Acta Scientific Ophthalmology (ISSN: 2582-3191)

Volume 5 Issue 7 July 2022

Research Article

Facilities for Visually Impaired Students that are Available in University of Hyderabad Campus

Gavini Sahithi*

Assistant Professor, School of allied health sciences, Mallareddy university, Hyderabad, India

***Corresponding Author:** Gavini Sahithi, Assistant Professor, School of allied health sciences, Mallareddy university, Hyderabad, India.

DOI: 10.31080/ASOP.2022.05.0502

Received: February 04, 2022

Published: June 19, 2022

Abstract

Objective: To evaluate if visually impaired students are aware of the facilities provided to them by the University of Hyderabad and make them aware if they are not aware. To evaluate if visually impaired students are utilizing and satisfied with those facilities and to know if they seek improvement in any facility or require any new facility

Methods: This study was done on 30 visually impaired students in School of Medical Sciences, University of Hyderabad campus. BCVA was recorded using standard log MAR chart and the data was collected through a questionnaire.

Results: More than 80% subjects are aware of all facilities. Only few subjects i.e. less than 23% using braille books transport facility. More than 65% utilizing remaining all facilities. Majority of subjects has shown dissatisfaction for transport and braille books. The problems stated by more percentage of subjects are - no enough PCs, need other device to work on computer, no special transport, no all-time care takers, and no subject related braille books.

Conclusion: Majority of subjects are utilizing and satisfied with all facilities except transport and braille books. This study evaluated the problems, investigated the improvements and new facilities that are required and they need to be rectified by the concerned authorities

Keywords: Visual Impairment; Blindness; Low Vision

Abbreviations

AMD: Age Related Macular Degeneration; BCVA: Best Corrected Visual Acuity; CO: Corneal Opacities; DR: Diabetic Retinopathy; ECDAP: Empowered Committee for Differently Abled Persons; ICD: International Classification of Diseases; PC: Personal Computer; RE: Refractive Errors; VA: Visual Acuity

Introduction

Visual impairment

There are four levels of visual function according to international classification of diseases [1].

- Normal vision
- Moderate visual impairment
- Severe visual impairment
- Blindness

Moderate visual impairment combined with severe visual impairment are grouped under the term "low vision". Low vision combined with Blindness represents "Visual Impairment".

Definitions of visual impairment according to ICD-10 and WHO [2].

ICD-10

	Normal	Low vision	Blindness
BCVA	>= 6/18	< 6/18 and > 3/60	< 3/60
Visual field (degrees)	>= 30	< 30 and >= 10	< 10

Table 1

WHO

	BCVA	
	<	>=
Moderate low vision	6/18	6/60
Severe low vision	6/60	3/60
Social blindness	3/60	1/60
Blindness	1/60	Light perception
Total blindness	No light perception	

Table 2

WHO definition of low vision [3]

Visual acuity (VA) of less than 20/60 (6/18), but equal to or better than 20/200 (6/60), or visual field loss to less than 20 degrees, in better ye with best possible correction.

WHO definition of blindness [3]

Visual acuity of less than 20/400 (6/120), or visual field loss to less than 10 degrees, in better eye with best possible correction.

Causes of visual impairment [4,5]

Global causes of visual impairment including blindness as percentages of global visual impairment, 2010.

- Refractive errors (RE)-42%
- Cataract-33%
- Glaucoma-2%
- AMD-1%
- Corneal opacities (CO)-1%
- Trachoma-1%
- Diabetic retinopathy (DR)-1%
- Childhood-1%
- Undetermined-18%.

Global causes of blindness as percentages of global blindness in 2010.

- Cataract-51%
- Glaucoma-8%
- AMD-5%
- Childhood blindness and CO-4%
- Uncorrected RE and trachoma-3%
- DR-1%
- Undetermined-21%.

Consequences of visual impairment

Ability to participate in the daily activities and quality of life decreases because of visual impairment [6-8].

