

Common Problems Faced By Visually Impaired People

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Abstract. *Visual Impairment has long been treated as a deterrent to normal functioning in human beings especially in the participation & economic productivity domains. However, with the advent of Braille & other supportive technologies, loss of vision is no longer a hurdle in gaining education as well as gainful employment. The societal participation of these differently abled individuals makes it imperative that we study various hurdles faced by these individuals in social context, whether it is ambulation, transportation or working in organized sector. Aims & Objective: To study various hurdles faced by visually impaired individuals during ambulation, while using public transports & while working in organized sectors. Methodology: A survey study using a pre validated questionnaire on 30 completely blind subjects (as defined by Disability Act), who were working in organized sectors. Conclusion: The visually impaired faced difficulties in ambulation on pavement because of uneven surfaces, open manholes, parked car, vendors etc. Difficulties faced while using public transports included height of boarding platform, inadequate reservations, lack off announcements etc. Difficulties while working in organized sectors were lack of confidence & inadequate interactions with colleagues & superiors leading to low caliber work being given to them thus hampering their career enhancement.*

Keywords: Visual impairment, employed, Ambulation in visually impaired, transport in visually impaired, education

1. Introduction

Visual impairment is vision loss to such a degree as to qualify as a significant limitation of visual capabilities resulting from disease, trauma, congenital or degenerative conditions that cannot be corrected by conventional means such as refractive correction or medications.

In India, the broad definition of visual impairment as adopted in the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 as well as under the National Program for Control of Blindness (NPCB) refers to a condition where a person suffers from any of the following conditions, namely: Total absence of sight; or Visual acuity not exceeding 6/60 or 20/200 (Snellen) in the better eye even with correction lenses; or Limitation of the field of vision subtending an angle of 20 degree or worse.⁽¹⁾

Vision is important not only to see objects but for dark adaptations, contrast sensitivity, balance and color perceptions. Though all these functions are lost in visually impaired people, yet they rely on other senses to carry out not only their activities of daily living but also participate in economically gainful employment. Despite the organic causes of visual impairment, most affected subjects are able to carry out their activities (basic, instrumental and even economically productive) through compensatory role of their non-visual modalities. This is amply evident through the usage of Braille, wherein simple tactile information is converted into meaningful patterns that have lexical and semantic properties mediated by the somatosensory system⁽²⁾

With the advent of various assistive devices and skills like Braille, the visually impaired are more likely to find gainful employment for themselves. As these subjects move out in society they are bound to face some hindrances in their modes of ambulation and transport as well as their

interactions with their colleagues in their workplace. So in order to assess these problems, we carried out this survey based research.

2. Review of Literature

1. Salive, Marcel E et al in their research on Association of visual impairment with mobility and physical function found that Limitations in mobility, activities of daily living, and physical performance were associated with worse visual function^[10]
2. H T V Vu et al in their research Impact of vision loss on quality of life of affected subjects concluded vision loss was associated with nursing home placement, emotional wellbeing, use of community services, and activities of daily living^[11].
3. Problems of Unemployment Faced by Visually Impaired People by*Emmanuel Munemo and Tom Tom. This study helped to reveal valuable information about visually impaired people and unemployment. It demonstrated what visually impaired people were capable of doing well at the work place. It also exposed the problems of the visually impaired in finding jobs.

2.1 Aim

To study the common problems faced by visually impaired people during ambulation, using public transports and working in organized sectors.

3. Methodology

- **Study Design:** Survey based retrospective
- **Sample Size:** 30 Subjects
- **Study Subjects:** Visually Impaired subjects working in nationalized bank, call centre, RBI etc.

- **Ethical Clearance:** Ethical clearance for the study was taken from the Ethics committee of D.Y.Patil University, Department Of Physiotherapy.

3.1 Procedure

A self drafted questionnaire was validated by two experts and pilot study was conducted by face to face method. Modifications were made in the questionnaire as per the suggestions from pilot study.

