 – 22	5	4	9
			23 – 27	3	1	4
		Total	15	14	29	
Total	Hindu	Age	13 – 17	9	10	19
			18 – 22	6	6	12
		Total	15	16	31	
	Sikh	Age	13 – 17	3	2	5
			18 – 22	2	3	5
			23 – 27	0	1	1
		Total	5	6	11	
	Muslim	Age	18 – 22	2		2
		Total	2		2	
	Others	Age	13 – 17	1		1
		Total	1		1	
	Do not want to disclose	Age	13 – 17	2		2
			18 – 22	3		3
			23 – 27	3		3
		Total	8		8	
	Total	Age	13 – 17	15	12	27
			18 – 22	13	9	22
23 – 27			3	1	4	
Total		31	22	53		

In *table: 1*, there were 31 male and 22 female students ($SD = 0.497$ and $SE = 0.068$) who belonged to different age group from 13 to 24 years (Mean age=17.96, Median=17.00, $SD=2.731$ and $SE=0.375$). Among respondents, 31 respondents were Hindu, 11 respondents were Sikh, and two respondents were Muslim. Eight respondents did not disclose their religion and one respondent belonged to other religion. About 54.7% of respondents belonged to rural areas while 30.2% and 15.1% belonged to urban and semi-urban of Chandigarh, Punjab, Himachal Pradesh, Haryana and other neighbouring states ($SD = 0.897$ and $SE = 0.123$). A total of 71.7% respondents were living in the hostel of educational institutes, while only 28.3% of respondents lived with their family. In the study of Bhalerao et al. (2015), about 72.22% respondents were male and 27.78% were female. Around 78.89% respondents belonged to rural area and 21.11% belonged to urban.²¹ The findings of present study also showed the prevalence of male and rural respondents in the interviewed respondents and age, gender and residence were statistically significant ($p\text{-value} \leq .000$).

Table 2: Educational qualification of participants

Class in which respondents studied	Educational institute			Total
	Institute for the Blind	Colleges	Panjab university Chandigarh	
8	8	0	0	8
9	8	0	0	8
10	7	0	0	7
11	9	0	0	9
12	7	0	0	7
Graduation	0	7	0	7
Post-Graduation	0	0	7	7
Total	39	7	7	53

Table 2 describes educational details, such as educational institutes and class in which visually blind students were studying. Among respondents, 73.6% were studying in the Institute for the blind, 13.2% were

studying in the colleges and 13.2% were studying in Panjab University of Chandigarh. There were 43.4% students studying between class 8th to 9th, 30.2% students studying between class 11th and 12th, 13.2% students pursuing graduation and 13.2% students pursuing post graduation.

Table 3 Clinical description of respondents

Onset of Blindness	Type				Total
	Completely blind	Partial Blind	One eye completely blind	One eye completely blind and other partial	
From Birth	15	19	1	1	36
During infant to childhood stage	3	1	0	0	4
During childhood to adulthood	5	8	0	0	13
Total	23	28	1	1	53

Table 3 explains the clinical detail about blindness of respondents. Among the respondents 67.9% were blind from birth. While 24.5% and 7.5% of respondents lost their vision during childhood to adulthood and during infant to childhood stage. There were 43.4% completely from both eyes, 52.8% were partial blind from both eyes and 3.8% were completely blind from one eye and partial blind from other eye.