Quality of life of visually impaired people increases by providing certain facilities which are useful to them or by providing the rehabilitative services. WHO defines quality of life as "the individuals perception of their position in life in the context of their cultural and value system in which they live and in relation to their goals, standards, expectations and concerns" [9,10].

Statistics of visual impairment [11]

285 million people are estimated to be visually impaired worldwide, out of which 39 million people were blind and remaining 246 million people have low vision. In India 62 million people are visually impaired, out of which 8 million were blind and 54 million people have low vision.

Visual impairment in campus and facilities

In University of Hyderabad, nearly 60 to 70 students are visually impaired from a total of 4,500 students. Empowered committee for differently abled persons (ECDAP) is the special cell for all differently abled students in University of Hyderabad campus.

Following are the facilities provided to visually impaired students in campus [12]

- Established rooms with desktop PC's loaded with necessary software (JAWS, KRUZWELL etc.) to access academic material in library, some departments and hostels
- Transport facility for academic purposes
- Supportive devices

- Allowances to Scribes/readers, extra time in exams
- Care takers
- Braille books in library
- Hostel facility.

No one in this University has looked into the fact that if visually impaired students are aware of the above facilities and what problems they are facing if they are aware. This study helps to address the problems of visually impaired students and also helps to provide the solution/alternative to the existing problem. Hence the quality of life and ability to participate in academic activities increases

Objectives

- To evaluate if visually impaired students are aware of the facilities provided to them by the university administration
- To evaluate if visually impaired students are utilizing the provided facilities
- To evaluate if visually impaired students are satisfied with the facilities provided
- To evaluate if they seek improvement in any facility or require any new facility.

Review of Literature

Kehinde Adigun., *et al*. 2014, has done descriptive cross sectional study on 395 adult patients with ocular symptoms. The patients were interviewed using vision related quality of life questionnaire and found poor quality of life in patients with high degree of visual impairment (blind) when compared with low vision or near normal vision patients. This reported family physicians need to identify this visually impaired patients early and make them timely referrals [9].

Ecossee L. Lamoureux., *et al*. 2007, assessed first time referrals to low vision clinics before and after rehabilitation by two interviews (baseline and follow-up) to collect Impact of Visual Impairment (IVI) and reported the significant improvement in overall quality of life in low vision patients after providing rehabilitative services [13].

Methodology

This study was conducted at School of Medical Sciences, University of Hyderabad. This study was approved by institutional ethics committee (IEC), University of Hyderabad.

Informed consent was obtained from all subjects before participating in the study.

Sample

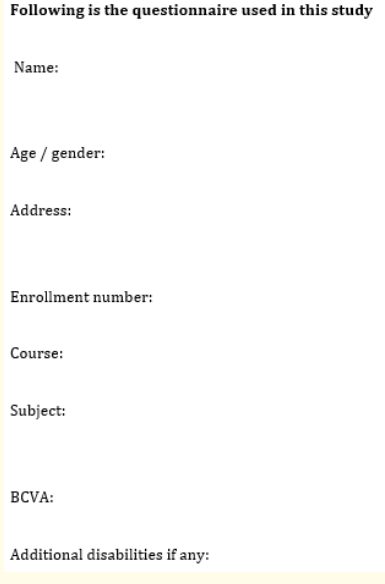
30 visually impaired students from University of Hyderabad.

Inclusion criteria

- BCVA of <6/18 and >= 6/120 for low vision
- BCVA of <6/120 for blind

Visual acuity and questionnaire

Visual Acuity was recorded using standard log MAR chart. Data was collected through a questionnaire (Annexure 1). The questionnaire has 2 parts


Following is the questionnaire used in this study

Name:

Age / gender:

Address:

Enrollment number:

Course:

Subject:

BCVA:

Additional disabilities if any:

ANNEXURE 1

- First part contains questions about demographic data
- Second part contains 11 questions

First question was about awareness of facilities provided by the University and the grading was

- Yes
- No
- Partly

Second question was about awareness and satisfaction levels of the provided facilities and grading was

- For utility
- Don't use
- Rarely use
- Using

For satisfaction

- Satisfied
- Partly satisfied
- Dissatisfied

Third to ninth questions has sub questions regarding a particular facility and the grading was

- Yes
- No

Tenth and eleventh are open ended questions. Tenth was about improvements in present facilities and eleventh was about requirement of new facilities.