3.2 Data Representation & Analysis

A total of 30 subjects were enrolled in the study. Data were collected on standardized forms and encoded for computerized analysis Descriptive analysis of the data was done using mean, standard deviations & percentages using GraphPad Instat Version3.10, 32 for Windows. Tables were

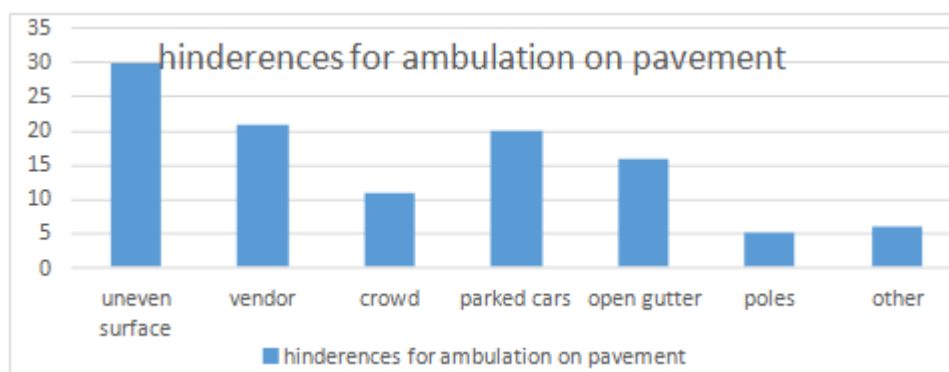
made using Microsoft word and figures were plotted using Microsoft Office Excel 2007.

3.3 Demographic Details

70% of the study subjects are males and 30% are females. Age. The average age of the study subjects was 42±9 years Education Qualification. According to the study, 10% of the subjects were HSC, 60% were graduates & 30% were Post Graduates in terms of education.

3.4 Analysis of problems associated with Ambulation

The analysis of data showed that none of the 30 subjects used cane/stick while ambulating inside the house(familiar surroundings). However, all the 30 subjects used stick/cane while ambulating outside house(dynamic external environment).

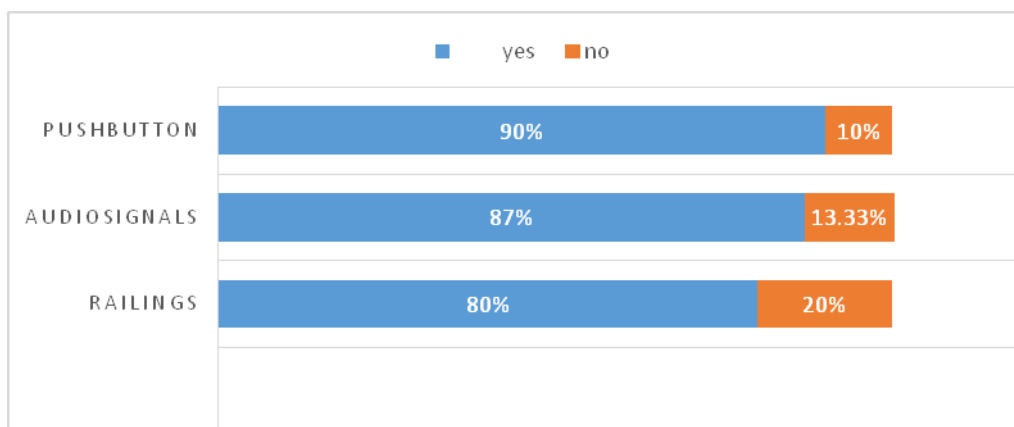


Graph 1: Hindrances-Ambulation on Pavement

3.5 Inference

According to the graph,30 (100%)subjects reported uneven surface, 21(70%) reported vendors, 11(37%) reported crowd,

20(67%) subjects reported parked cars,16(53.33%) mentioned open gutter,5(17%) had poles,6(20%) mentioned other problems like beggars as hindrances for their ambulation on pavement.