Figure 1: Type of blindness among respondents

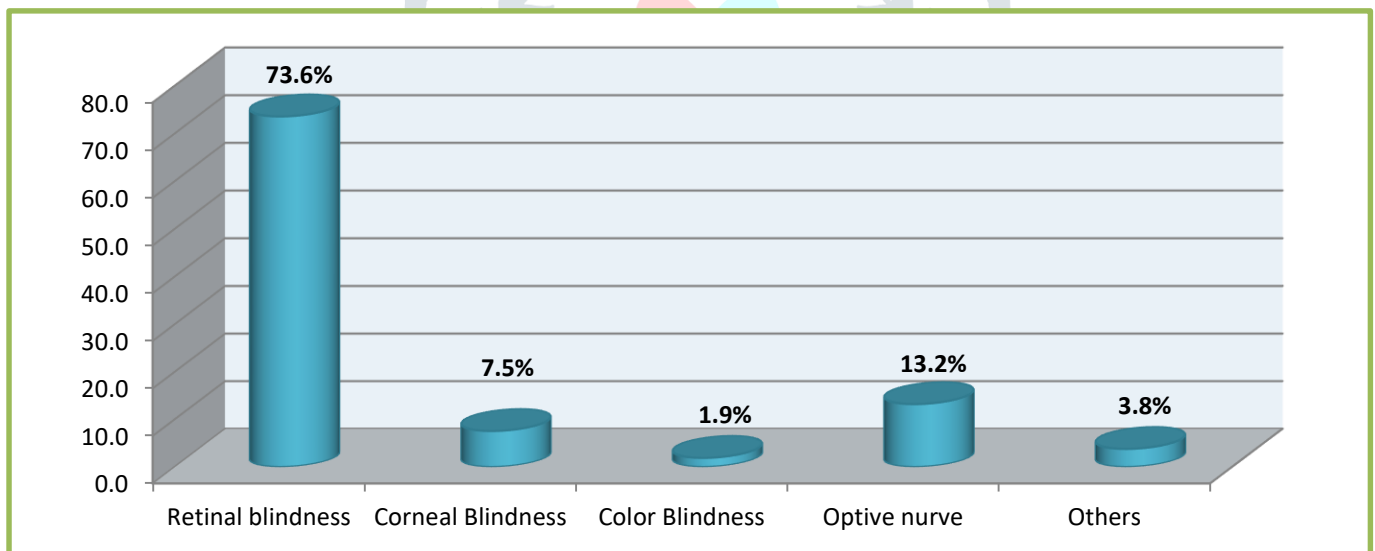


Figure 1: reflected nearly about 73.6% respondents having retinal blindness, 13.2% having problem in optive nerve, 7.5% having