

A CROSS SECTIONAL STUDY TO UNDERSTAND THE PERCEPTION OF LOW VISION REHABILITATION AMONG BLIND SCHOOL TEACHERS OF PUNJAB, INDIA.

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Abstract

Background: It revolves around the important need to comprehend the perspectives and perceptions of low vision rehabilitation among teachers in blind schools in Punjab, India. Visual impairment faces significant challenges especially in educational context in which rehabilitation services play a crucial role in enhancing the quality of life and learning experiences for visually impaired. Punjab is a diverse region in education and knowledge and needs more investigation into knowledge, utilization and perceived effectiveness of low vision rehabilitation services and also understanding the perspectives of educators teaching in the schools plays an important role as they are at the forefront of facilitating the education and development of visually impaired students. **Aim:** The aim of this study is to assess the knowledge of blind schools regarding low vision rehabilitation through development of questionnaire. **Methodology:** This is a cross-sectional research design in which a questionnaire was developed having close ended questions covering all the aspects from demographic data to the knowledge, utilization and perceived effectiveness of low vision rehabilitation services. Then a pilot study was conducted to refine the questionnaire based on feedback and assure its reliability and validity. Then also final refinement of questionnaire was done through a focus group discussion with leading experts in optometry field. Ethical consideration was considered with approvals and informant consent and patient information from participants. Then data collection was done from school which included face to face interviews and online surveys. Quantitative data was analysed using SPSS software. **Results:** After developing questionnaire it was implied to 40 individuals with mean age of 39.9 ± 5.7 . Each question was thoroughly observed to see its feasibility of questionnaire. **Conclusions:** The primary objective of this study was to investigate the understanding, utilization and efficacy of rehabilitation services for individuals with visual impairments in educational settings.

Key-words: Low vision, Rehabilitation, Visually impaired, special educators

Introduction: Visual impairment poses significant challenges to individuals seeking an education, and the role of blind school instructors is pivotal in addressing these challenges. The aim of this study is to comprehensively assess the knowledge of instructors in blind schools regarding low vision rehabilitation. In doing so, we seek to gain valuable insights that can inform the design and implementation of effective rehabilitation programs tailored to the unique needs of visually impaired students. Blind schools play a crucial role in fostering an inclusive educational environment for individuals with visual impairments. Despite advancements in the field of low vision rehabilitation, there exists a critical need to understand the depth of knowledge possessed by instructors working in these specialized educational settings.^{1, 3} The development of a

questionnaire serves as the primary methodology for this study. This approach allows us to systematically gather information on various aspects of low vision rehabilitation knowledge among instructors. The questionnaire will be designed to cover a spectrum of topics, including but not limited to the instructors' understanding of low vision conditions, familiarity with rehabilitation techniques, and awareness of assistive technologies.¹⁷

This study is particularly significant in the context of the educational landscape in India, where blind schools play a crucial role in empowering individuals with visual impairments. Punjab is a diverse region in education and knowledge and needs more investigation into knowledge, utilization and perceived effectiveness of low vision rehabilitation services and also understanding the perspectives of educators teaching in the schools plays an important role as they are at the forefront of facilitating the education and development of visually impaired students⁴

Methodology: This cross-sectional study aims to see the perspectives of blind school instructors in Punjab, India, regarding low vision rehabilitation. By using a mix method approach this study made a questionnaires and then interviews were gathered from special educators who are working in blind schools ^{7, 18}. This research is observational study which was done for 3 months, and aim to see the awareness of low vision rehabilitation among special educators. The inclusion criteria includes the special educators who are in school for blind with total 40 teachers (25 males and 15 females). Educators who have undergone specific low vision rehabilitation training are excluded from the study. The research is conducted at the School for the Blind in Punjab particularly focussing on the awareness of low vision rehabilitation among special educators²⁰. This research has also followed proper ethical standards to safeguard the well-being and rights of the participants involved. Also ethical approval was taken from relevant institutional review boards to ensure that the study has established ethical guidelines (EC/NEWINST/2023/531/180). Informed consent, a fundamental ethical principle, was obtained from all participating special educators at the School for the Blind in Punjab. The consent process included providing detailed information about the study's purpose, procedures, potential risks, and benefits, and the voluntary nature of participation. Participants were assured of the confidentiality and anonymity of their responses, with data reported in an aggregated and de-identified manner to protect individual privacy. Additionally, the study respects the autonomy of the special educators by giving them the option to withdraw from the research at any stage without consequence.

Questionnaire Development: A tailored questionnaire was constructed to measure the variable of awareness of low vision rehabilitation among special educators. The questions are designed to be closed-ended, aligning with the qualitative nature of the data. The questionnaire underwent a thorough review and validation process by a panel of low vision experts to ensure content relevance and clarity. Data collection involves administering the validated questionnaire to the identified group of special educators in the School for the Blind. Additionally, interviews will be conducted to obtain more in-depth qualitative insights. The collected data will be analysed using the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics will be employed to summarize the awareness levels, while inferential statistics may be used to explore any significant associations or differences.¹²

The study commenced with the identification and construction of a questionnaire focused on the awareness of low vision rehabilitation. The questionnaire, featuring closed-ended questions, underwent a rigorous review and validation process by a group of low vision experts. Subsequently, the finalized questionnaire was administered to special educators in the School for the Blind in Punjab, forming the basis for both quantitative and qualitative data collection.⁶

Results: A total of 40 subjects were considered from Blind schools of Punjab to perform a study and we found that the mean age 39.90 ± 5.77 in which 25 were Males and 15 were females. Figure 1 illustrates the age distribution of the 40 respondents, revealing a diverse demographic. Notably, 5% fall within the 20 to 29 years category, 40% in the 30 to 39 years range, and the majority, constituting 55%, belong to the 40 to 50 years age group. This indicates a predominant presence of respondents aged between 40 and 50 years in the surveyed population.