Graph 2: Preferences expressed by subjects for Amenities on Road

- **Inference:** From the study we found that 80% subjects would like more railings on pavement, 87% would like audio-signals and 90% stated that they would like pushbutton concept in India.
- **Height of Boarding Platform:** From the study we infer that,47% of subjects found the height of the boarding platform in buses is too high. According to the study, in case of trains, 70% of the subjects thought the boarding platform was too high to safely get into the train.40% of

- the subjects thought that the boarding platform of rick/taxi was too narrow/too high for safe & comfortable boarding.
- **Reservation of Seats.** From the study we found that 47% of subjects feel the reservation of seats in various public transport is inadequate and needs to be increased.
- **Office Based Issues.**
- **Equality amongst peers.** The study shows that more than 40% of the study subjects feel pressure of proving equal to their sighted colleagues in the office.

- **Quality of Life.** The data analysis of the results shows that more than 47% of study subjects are not satisfied by their Quality of life with the current infrastructure facilities and the work atmosphere.

4. Discussion

This research aimed to study various hindrances faced by the subjects with impaired vision in their modes of ambulation and transport as well as their interactions with their colleagues in their workplace. So in order to assess these problems, we carried out this survey based research. Data Analysis of the information collected through the questionnaire showed:

The gender based percentage of males: females subjects with impaired vision working in organized sector, could be reflective of general demographics seen in India where males are generally considered to play the role of bread earner of the family. The research showed that all the study subjects were well educated with graduate as well as Post Graduate degrees. This could be attributed to the fact that visually impairment is no longer a hindrance/ hurdle in the way of gaining education life of. These statistics also shows that there is availability of infrastructure for visually impaired to pursue their academic interest and shows concomitance with the inclusive criteria of working visually impaired.

The Income wise distribution of the study subjects showed that none of our study subjects were from high income group. This may be inferred as that though these subjects do get employment in organized sector especially because of the reservation for the visually disabled, however the career enhancement does not occur as it does in normal visioned subjects. Also there are limited job opportunities for these subjects and mostly in government sector like nationalized banks, sales office etc. have reservations for disabled people where they are usually employed in low to middle level jobs and their promotion to the highest chronological orders is limited.

The study also found that none of the subjects used stick while ambulating inside house. This could be probably due to the fact that they become accustomed and adapted to their environment. However 100% of the study subjects reported use of cane while ambulating on roads due to unexpected potholes, open manholes, irregular surfaces, unmanned crossing and no family help on roads.

The subjects with impaired vision also reported a hard time on pavements. It was reported that, the major hindrance were uneven surfaces, open gutters hawkers, parked cars. Other minor issues were crowd, poles, beggars sleeping on roads etc. This factor become hurdles for these subjects, and increases the risk of falling and injury hence, sometimes they refuse to use pavements.

When taken suggestions for new road amenities like pushbutton on crossings, audio-signals on roads and railings between road and pavement were some infrastructural add-ons that these subjects wish to be introduced by the authorities to make ambulation on roads easier. A railing along the pavement and between roads and

pavement is very helpful for the blinds to distinguish between road and pavement. Audio-beepers are present in some railway stations near the handicap compartment but, still not seen as a uniform feature on railway stations all over India. With different types of buses and with different designs, it becomes difficult for the subjects to judge the height of boarding platform. Other problems with bus includes no announcements in buses and bus stops, buses not stopping at proper bus stops, inadequate seats etc.

4.1 In the trains, they mentioned the following lacunas:

The boarding platform of the trains at some platforms is too high. There is lack of markings between platform and tracks. There exists non-uniform height of steps on bridges at platforms making it difficult to climb & descend and with the crowd it becomes increasingly difficult for them to ambulate on railway stations

They also complained that the seats reserved for them are sometimes occupied by the normal visioned. Subjects mentioned that though majority of the co-travelers(69%) in public transport were co-operative, there was a large proportion of them (31%) who thought that the general public was not empathic enough towards them.