corneal blindness, 3.8% having other blindness and 1.9% colour blindness.

Figure 2: Reason behind the blindness among respondents

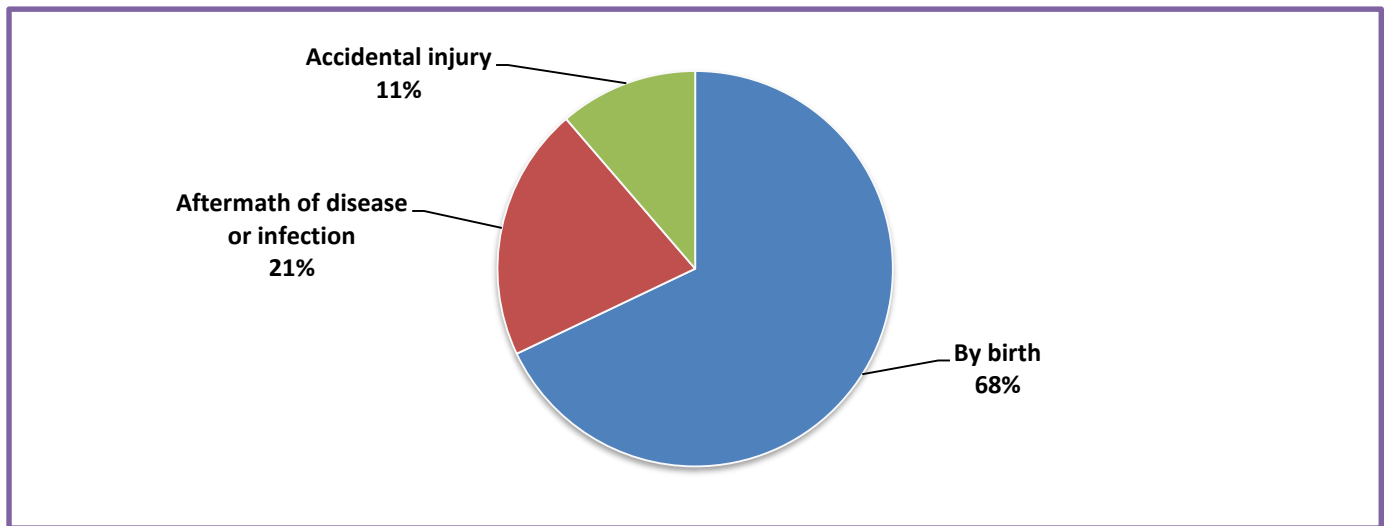
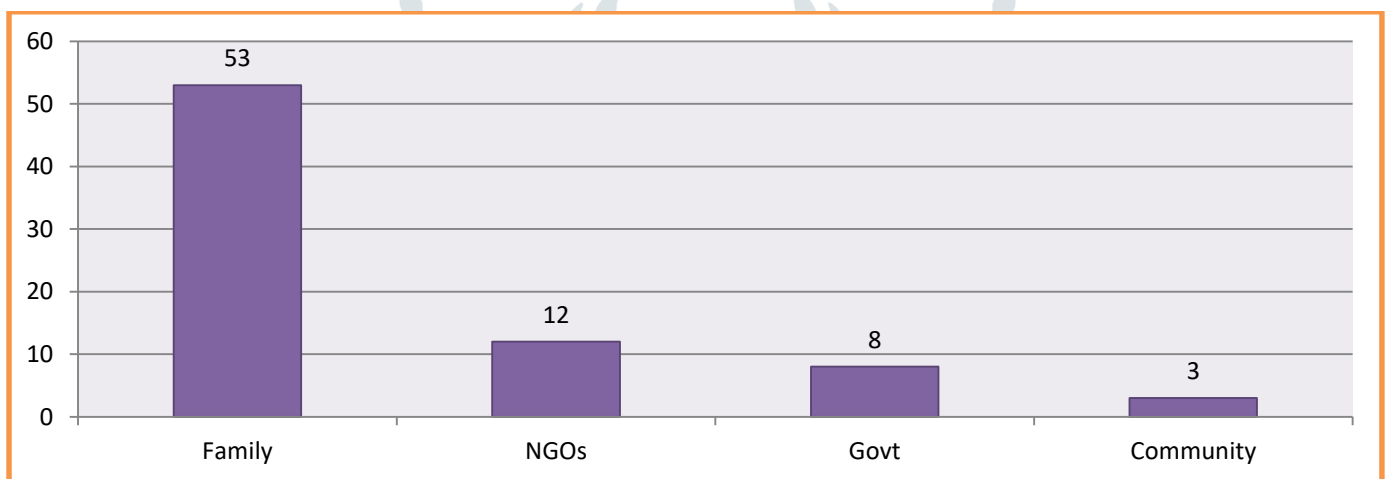