Statistical analysis

All the reported data is in percentages.

Results

A total of 30 subjects were included in this study. In which 25 were male and 5 were female. Visual acuity of subjects was ranging from no light perception to 6/36 parts. The percentages obtained from the analysis are represented through bar graphs. This study found on average 80% were aware of all facilities provided to them by the university.

Figure 1: Awareness for different facilities. Black bar indicates the participants are aware of the facility, grey bar indicates the participants are not aware of the facility, white bar indicates the participants are partly aware of the facility.

Figure 1 shows that on average 80% are aware of all the facilities. Being aware of the facility is not enough. The facility being used by the visually impaired student is important. Figure 2 shows that the facilities are being used by 64% on average.

Figure 2 shows braille books and transport facilities were utilized by very few subjects.

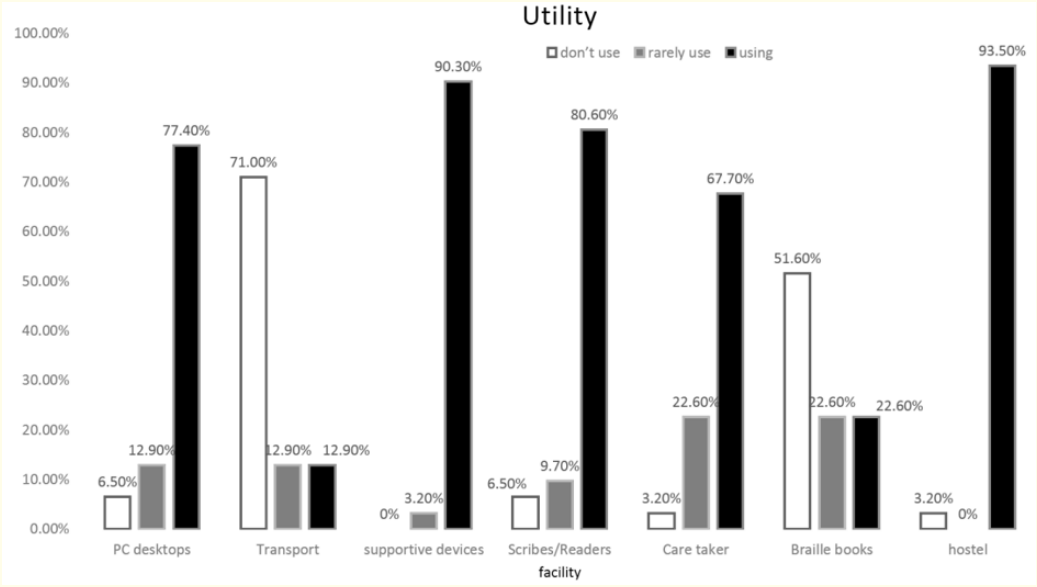


Figure 2: Utility of different facilities. The black bar indicates participants are using the facility. Grey bar indicates the participants are rarely using the facility. White bar indicates the participants are not using the facility.

Braille books were utilized by 22.60% and transport facility was utilized by 12.90%. Remaining facilities were utilized by majority of participants. Even if they use all facilities the effectivity of the facilities depends on the satisfaction level. Figure 3 shows the satisfaction level of different facilities.

