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Understanding depression and role of rehabilitation among the visually impaired: a pilot study

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*The increasing cases of low vision and blindness have been associated with negative impact on the mental health and quality of life of the person by many researches. Rehabilitation plays a key role in making the patient learn to utilize their potential vision to readjust and function as a part of the society. There are many factors that may play a vital role in causing depression among the visually impaired and this pilot study tries to understand and describe the role of these factors to enable the practitioners to devise an appropriate rehabilitation plan for the patient. The **purpose** of this pilot study was to understand depression in visually impaired people, as well as the function of rehabilitation in mitigating its consequences to structure further research in this field. **Material and methods.** The Hospital Anxiety and Depression (HAD) questionnaire was administered to 30 visually impaired patients (17 females and 13 males of age 18 and above) diagnosed with blindness (VA < 3/60) or low vision (VA < than 6/18 in the better eye and/or visual field up to 20 degrees in better eye) after obtaining their consent. The study evaluated the relationship between depression and a variety of parameters such as the type and onset of visual impairment, rehabilitation services, type and duration of visual rehabilitation and psychological counselling. Mean depression scores were calculated and compared for each category using SPSS. **Results.** According to some of the major findings of this study, multimodal rehabilitation surely has an important impact in lowering depression among visually impaired people. The group that received services involving the use of low visual aids had a mean depression score of 12.00 ± 3.381 while the group that received multidisciplinary rehabilitation services had a mean depression score of 7.20 ± 6.861 (p -value 0.074). Furthermore, psychological counselling was proven to be effective in treating depression in this population. The mean depression score of the group that didn't receive any psychological counselling was significantly higher with a value of 12.60 ± 5.835 in comparison to the group that received psychological counselling having a mean depression score of 5 ± 3.33 (p -value 0.001). **Conclusion.** This pilot study concludes that visual impairment is associated with depression and rehabilitation can play an important role in lowering its incidence. Moreover, a multimodal approach can prove beneficial and should be adopted by the eye care practitioners. Psychological counselling should be made mandatory for the patients with visual impairment at the time of receiving a diagnosis and well as throughout the course of treatment and rehabilitation.*

Keywords: visual impairment; depression; psychological counselling; visual rehabilitation

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Оценка депрессии и роли реабилитации лиц с нарушениями зрения: пилотное исследование

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Многие исследователи указывают на ассоциацию между участвовавшими случаями слепоты и слабовидения, и негативным состоянием психического здоровья и качества жизни человека. Реабилитация играет ключевую роль в обучении пациента использовать свои зрительные возможности для адаптации и функционирования в обществе. Существует множество факторов, которые могут играть важную роль в возникновении депрессии у людей с нарушениями зрения, и данное пилотное исследование пытается понять и описать роль этих факторов, чтобы позволить практикующим врачам разработать подходящий план реабилитации пациента. **Цель** этого пилотного исследования — оценить проявления депрессии у людей с нарушениями зрения, а также возможности реабилитации в смягчении ее последствий для структурирования дальнейших исследований в этой области. **Материал и методы.** Анкета для выявления тревоги и депрессии (Hospital Anxiety and Depression, HAD) была предложена 30 пациентам с нарушениями зрения (17 женщинам и 13 мужчинам старше 18 лет) — слепым (с остротой зрения < 3/60) или слабовидящим (острота зрения < 6/18 на лучшем глазу и/или поле зрения меньше 20° на лучшем видящем глазу) после получения их согласия. Оценивалась связь между депрессией и различными параметрами, такими как тип и начало нарушения зрения, средства, вид и продолжительность зрительной реабилитации и психологическое консультирование. Рассчитывались средние баллы оценки депрессии, проведено их статистическое сравнение для каждой категории с помощью SPSS. **Результаты.** Установлено, что мультимодальная реабилитация, безусловно, снижает уровень депрессии у людей с нарушениями зрения. В группе, где использовались только зрительные средства помощи слабовидящим средний балл депрессии составлял $12,000 \pm 3,381$, в то время как у пациентов, получавших многопрофильную реабилитацию, средний балл депрессии был значительно ниже — $7,200 \pm 6,861$ ($p = 0,074$). Кроме того, показано, что психологическое консультирование эффективно в лечении депрессии в этой популяции. Средний балл уровня депрессии в группе пациентов, не получавших психологического консультирования, был значительно выше — $12,60 \pm 5,835$, чем в группе, где такое консультирование проводилось — $5,00 \pm 3,33$ ($p = 0,001$). **Заключение.** Данное пилотное исследование продемонстрировало, что зрительные нарушения связаны с депрессией, и реабилитация может играть важную роль в снижении их развития. Мультимодальный подход может оказаться полезным и должен быть принят на вооружение специалистами по охране зрения. Психологическое консультирование должно быть обязательным для пациентов с нарушениями зрения как при постановке диагноза, так и на протяжении всего курса лечения и реабилитации.