Figure: 2 showed the reason of the blindness, around 68% respondents out of total were blind by birth, 21% were blind due to infection or disease and 11% were blind due to accidental injury.

Figure 3: Agencies providing support in the form of nutrition, treatment and education



**Figures shows multiples responses of respondents*

Figure 3: showed the response of respondents in the support of nutrition intake, treatment and health. The correlation between blindness and reason for blindness were statistically significant i.e. 0.05 with agencies, such as family, NGOs, govt. and community. All 53 respondents reported that their families supported them in nutritional intake, treatment and education. Out of 53 respondents, 40 respondents were living in the hostel of educational institution. About 70.0% of respondents living in hostel of the Institute for the blind were living free in the hostel and received diet freely (*see in table 4*). Rest of respondents either living in home and hostel of colleges and university, respondents depended on their family for providing food and paying the expenditure of food. Family members, especially parents took respondents for the treatment of eye and incurred the expense of treatment. Family members, friends and teachers helped respondents in taking notes and preparing for any examination, competition and quizzes. Respondents used technology and internet for academic and recreational purposes. Along with family, NGOs also supported them as per 22.6 % respondents, followed by government and community as per 15.1% and 5.7% respondents.

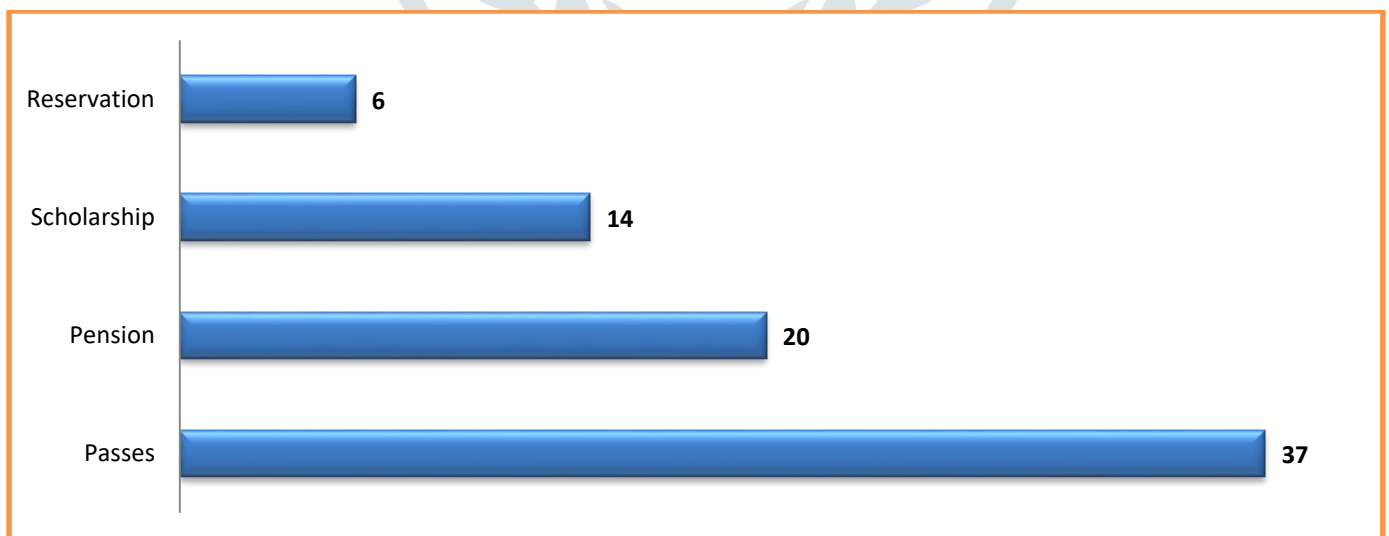
Table 4: Cross tabulation of living arrangement and educational institution

Educational institutions	Living arrangement		Total
	Home (%)	Hostel (%)	
Institute for the Blind	11 (84.6%)	28 (70.0%)	39
Colleges	0(0%)	7(17.5%)	7
Panjab Universities	2 (15.4%)	5 (12.5%)	7
Total (%)	13 (100%)	40 (100%)	53

Table 5: Cross tabulation of gender and availing govt. scheme and facilities

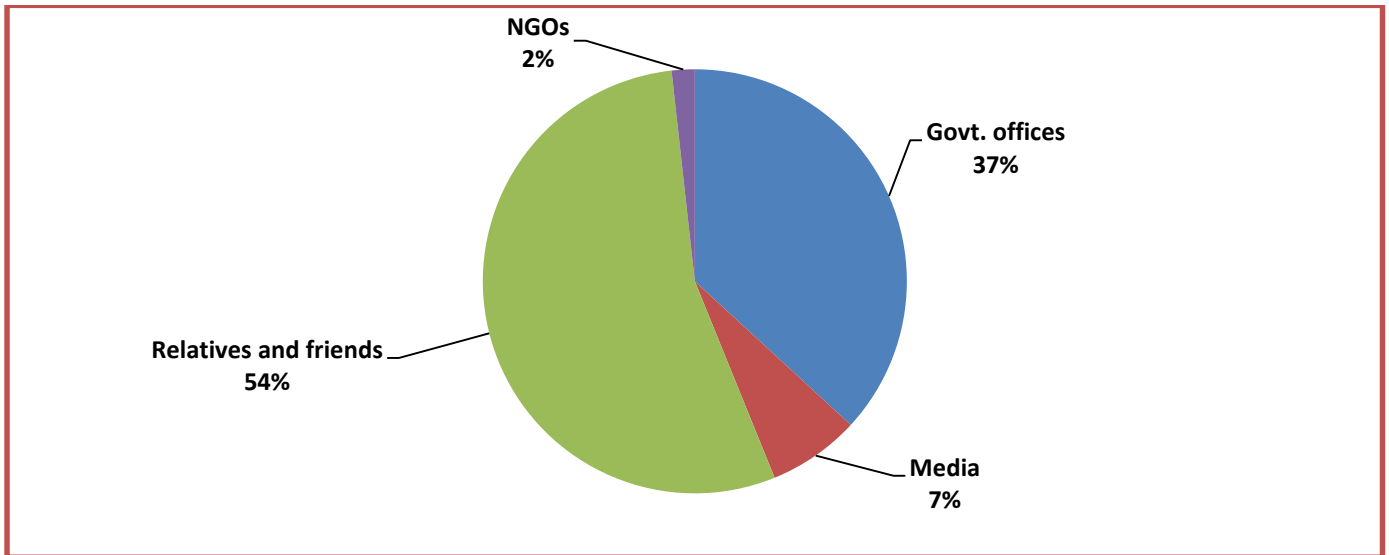
Availing scheme	Gender		Total (%)
	Male (%)	Female (%)	
Yes	27 (62.8%)	16 (37.2%)	43 (100%)
No	4 (40.0%)	6 (60.0%)	10 (100%)
Total	31	22	53