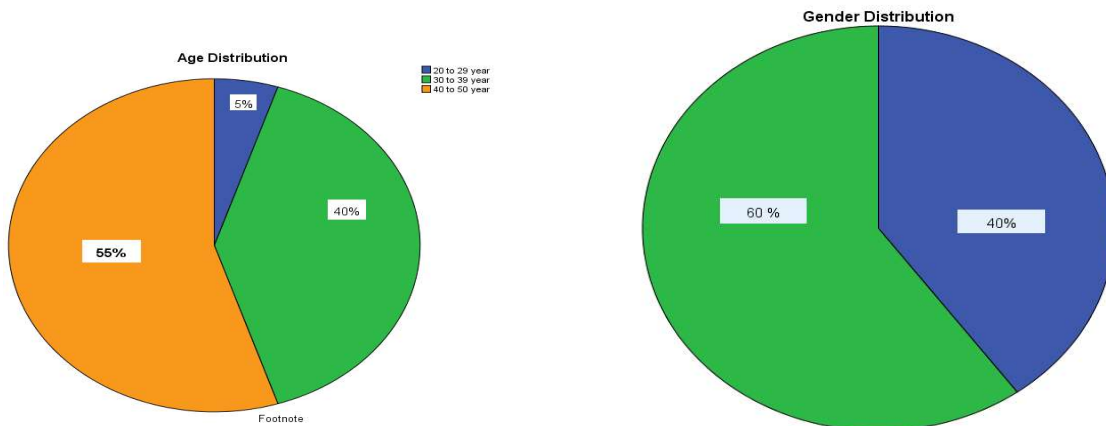
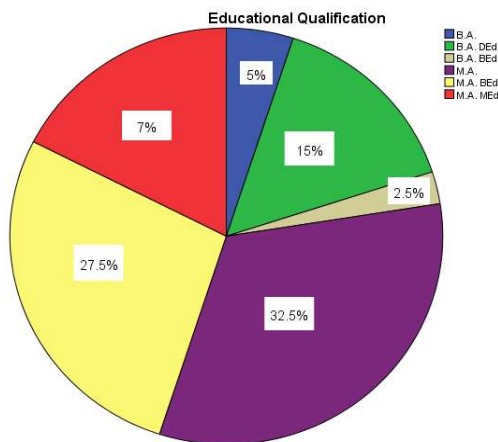


Figure 1- Age distribution of the respondents Figure 2- Gender distribution of the respondents

Figure-2 highlights the gender distribution among the respondents, with 40% identified as female and 60% as male. The findings suggest a higher representation of males in the survey compared to females. In figure-3, the educational qualifications of the respondents are depicted. The majority hold postgraduate degrees, and a significant proportion possess at least a degree in Education. Additionally, some respondents have specialized qualifications in special education, reflecting a diverse educational background within the surveyed group.



Figural Qualification of the respondents

Attributes Covered in the Study: The study encompassed a range of attributes to gauge the perspectives of blind school instructors regarding low vision rehabilitation. The Likert scale was used for measurement, in which 1 "Strongly Agree," 2 "Agree," 3 "Neutral," 4 "Disagree," and 5 "Strongly Disagree."

The attributes considered includes partially sighted children in school, pre assessment by experts during the enrolment, classroom features, affordability of low vision devices awareness and limitation of assistive technology and emphasising on low vision rehabilitation in special educator training and awareness also including government schemes and sponsorship to devices. The findings provide both demographic and educational background of respondents and focussing on exploration of the perspectives on various facets of low vision rehabilitation.

Discussion: The goal of this purpose was to develop a questionnaire to assess special educators' knowledge of low vision rehabilitation in schools for the blind. As a result, this goal was primarily focused on developing a questionnaire that focused directly on eye-related special education that is taught by special educators in blind schools in Punjab. The results of this objective are comparable to one of the other study done by Dr. Jagun OO Blindness and rehabilitation concerns among special educators of special education in South West Nigeria that there is awareness among special educators in their region but there is a need of efficient special educators in all the special education centres.³ In this study, we can see that awareness among special educators in Punjab is high, in contrast to one of the similar studies in Awareness, knowledge, and barriers to low vision services among eye care practitioners by Judy Jose et al, where we can see that there is a lack of awareness among eye care practitioners about low vision services, which acts as a major barrier in the effective delivery of these services³. In contrast to our study, Khan et al. discovered that a lack of knowledge and awareness concerning poor vision can even operate as a barrier to the provision of low vision services

Conclusion: Through this investigation the efficacy of these rehabilitation services in educational settings was evaluated providing insights into the effectiveness of existing programs and potential

areas for improvement. It also contributes valuable knowledge to the broader field of visual impairment rehabilitation, particularly in the educational domain.¹³

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