Ключевые слова: нарушение зрения; депрессия; консультация психолога; зрительная реабилитация

Конфликт интересов: отсутствует.

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According to World Health Organization (WHO), “a person with low vision is one who has impairment of visual functioning even after treatment and/or standard refractive correction, and has a visual acuity of less than 6/18 to light perception, or a visual field of less than 10 degree from the point of fixation, but who uses, or is potentially able to use, vision for planning and/or execution of a task” [1]. Patients having visual acuity worse than 3/60 are termed as blind by WHO [2]. According to WHO, visual impairment can be divided as per the levels of visual acuity (VA) into moderate (VA between 6/18 to 6/60) and severe visual impairment (VA between 6/60 to 3/60) and blindness (VA worse than 3/60) [1].

The increasing cases of low vision and blindness have been associated with negative impact on the mental health and quality of life of the person by many researches [3]. Depression and anxiety are being referred to one of the most common consequences of visual impairment [3]. Research suggests that disease-specific stress can be a major cause of depression in people with chronic health conditions [4, 5]. Subjective emotional responses to visual impairment have been described in many studies and include anxiety, frustration, solitude, and embarrassment [6]. We know that vision loss has a direct impact on physical disability and can lead to limitations in daily life activities so the visual impairment being the major cause of deteriorating mental health status in low vision patients cannot be ruled out.

Rehabilitation, however can reduce both the incidence as well as severity of depression amongst the visually impaired. In addition to teaching methods to enhance daily visual functioning, low vision rehabilitation attempts to best utilize the potential vision following severe vision loss. Helping people adjust to permanent visual loss and enhancing psychosocial functioning are two additional goals.

These abilities encourage autonomy and social engagement. In the long run, low vision therapy should enhance the quality of life for those who are visually impaired [7].

Bearing this in mind, this study aimed to understand and describe the mental health status and the role of rehabilitation in the visually impaired.

MATERIAL AND METHODS

This descriptive cross-sectional pilot study was conducted on 30 subjects, recruited from patients presenting in the outpatient departments of ophthalmology of various hospitals in New Delhi and NAB India Centre for Blind Women & Disability Studies, Hauz Khas, New Delhi, having with visual impairment.

All the subjects of age 18 and above, diagnosed with blindness (VA < 3/60) or low vision (VA than 6/18 in the better eye and/or visual field up to 20 degrees in better eye) were included in the study and subjects having chronic diseases, subjects already on medications for depression and anxiety and unwilling patients were excluded. Medical records of the patients were evaluated and the subjects fulfilling the selection criteria were enrolled after obtaining a written consent from them.

All the demographic data including the age, gender, marital status, occupation, etc. were recorded as per the pre-set case recording format. The Hospital Anxiety and Depression (HAD) Scale was used to assess the depression scores amongst the recruited subjects [8, 9]. The questionnaire in both English and Hindi was administered to each and every subject verbally to evaluate their mental health status. The HAD Scale is a questionnaire that evaluates symptoms of both anxiety and depression. The HAD Scale consists of 14 questions, 7 related to anxiety and the other

7 related to depression. Although, HAD Scale is often used in conjunction with other assessments, it is not a comprehensive diagnostic tool for detecting depression. However, it can be helpful in detecting depression and anxiety in the early stages. By identifying the symptoms early on, healthcare professionals can offer interventions and treatments to prevent the condition from worsening. Therefore, the HAD Scale is a valuable tool for healthcare providers to assess anxiety and depression symptoms in their patients [10]. However, in this study only depression scores were calculated and analyzed as per the HAD scale reading wherein, scores of 0–7 were considered normal, 8–10 were borderline, and scores of > 11 were considered abnormal.

Subjects were classified under various categories on the basis of gender, type and onset of visual impairment, rehabilitation services, type and duration of visual rehabilitation and psychological counselling as summarized in Table 1.

Statistical Analysis. Descriptive and inferential analysis of the obtained data was done using SPSS software. The association of depression with various factors such as gender, type and onset of visual impairment, rehabilitation services, type and duration of visual rehabilitation and psychological counselling, was analyzed and described. Pearson chi-square test was used to determine if there is a significant association between level of depression and other categorical variables in the study and T-test was used confirm if there was any significant difference in means depression scores in various test groups. Post Hoc test was used to draw multiple comparisons within the groups. A p-value of < 0.05 was considered significance. Results were represented using tables and charts.