Approx. 43 visually disabled students were availing available government schemes and facilities, such as reservation, passes, pension, and reservation (SD= 0.395 and SE= 0.054). Among respondents availing scheme and facilities, 62.8% were male and 37.2% were female (*see table 5*). Around 37 respondents were getting the benefit of bus or train passes for free transportation, 20 respondents were receiving pension, 14 students were getting scholarship and six respondents had taken the benefit of reservation in higher education (*see fig. 4*). There are multiple factors which influence strategies and responsible for the limited use of solutions, such as informative technology among visually blind students. These factors are the extent of visual disability, knowledge, availability and affordability of resources and lack of assistance. Affordable and accessible technologies, parental support and progressive NGOs could play an important role in the education of visually blind students.¹⁹

Figure 4: Available govt. scheme and facilities for visually disables

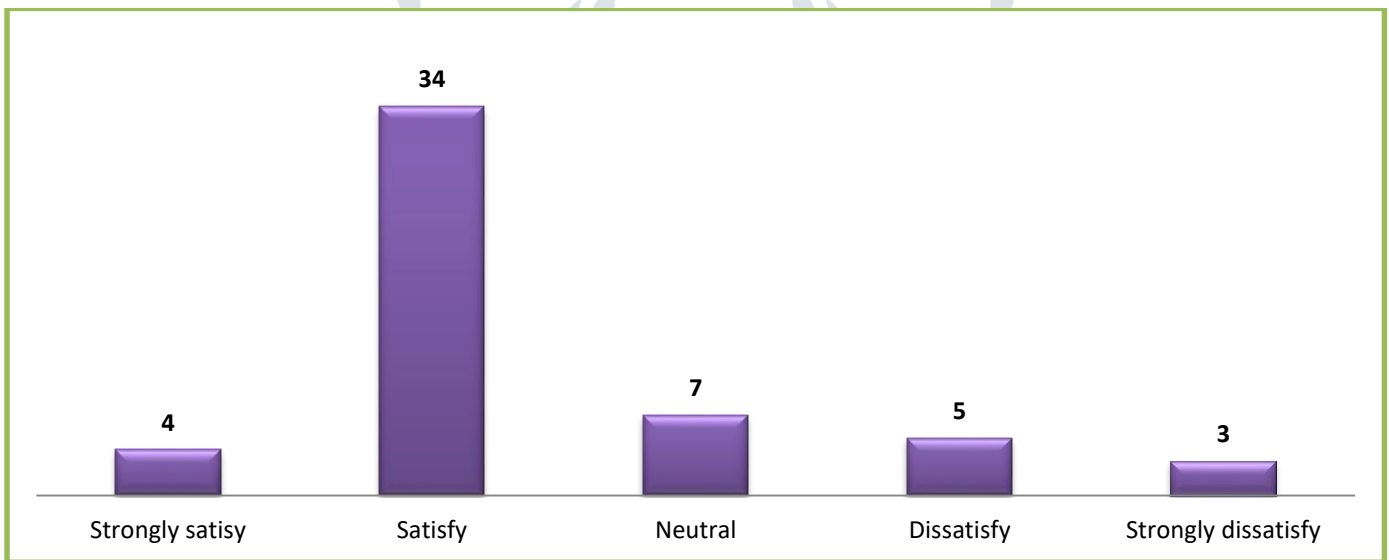
*Figures shows multiples responses of respondents

