

Review Paper: Rehabilitation of Blind People and People With Low Vision in Iran



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ABSTRACT

Objectives: The blind and visually disabled people form a predominant group in the disabled society and hence, need greater attention. Most of the rehabilitation therapists, especially occupational therapists, do not focus on this group. Thus, the aim of the study is to shed light on the issue of negligent attitude of rehabilitation therapists, especially occupational therapists, toward blind and visually-impaired people.

Methods: To perform this study, a systematic, evidence-based process (Duffy 2005) was used. Data for the study was gathered from the following sources: Electronic databases: Medline PubMed, CINAHL, OVID Medline, CINAHL Plus with Full Text, Cochrane Databases of Systematic Reviews, ProQuest, UpToDate, Web of Science, OT Search, OTDirect, PEDro, SID, Magiran, IRAN MEDEX, MEDLIB, and IRANDOC.

Results: From accessible databases, 112 articles related to blind and people with low vision in Iran were found; of these, only 17 articles have been included in this study.

Discussion: Proper assessment of the visually disabled is required to implement the appropriate intervention technique. Occupational therapists need to pay special attention to the visually disabled people.

1. Introduction

There are a significant number of people with vision disabilities like blindness and low vision. In 1983, Barbara defined a visually disabled child as a child whose learning process is hindered due to a visual disability. Special teaching methodologies and materials need to be created to make the learning environment conducive to them so that they can attain optimal academic achievement (which

is obtained through vision). Legally blind: Legally blind person is a person with visual acuity of 20/200 or less (according to the Snellen eye test) in the dominant eye after correction. Such people have a restricted field of vision, and the widest diameter of the visual field in the dominant eye subtends an angle not more than 20 degrees [1].

Channel vision refers to the severe limitation of the visual fields of a person that affects his/her ability to read, drive, and exercise [1]. Low-vision is a condition in which the vi-

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sual acuity in the dominant eye after maximum recovery is 20/70 or less [1]. Educational blind children are those who lack the visual ability to read and write and rely on other senses such as hearing and touch [1]. Functional vision refers to the way by which a person uses his/her vision [1].

In developing countries, blindness and visually impairments are considered as two important issues in the development of health, economic, and social sectors [2]. According to the World Health Organization, nearly 38 million people worldwide are blind and around 110 million people suffer from visual problems. In addition, this number is increasing day by day [2]. More than 90% of visually-disabled people live in developing countries [3, 4]. The prevalence of blindness in Asian developing countries is around 3.0% to 4.4% [5, 6]. In Iran, there are about 160 thousand blind people and 700 to 900 thousand people with low vision [7]. Amirkhani, et al. collected data from 34 universities of medical sciences in Iran and found that the prevalence of problems related to vision among children in the age group of 6-4 years, first and third base elementary, first middle and first high school are 4.7%, 3.8%, 5.8%, and 4.1%, respectively [8].

Kermanshah University of Medical Sciences reported the highest number of visual impairment cases (10.59%). Other institutes reporting the maximum number of cases are Iran University of Medical Sciences (6.86%), Tehran University of Medical Sciences (6.60%) (Tehran province), and Kerman (6.81%) [8]. Most of the studies indicated that visual impairment affects the person's quality of life, decreases his/her independency, and also limits their social participation [9, 10]. Nowadays, assessment and promotion of quality of life of people with disabilities are the goals of rehabilitation programs [11].

The main purpose of rehabilitation services, especially occupational therapy, is to improve the quality of life and encourage participation of people with disabilities [12]. Although there are many visually-impaired and

blind people in our country, such people do not employ the services of rehabilitation and occupational therapists due to social and cultural taboos. Thus, the aim of this review is to evaluate the studies on the visually impaired people in Iran and shed light on the issue of negligent attitude of rehabilitation therapists, especially occupational therapists, toward blind and visually-impaired people.

2. Methods

To perform this study, a systematic, evidence-based process (Duffy 2005) was used [13]. Data for the study was gathered from the following sources:

- Electronic databases: Medline PubMed, CINAHL, OVID Medline, CINAHL Plus with Full Text, Cochrane Databases of Systematic Reviews, ProQuest, UpToDate, Web of Science, OT Search, OTDirect, PEDro, SID, Magiran, IRAN MEDEX, MEDLIB, and IRANDOC.
- Google Scholar
- Famous Iranian and Foreign journals in the field of low vision and blindness: Iranian Journal of Pediatrics (IJP), Iranian Rehabilitation Journal (IRJ), Archives of Physical Medicine and Rehabilitation, Developmental Medicine & Child Neurology, Physical and Occupational Therapy in Pediatrics, American Journal of Occupational Therapy, and many more. Key words that were used in accordance with MESH have been mentioned in Table 1. The inclusion and exclusion criteria for incorporation of materials in the study are categorized in Table 2.

3. Result

On searching accessible databases, a total of 112 articles on the blind and people with low vision in Iran were found. Based on the inclusion and exclusion criteria, 92 articles were removed. Three more articles were

Table 1. Key words.