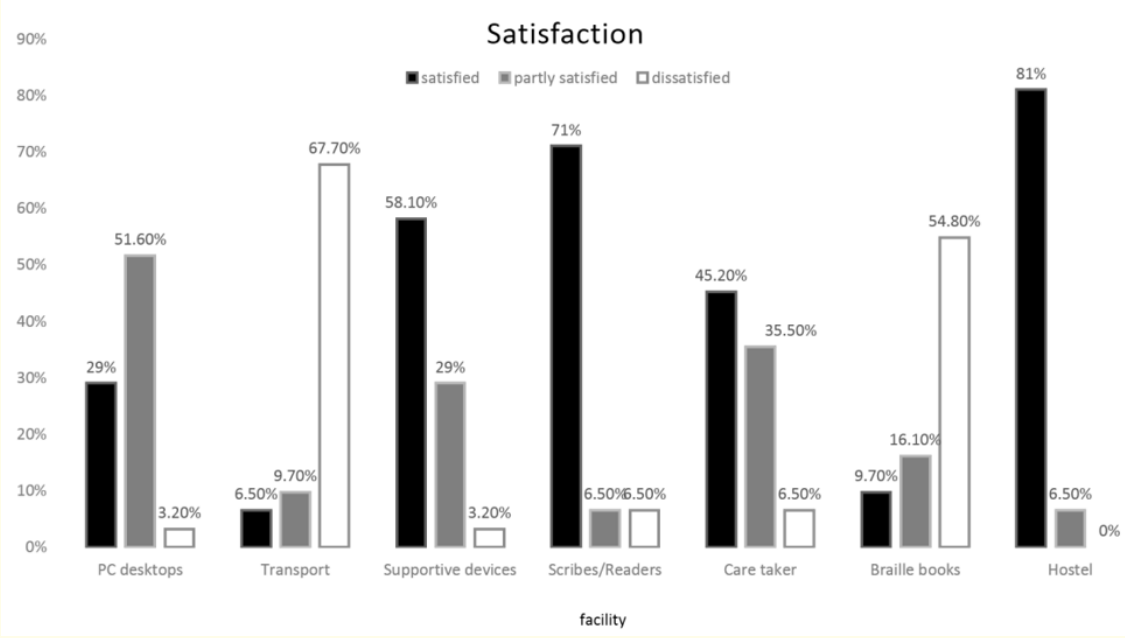


Figure 3: Satisfaction levels of different facilities. Black bar indicates the participants are satisfied with the facility. Grey bar indicates the participant are partly satisfied with the facility. White bar indicates the participants are dissatisfied with the facility.

Figure 3 shows 51.60% were partly satisfied with PC desktops, 67.70% were dissatisfied with transport facility, and 54.80% were dissatisfied with braille books. Majority of participants are satisfied with remaining 4 facilities. Even after showing the satisfaction with all facilities except transport and braille books, the participants have reported certain problems regarding all 7 facilities.

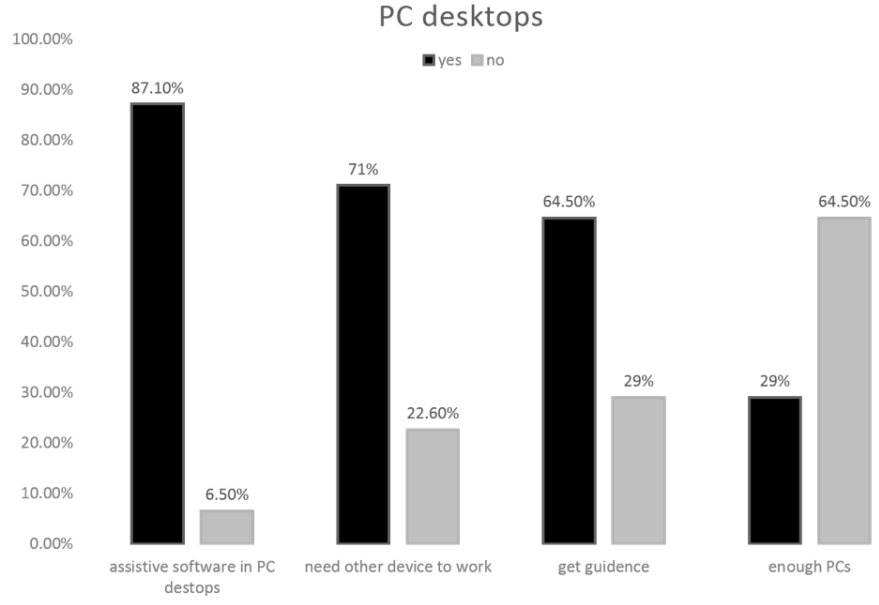


Figure 4: PC desktops. Black bar indicates response YES and grey bar indicates response NO.