Figure 5: Knowledge of institutions available for visually impaired students

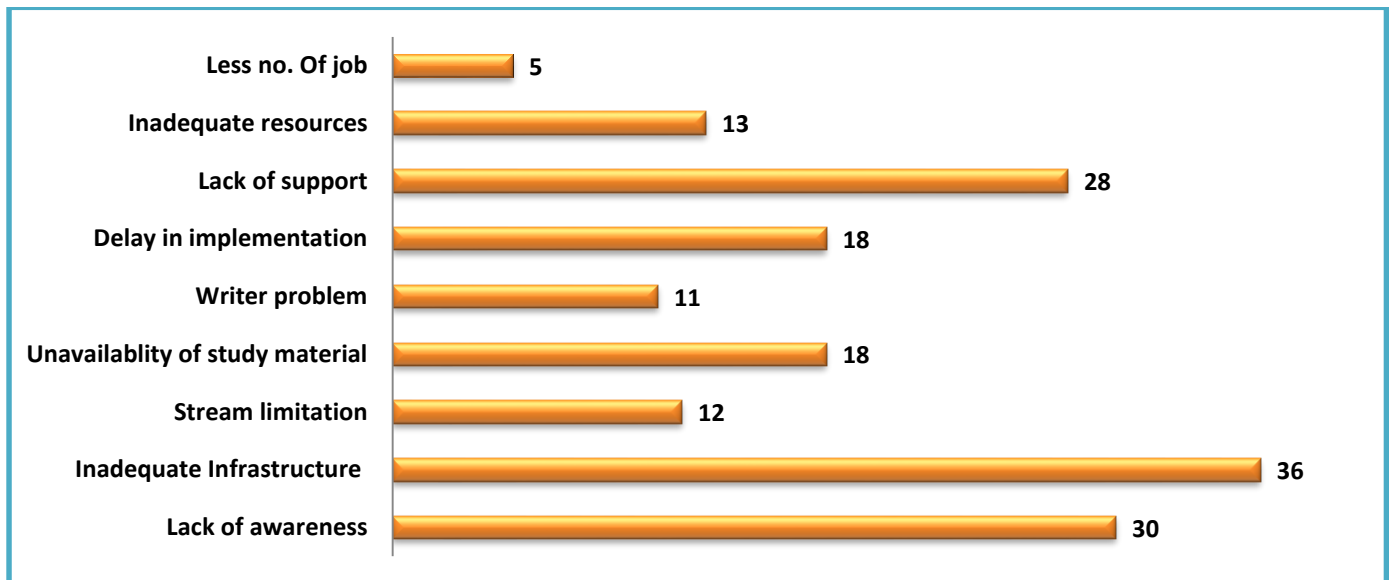


Friends and relatives (54%) and govt. officials (37%) were the main source of information about schemes and facilities, followed by social media and NGOs, respectively 7% and 2% (see fig. 5).

Figure 6: Satisfaction level of respondents over current services and schemes



About 64.2% and 7.5% of respondents were satisfied and strongly with available schemes and facilities (SD= 0.969 and SE= 0.133). Around 50% of respondents who were satisfied with available facilities and schemes faced stigma in the family and society. The level of satisfaction was statistically correlated and significant (i.e. 0.05), with the availing of govt. scheme and facilities.

Figure 7: Problems encountered by respondents during study and availing services.

There were (67.9%) respondents faced the problem of inadequate infrastructure for example, Ramps, premises, transportation, unfriendly washrooms, problem in walking on roads and crossing the roads, etc. Nearly around 56.6% respondents responded to lack of awareness regarding schemes and their application procedure, 52.8% respondents responded to lack of support for example, few responded to lack of sports and physical activity facilities in institution and some responded that lack of health facilities in rural areas, delay in implementation of policies faced by 34% respondents and 34% respondents had an unavailability of study material. These were identified as major problems that respondents confronted in education and availing facilities and scheme.

Around 24.5% respondents faced the problem of inadequate resources, (22.6%) respondents had a stream limitation and problems e.g. limited subject available to study (lack of graphical subjects), (20.7%) respondents confronted the problem of writer unavailability in academic exams, sometimes available but had lack of coordination with writer and (9.4%) respondents had issues with the availability of less number of jobs (*see fig. 7*). Even respondents who were satisfied with available facilities and schemes were also faced problems while availing for scheme and accessing facilities like education, hostel, transportation etc. Visually impaired students of colleges and university responded that they had to face problem in making notes and receiving materials.