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|---|
| Low vision, Participation, Iranian children with low vision, Visual impairments, Environmental barriers, Environmental adaptation, Adaptation, School children, Disability, Blindness |
|---|

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Table 2. Inclusion and exclusion criteria.

| Exclusion Criteria | Inclusion Criteria |
|---|---|
| Articles written in a language other than Persian and English; Articles other than on the subject of diagnosis of blindness, low vision, and visual impairments; Articles related to the blind population of countries other than Iran. | Articles about studies conducted on visually disabled and impaired Iranians; Articles whose abstracts or full texts are accessible; Articles published from 2000 to 2016. |

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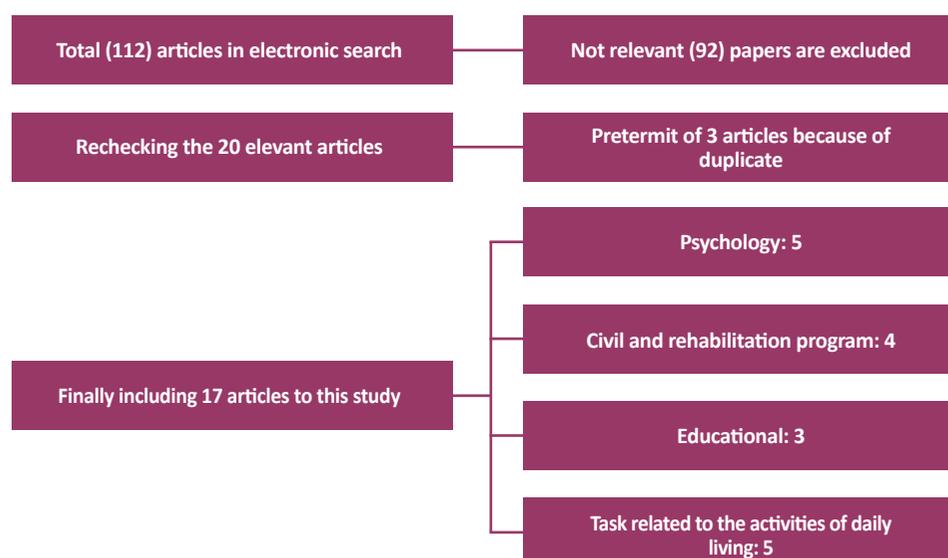


Figure 1. Results of systematic search about proceeding for Iranian blinds and low visions.

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removed due to their plagiarized content. Therefore, the study result is based on the remaining 17 articles. Articles related to the area of participation are categorized in Figure 1. It is important to mention that some articles cover more than one subject area. Therefore, these articles are categorized in more than one area. The findings are presented in Table 3.

4. Discussion

On reviewing the included studies, it was found that these studies mostly concentrate on four areas: psychology [17, 19, 20], rehabilitation and civil program [14, 16, 20, 21], education [19, 21, 22, 23, 24, 25, 26, 27], and daily living activities [14, 17, 22]. The most important thing is that re-

Table 3. Results of analysis of the included articles.

| Aspect | Authors | Year | Title | Method | Results |
|-------------|-------------------------|------|--|---|---|
| Educational | Hoseinkhani et al. [14] | 2015 | Using Virtual Reality Technology and a haptic robot for teaching blind students | RCT | Virtual environment is a useful educational tool for blind students with respect to cost and time aspects. |
| | Kakojoibari et al. [15] | 2014 | Comparison of reading literacy than students with visual impairment and normal students | Causal-comparative study and performed by the use of PIRLS (2006) International standardized booklet as an instrument | Regarding the levels of reading literacy (P=0.017) and understanding of literal contents, there was a significant difference between students with visual impairment and normal students (P=0.07). |
| | Mahjoob et al. [16] | 2010 | The effect of color filters on the visual acuity and contrast sensitivity in low vision patients | Case-control study with random sampling method | Contrast sensitivity evaluates the visual performance better than visual acuity in low vision. It showed that colored filter overlays are unlikely to provide a clinically significant improvement in the visual function of low vision patients. |