Hence, it is important to sensitize the general public about the special needs of these subjects as they travel with them as fellow passengers. This is of prime importance if we wish to cater to full integration of these subjects into the broader society. 27% of subjects had work related discomfort like pain in head, neck, shoulder, finger, knee. These individuals have a sedentary desk job and all the above mentioned are the complaints that are seen hat would occur in otherwise sighted sedentary worker as well They usually work with sighted people,40% reported that they feel the pressure of proving equal to the sighted in terms of job.All they wish is that they are not seen with sympathy, but to be accepted as apart of society.

4.2 Clinical implication

The study has highlights problems faced by financially employed visually impaired during ambulation, transport and while working. On the basis of above mentioned findings we recommend following measures

- 1) Prevention is better than cure. Prevention of blindness with regular eye check up, controlling diabetes, increase intake of vitamin A, timely treatment of cataract.
- 2) Disabled Friendly Infrastructure: Approach the government to improve infrastructure in terms of quality of roads..Footpaths or pavement should be wide enough. Provide railings in between the roads and pavements. There must be Separate and well demarcated sections for hawkers so that they don't become hindrance for pedestrians. Ramps could be beneficial even for people on wheelchair. Uncovered manholes are a big threat to people walking on pavements. Parked cars on pavements should be avoided. Signboards must be provided in Braille at accessible height so that the subjects know that they are entering the right building. Light poles should be placed outside the pavement. Live wires should not be kept open as both sighted and visually impaired people

are at risk of getting shocks. Other changes include: Improve railway platforms with leveled surface, edges at the end of platform to be raised or some marker, audio-beepers to prevent risk of falling on tracks. Provide adequate seats in various public transport. Concept of pushbutton and audio signals should be implemented at crossings. On every bus stop and in buses there should be announcements as it is provided in railway stations this makes the visually impaired less dependent on sighted people.

- 3) Social changes : Blinds are essential members of society. Acceptance of blinds by sighted people and creating concern and an empathetic attitude towards the problems faced by blinds should be enhanced by creating awareness .Awareness can be achieved by showing short films of problems faced by blinds, posters ,etc so that more and more people are aware especially in rural areas where they hold religious myths against blindness.

5. Acknowledgement

We are extremely thankful to all our subjects for their valuable time and support without which this study would not have been possible.

6. Conflict of Interest

To the best of my knowledge, there were no known conflicts of interest encountered in the present research.

7. Source of Support

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References

- [1] www.bpaindia.org/VIB%20Chapter-I.pdf
- [2] Anu Arora, Mansi Joshi, Study of Sensory, Pain Thresholds and Pain Tolerance in Persons with Visual Impairment, International Journal of Science and Research (IJSR) Volume 3 Issue 7 July 2014 pg 1204-1207
- [3] Association of visual impairment with mobility and physical function. Salive, Marcel E.; Guralnik, Jack; Glynn, Robert J.; Christen, William; Wallace, R. B.; Ostfeld, A. M.
- [4] H T V Vu¹, J E Keefe¹, C A McCarty², H R Taylor¹, Impact of unilateral and bilateral vision loss on quality of life *Br J Ophthalmol* 2005;89:360-363 doi:10.1136/bjo.2004.047498
- [5] <http://learnecholocation.blogspot.in/>
- [6] www.unipune.ac.in/dept/Education_Extension/www/PWD.htm
- [7] <http://todayilearned.co.uk/2011/07/25/secret-button-for-blind-people-on-pedestrian-crossings/#sthash.LBIbxOup.dpuf>
- [8] http://www.who.int/features/factfiles/blindness/blindness_facts/en/index7.html
- [9] <https://nfb.org/images/nfb/publications/fr/fr02/issue3/f020305.html>

[10] <http://www.afb.org/info/living-with-vision-loss/braille/what-is-braille/123>

[11] [http://en.wikipedia.org/wiki/JAWS_\(screen_reader\)](http://en.wikipedia.org/wiki/JAWS_(screen_reader))

[12] Journal of the American Geriatrics Society, Vol 42(3), Mar 1994, 287-292

Author Profile



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