Dick and Kubiak (1997) addressed the need of teaching aids and resources to make visually blind students independent in comprehending education, especially mathematics. Visually blind students lacked in spatial understanding which make it difficult to learn graphic representation. It was important to understand the nature of blindness and visual limitation for teacher in teaching visually blind students. Teaching aids and resources are Perkins Brailier, textbooks in Braille or in tape record, talkative scientific oversized calculator, graphing and drawing aids embossed braille paper, with rows and columns of raised dot, Mylar paper, heat-sensitive paper, 'Hot' pens, Nomad touch pad, the Brandon slate, Juliet printer, TeleSensory's braille printer and so on .There was a need of availability and constant advancement in teaching aids and resources as per need. ²²

Abramo (2012) also talked about the need of restructuring the public space, especially building, entrance, ramp, etc. and educational material, such as musical instruments for empowering the students with disability. Language should be used carefully and appropriately for inclusive teaching and curriculum. The author used social model perspectives defining disability from the point of social position. This perspective provided new approach to view impairment i.e. losing arm or vision and disability i.e. social process created barriers in accessing separately. There was a shift in transforming responsibility from students and their impairments to educational institutions for enabling students with disability in realising their potential.¹⁰

Table 6: Place of resident wise cross tabulation of stigma faced by respondents

Permanent residence	Stigma		Total
	Yes (%)	No (%)	
Urban	8 (28.6)	8 (32%)	16
Semi-urban	4 (14.3%)	4 (16%)	8
Rural	16 (57.1%)	13 (52%)	29
Total (%)	28 (100%)	25 (100%)	53

Around 28 visually disabled students faced stigma overtly and covertly within family, educational institution, neighbourhood and society and the result was statistically significant as (p value was .000) in T-test, (SD= 0.504 and SE= 0.069) while comparing stigma with blindness. Out of 28 respondents, 57.1% of respondents from rural area faced stigma, while 28.6% of respondents from urban and 14.3% respondents from semi-urban experienced stigma (*table 6*). Around 50% of respondents who were satisfied with available facilities and schemes faced stigma in the family and society. There is a need to change the traditional attitude of family members and society to view disability.¹¹

Table 7: Cross tabulation of suggestive solution and gender

Suggestive solution	Gender		Total
	Male (%)	Female (%)	
Preventive measure	2 (6.4%)	2 (9.1%)	4
Treatment	2 (6.4%)	0 (0)	2
Strengthening support system	7 (22.6%)	3 (13.6%)	10
Making civil and blind friendly society	20 (64.6%)	17 (77.3%)	37
Total (%)	31 (100%)	22 (100%)	53

Out of 53 visually blind students, 37 students wanted the civil and blind friendly society to live. There was more preference for civil and friendly society among female respondents than male (*Table 7*). The suggested solution and gender were statistically significant (P value was .000) with age, gender, residence and availing services. Around 63.1% of satisfying respondents with available schemes also wanted the civil and blind friendly society. Available pensions and scholarships were not met the requirement of individuals with disability. The notion of empowerment and right gain the importance in government's approach towards disability. But its orientation to disability is of charity for uplifting the life chances of students with disability.²³

Conclusion: The present study contours various issues and problem of visually impaired students of Chandigarh. Visually impaired students were confronting different problems like defective infrastructure, lack of awareness among govt. offices and people regarding govt. schemes and policies, delay in implementing schemes and policies, stream limitation, limited availability of study materials, lack of writer's availability and so on. There is a need of fair, just and inclusive education system which can improve opportunities for people with visual impairment. The adequate representation of people with disability in the government and policy makers will strive to improve the present situation. Trained staff and administrator can reduce the burden of people with disability while availing services and facilities.²⁰ The right based approach and the integration of all community based programmes on health, education, economic and social can resolve issues of visually impaired population. People with visual disability from the age of zero to twenty nine are frequently dealing with stigma, oppression and exclusion. Society and state should be focused on their needs, such as education, job and health.²⁴ The infrastructure of building, transportation and social milieu should be redeveloped as per the requirement of visually impaired people. Contemporary society is technological advanced, with the affordable and assessable technology the life of visually disables could be easier as well as this could make them self-sufficient.

There is a need to bring awareness among general public, particularly among professionals in govt. offices regarding the procedure of govt. schemes and policies. Even development of each region, especially rural area can promote the participation of people with disability in the function of society without any discrimination. Infrastructure, educational resources and exam pattern should be modified according to the need of visually blind students which make them more independent. The surrounding population should be sensitized towards the actual needs of visually disabled person. The active participation of non-governmental organizations can play a significant role in this context. This will step towards the development of civil and friendly society.

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