Figure 4 shows 64.5% said that there are no enough PCs loaded with assistive software. 87.1% said that they found assistive software installed in PC desktops. 65.5% said that they get guidance to work on PC if required and 71% said that they need other device to work with computer.

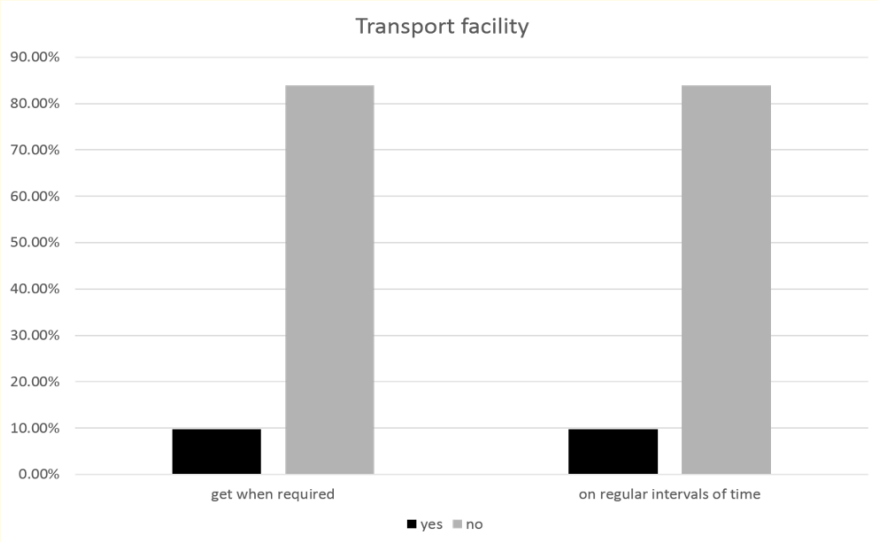


Figure 5: Transport facility. Black graph indicates YES response and grey graph represents no response.

Figure 5 shows 83.9% said that they don't get transport when required and it is not on regular intervals of time.

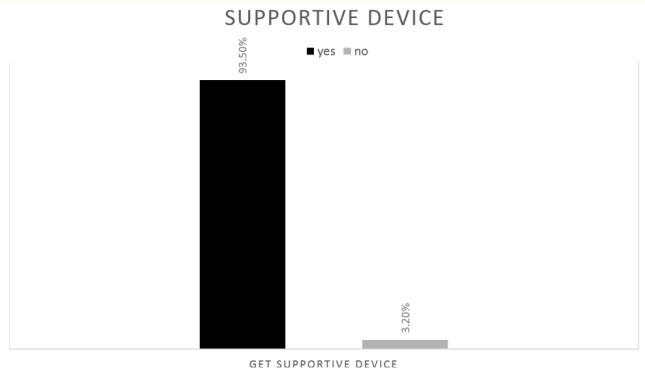


Figure 6: Supportive devices. Black bar indicates YES. Grey bar indicates NO.

Figure 6 shows that 93.5% got supportive devices.

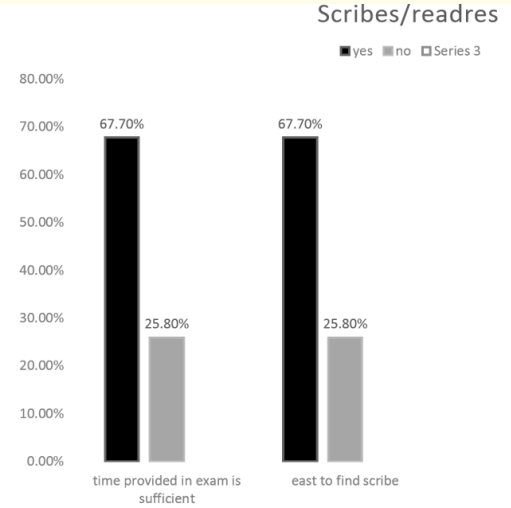


Figure 7: Scribes/readers. Black bar indicates YES. Grey bar indicates NO.