RESULTS

Gender-wise statistics. In this study, a total of 30 subjects were enrolled, out of which 17 (56.7%) were females and 13 (43.3%) were males. The study evaluated depression scores in both men and women. The mean depression score in females was 10 ± 7.133 and that in males was 10.15 ± 5.145 . There was no significant difference in depression scores between males and females, with a p-value of 0.98.

We calculated the depression scores in both males and females and categorized them as normal, borderline, and abnormal. Among the total participants, 8 females (47.1%) and

6 males (46.2%) were in normal score category with no significant differences between males and females mean scores (p-value 0.6). 1 female (5.9%) fell into the borderline score category, while no male (0%) was categorized in this group (p-value = 0.54). 8 females (47.1%) and 7 males (53.8%) fell into abnormal score category, making a total of 15 individuals (p-value 0.83).

Correlation with Age. The mean age of the participants was 36.83 ± 12.382 and average depression score of total subjects was 10.07 ± 6.247 . A negative correlation between age and depression scores was found suggesting that depression ratings probably decrease as one gets older, and vice versa. The correlation coefficient of -0.318 indicates, however, a modest association between age and depression scores.

Description and Comparison of Depression Scores in Subjects Classified on the Basis of Severity of Visual Impairment. The study graded the severity of visual impairment into three categories: mild, moderate, and severe. Mild: 2 of the participants had a mild level of visual impairment (6.7% of the total sample). Moderate: A total of 9 participants (30.0% of the sample) had a moderate level of visual impairment. Severe: The majority of the participants, 19 people, had severe visual impairment (63.3% of the total sample). The study compared the severity of visual impairment with the participants' depression scores. Among the participants, 2 individuals had mild visual impairment, their mean depression scores were 9.00 ± 2.8 . 9 participants had moderate visual impairment; their mean depression score was 11.44 ± 3.712 . The majority of the participants (19 individuals) had severe visual impairment; their mean depression score was 9.53 ± 7.41 . The p-value was 0.745, which indicates that there is no statistically significant association between the severity of visual impairment and depression scores. In other words, the data does not provide evidence to suggest a significant relationship between visual impairment severity and depression scores in this study.

Description and Comparison of Depression Scores Among Subjects Divided on the Basis of the Type of Visual Impairment (Congenital or Acquired). 36.7% (11 subjects) had a congenital visual impairment while 63% (19 subjects) had an acquired type of visual impairment. The 11 subjects having a congenital visual impairment had significantly lower depression scores with a mean of 7.36 ± 5.853 than 19 participants having acquired visual impairment with mean depression score of 11.63 ± 6.066 (p-value 0.071) (Table 2).

Description and Comparison of Depression Scores Among Subjects Classified on the basis of Onset of Visual Impairment (Gradual or Sudden). Among the total subjects 66.7% (20 participants) had a gradual onset of the visual impairment, while the remaining 33.3% (10 participants) of the subjects had sudden onset. Our study did not find any significant difference between the mean depression scores in the two categories. The mean value of the depression score for participants having the gradual onset was 9.10 ± 5.190 . The mean value of the depression score for the participants having sudden onset was 12.00 ± 7.916 (p-value 0.237).

Description and Comparison of Depression Scores on the Basis of Reception of any Rehabilitation Services. Out of the total subjects, 60% (18 subjects) received some kind of rehabilitation services while 40% (12 subjects) didn't receive any kind of rehabilitation service.

Table 1. Summary of division of subjects into test groups

Таблица 1. Разделение пациентов на группы исследования

S. No.	Category Категория	Sub-category Подгруппы		
1	Gender Пол	Male Мужской	Female Женский	
2	Type of visual impairment Тип зрительных нарушений	Congenital Врожденное	Acquired Приобретенное	
3	Onset Начало	Gradual Постепенное	Sudden Внезапное	
4	Type of Rehabilitation Received Тип реабилитации	Low Vision Aids Средства для слабовидящих	Multidisciplinary Rehabilitation Мультидисциплинарная реабилитация	
5	Received Psychological Counselling Получение психологического консультирования	Yes Да	No Нет	
6	Severity of Visual Impairment Степень зрительных нарушения	Mild Легкая	Moderate Средняя	Severe Тяжелая
7	Duration of Rehabilitation Длительность реабилитации	< 4 months < 4 мес	> 4 months > 4 мес	
8	HAD Score Interpretation Вывод по результатам балльной оценки	Normal Норма	Borderline Пограничное состояние	Abnormal Аномалия

Although not significant, but among the participants that did not receive any rehabilitation, mean depression score was higher (11.38 ± 6.665) than participants who received some sort of rehabilitation (9.06 ± 5.910) (p-value 0.321).