| Aspect | Authors | Year | Title | Method | Results |
|----------------------------------|----------------------------------|------|---|--|--|
| Psychology | Mollazadeh Esfanjani et al. [17] | 2013 | A comparison of self- esteem and mental health in blind athletes and non-athletes from 13 to 30 years in Mashhad | Contextual study | Exercise has a significant role in the promotion of self-esteem and mental health in blind athletes. |
| | Sarabandi et al. [18] | 2013 | The relationship between impaired visual function and quality of life of the blind | Descriptive-analytical study | Defects of peripheral vision, stereopsis vision, and gender and education level have significant effects on the quality of life of blind people resident in the studied region. |
| | Yaghotian et al. [19] | 2015 | The effectiveness of cognitive-behavioral group therapy on self- concept of visually impaired adolescents | Semi-experimental design with random assignment of (randomly assigning) participants in experimental and control groups, with pre-test and post-test | Participation in cognitive-behavioral group counseling sessions improves self-concept of visually impaired adolescents. In addition, positive self-concept increases their social interaction and mental health. |
| | Namaei Kohal et al. [20] | 2015 | The influence of the olfaction, audition and tactile senses in mobility and orientation of blinds | RCT | The blind study group gave the highest rating to audition sense, followed by the senses of olfaction and tactile. |
| | Pourseyyed et al. [21] | 2010 | Effectiveness of life skills educational program on blind and low-vision university students compatibility | RCT | The life skills' educational program is an effective way to increase the compatibility of blind and low-vision students. |
| Civil and rehabilitation program | Sarabandi et al. [22] | 2014 | The effect of rehabilitation Services on quality of life for the blind | Descriptive analytical study | Developing rehabilitation services and providing social programs for the blind can improve their quality of life. |
| | Feridooni et al. [23] | 2012 | The rate of satisfaction of low vision aids and quality of life in low visions referring to the red-crescent's low vision center of Tehran since 21 June 2011 till 21 June 2012 | Cross-sectional study | The quality of life has been increased in different aspects after the use of low vision aids. |
| | Bemanian et al. [24] | 2015 | Effective aspects on designing appropriate urban park for the blind | Analysis method | Avoiding simple and monotonous designing, lack of using smooth and slippery materials on the floor to stimulate the sense of touch in the blind, using shady trees and scented plants to stimulate the sense of smell in the blind, creating exciting spaces near the entrances to stimulate hearing are effective in increasing the presence of the blind people in urban parks. |
| | Farzin [25] | 2008 | Blinds perception of architecture and criteria and designing patterns for theme | Qualitative research | Quest for recognition of blinds understanding of architecture and present a pattern of a suitable place with their understandings and generally a design for an entertainment and cultural complex for a rest and passing a nice and remembering time for everyone with putting some preferences in the area for Blind people and making some facilities and enjoying conditions for them with have an eye on basis of a landscape architecture project. |

| Aspect | Authors | Year | Title | Method | Results |
|--------|------------------------|------|---|--|---|
| ADL | Mahjoob et al. [16] | 2010 | The effect of color filters on the visual acuity and contrast sensitivity in low vision patients | Case-control study with random sampling method | Contrast sensitivity evaluates the visual performance better than visual acuity in low vision. Contrast sensitivity showed that Colored filter overlays are unlikely to provide a clinically significant improvement in the visual function of low vision patients. |
| | Pourseyyed et al. [21] | 2010 | Effectiveness of life skills educational program on the compatibility of blind and low-vision university students | RCT | The life skills' educational program is an effective way to increase the compatibility of blind and low-vision students. |
| | Feridooni et al. [23] | 2012 | The rate of satisfaction of low vision aids and quality of life in low visions referring to the red-crescent's low vision center of Tehran since 21 June 2011 till 21 June 2012 | Cross-sectional study | The quality of life has been increased in different aspects after the use of low vision aids. |
| | Aali et al. [26] | 2014 | Comparison of physical fitness in blind, deaf and normal children | Case-control study | Early screening of physical fitness and designing proper physical fitness and exercise training programs appears to be essential in improving the physical condition of the blind children. |
| | Askari et al. [27] | 2010 | Environment and blindness situation in Iran | A qualitative phenomenological method | Occupational therapists and other health care professionals who are involved with blind people to become more competent during assessment, counseling, teaching, giving support, or other interventions as needed to assist blind people. |

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habilitation therapists, especially occupational therapists, indicate that their main goal is to create a disable-friendly environment, but they have not yet reported any impressive intervention for blind and visually-impaired people. Askari, et al. have suggested that the visually-impaired and disabled people should be asked to perform a series of modifications to the environmental accommodations and in the design of the surrounding environment to make it friendly for the blind and low vision people [30-32].

Before any interventions, it is essential to carry out a comprehensive assessment of the requirements of the blind and people with low vision. The lives of these groups of people should be assessed using culture-based questionnaires and scales. The Children Participation Questionnaire (CPQ) and Children Participation Assessment Scale-Child & Parent version (CPAS-C & CPAS-P) are considered to be suitable for 4-6 years old and 6-12 years old children, respectively [12, 28]. These questionnaires are based on Occupational Therapy Practice Framework (OTPF) [29] and cover all areas of life and occupation (ADL, IADL, leisure, education, rest/ sleep, play, work, and social participation). These

assessments can help in assessing the needs, demands, and limitations of the blind participants, resulting in the designing of comprehensive intervention programs for them.

5. Conclusion

Due to the growing number of visual impairment cases worldwide, it has become a necessity to design good and appropriate interventions for them. Occupational therapists have a comprehensive role among the rehabilitation members. Based on their philosophy of 'enabling the disabled,' it is necessary to focus on the blind and visually-impaired people and do extensive and comprehensive studies for the advancement of this group of people.

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Conflict of Interest

The authors declared no conflict of interests.

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