Figure 7 shows 97.7% said that it is easy to find scribe/reader. 97.7% said that the time provided in exams was sufficient to communicate with scribe.

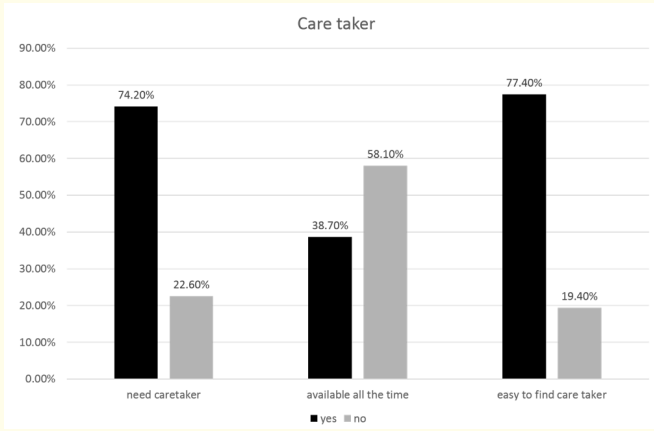


Figure 8: Care takers. Black bar indicates YES. Grey bar indicates NO.

Figure 8 shows that 74.2% need care taker. 58.10% said that care takers are not available all time and 77.4% said that it is easy to find care taker.

Figure 9 shows that 90.3% said that there are no enough braille books in library.

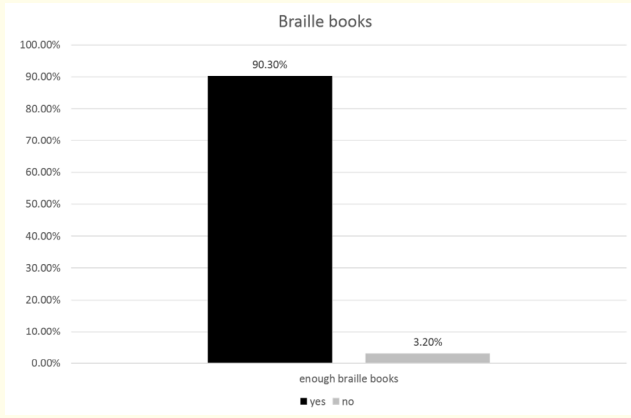


Figure 9: Braille books. Black bar indicates YES. Grey bar indicates NO.

Figure 10 shows that 83.9% found easy mobility inside the hostel and 61.3% has enough illumination in hostel room.

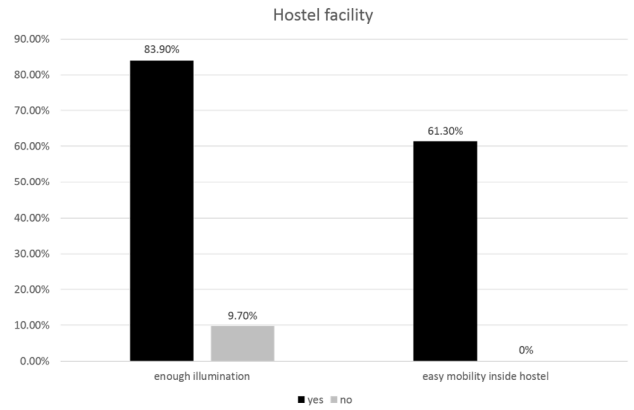


Figure 10: Hostel facility. Black bar indicates YES. Grey bar indicates NO.

Discussion

There is no evidence of previous studies regarding facilities for visually impaired students in University of Hyderabad campus. This study provides platform for further research. Subjects who are able to write i.e. subjects who has low vision, filled the questionnaire on their own. I filled the questionnaire as a scribe for the subjects who are completely blind i.e. who cannot write.

Most of subjects are seeking improvement in the following facilities:

PC desktops

The desktops which are there now has old software. Most of the participants need latest version and high contrast software. Braille printers are there in only English language. So printers need to be provided in Telugu and Hindi languages also. Administration has provided PC's for few visually impaired students. They should be made compulsory for all visually impaired student.

Transport

Most of the subject are using general transport. Special transport provided for visually impaired students is not regular and concerned authorities are not responding to the students properly. It should be made regular and should come on regular intervals of time.

Supportive devices

The devices provided to the visually impaired students are old technology devices. They should be replaced with latest technology devices.

Scribes/readers

Extra 20 minutes for every 1 hour should be provided according to Ministry of Social Justice and Empowerment, Department of Disability Affairs, Government of India [14]. But university administration is not following the rule. Visually impaired students are arranging their own scribe. Most of the subjects reported that scribes should be arranged by the administration and the allowances for scribes and readers should be increased.

Care takers

There are care takers in some hostels but not in all hostels. Care takers should be there in all hostels where visually impaired students are staying and there are no care takers in library at all. Library is the only place where students can access more information. So visually impaired students wanted a care taker in library also.

Braille books

There are no subject related books. Subject related books should be provided not only in library but also in all departments.

Hostel facility

Vehicles parking in front of the hostels has become a big problem for mobility. They should be parked in parking shed.

Most of the subjects require the following new facilities:

- Audio library
- Route map of the campus
- Special facilities in health center
- Extra fellowships for visually impaired students
- Disabled friendly campus.

Conclusion

Almost all subjects are aware of all facilities. Majority of subjects were utilizing and satisfied with all facilities except transport and braille books. They also stated the problems regarding a particular

facility. University of Hyderabad administration should take the required steps to solve the reported problems. Information provided by this survey helps the administration to look into the problems that are facing by visually impaired students and helps to provide an alternative or solution to the problems and also helps to know the requirement of new facilities. This survey provides platform for improving the facilities. Future studies should focus on the improvements made by the university based on this study.

Bibliography

1. "WHO fact sheet N°282 - visual impairment and blindness" (2014).
2. "Guidelines to visual impairment in ID - Rrtcadd" (2015).
3. Wikipedia - http://en.wikipedia.org/wiki/Blindness (2015).
4. Beula Christy. "Randomized trial of methods of low vision service delivery". University of New South Wales, chapter 2 (2012): 37.
5. Pascolini D and Mariotti. "Global estimates of visual impairment" (2010).
6. Cong-Wen Wang., *et al*. "Overview of quality of life research in older people with visual impairment" (2014).
7. Kelly M. "Consequences of Visual Impairment on leisure activities of the elderly". *Geriatric Nursing* 16 (1995): 273- 275.
8. Haymes SA., *et al*. "Relationship between Vision Impairment and ability top Perform activities of daily living". *Ophthalmic and Physiological Optics* 22 (2002): 79-91.
9. Kehinde Adigun., *et al*. "Quality of life in patients with visual impairment in Ibadan: a clinical study in primary care". *Journal medical Disciplinary Health Care* 2 (2014): 173-178.
10. WHOQOL Group. "Measuring quality of life: The development of the WHOQOL instrument, Geneva, Switzerland". World Health Organization (1993).
11. Global data on visual impairment-WHO (2012): 7.
12. University of Hyderabad (2014)
13. Ecosse L Lamoureux. "Effectiveness of low vision rehabilitation on participation in daily life and quality of life". *Investigative Ophthalmology and Visual Science* 48.4 (2007): 1476-1482.
14. Guidelines for conducting examinations for persons with disabilities - Government of India, Ministry of Social Justice and Empowerment, Department of disability affairs (2015).