The participants that received rehabilitation services were further classified in two groups on the basis of the type of rehabilitation services received. The first group consisted on participants who received only low-visual aids and the second group was of participants who received multidisciplinary rehabilitation. There was a significant difference between the mean depression scores between the two groups with mean depression scores of 12.00 ± 3.381 in the first group and 7.20 ± 6.861 in the second group (p-value 0.074) (Table 3).

Description and Comparison of Depression Scores Among Subjects Divided on the Basis of Duration of Rehabilitation Received. The mean depression score in 5 subjects who received rehabilitation for less than 4 months was 15.00 ± 3.367 , which was higher than in 13 subjects who received rehabilitation for more than 4 months and had a mean depression score of 7.23 ± 5.325 . The difference of means between the two groups was significant with a p-value of 0.05 (Table 4).

Description and Comparison of Depression Scores Among Subjects Divided on the Basis of Reception of Psychological Counselling. Among the total subjects, 66.7% (20 subjects) did not receive any psychological counselling throughout the course of their diagnosis and treatment, while 33.3% (10 subjects) participants received some psychological counselling. Among the 20 subjects that didn't receive any psychological counselling, the mean depression score was significantly higher with a mean value of 12.60 ± 5.835 in comparison to the 10 subjects that received psychological counselling having a mean depression score of 5 ± 3.33 (p-value 0.001) (Table 5).

DISCUSSION

As suggested by existing literature, 1 out of every 4 individuals having visual impairment suffer from depression [11]. The results of this study also highlight the fact that there is indeed an association of depression with visual impairment. It is important to understand that individuals who are faced with irreversible visual loss, or receive a diagnosis of having a condition that cannot be cured, might have a significant effect on their mental health.

On comparing the mean depression scores between males and females, no significant difference was found between the two groups, suggesting that both males and females suffer equally from depression. However, although not significant, age was observed to have a negative correlation with depression scores of the subjects. This could be due to the idea of being different from peers, feeling

Table 2. Division of subjects based on type of visual impairment and the mean depression score in the two groups

Таблица 2. Балльная оценка депрессии при врожденных и приобретенных нарушениях зрения

Type of Visual Impairment Тип зрительных нарушений	n	Mean Depression Scores Средний балл	Std. Deviation Стандартное отклонение	p-value Значимость различий
Congenital Врожденные	11	7.36	5.853	0.071
Acquired Приобретенные	19	11.63	6.066	

Table 3. Mean depression scores among the subjects divided on the basis of the type of rehabilitation received

Таблица 3. Средние показатели депрессии у пациентов в зависимости от типа полученной реабилитации

Type of Rehabilitation Service Received Тип полученной реабилитации	n	Mean Depression Scores Средний балл	Std. Deviation Стандартное отклонение	p-value Значимость различий
Low Visual Aids Средства для слабовидящих	8	12.00	3.381	0.074
Multidisciplinary Rehabilitation Мультидисциплинарная реабилитация	10	7.20	6.861	

Table 4. Mean depression scores in subjects divided on the basis of duration of rehabilitation services received

Таблица 4. Средние показатели депрессии у пациентов в зависимости от продолжительности реабилитации

Duration of Rehabilitation Received Продолжительность реабилитации	n	Mean Depression Scores Средний балл	Std. Deviation Стандартное отклонение	p-value Значимость различий
< 4 months < 4 мес	5	15.00	3.367	0.05
> 4 months > 4 мес	13	7.23	5.325	

Table 5. Mean depression score among the subjects divided on the basis of reception of psychological counselling

Таблица 5. Средний балл депрессии пациентов, получавших и не получавших консультацию психолога

Psychological Counselling Консультация психолога	n	Mean Depression Scores Средний балл	Std. Deviation Стандартное отклонение	p-value Значимость различий
No Нет	20	12.60	5.835	0.001
Yes Да	10	5.00	3.333	

of isolation, not being able to pursue a career as good as they could have otherwise secured and not being able to lead a normal life, amongst the younger age groups [12].

Severity of visual impairment was not found to have any significant effect on the depression scores. It was observed that, although not significant, but the onset and type of visual impairment certainly affected the depression scores of the subjects. The mean depression scores were higher amongst the subjects who had a sudden onset of visual impairment than those who had a gradual onset. We believe that depression is caused due to maladaptation to one's surroundings [13]. When the onset of visual impairment is sudden, individuals are not prepared to cope up with

the loss, leading to higher incidence of depression. Similarly, when the impairment is congenital, the child has already come to terms with the situation and perhaps, adapts better than those who have acquired the condition in later stages of life [14]. In our study as well, the mean depression scores were higher amongst the subjects having an acquired condition than those having a congenital condition causing visual impairment.

Rehabilitation plays a vital role in making the visually impaired adjust to their surroundings in a new way by utilizing their residual visual potential and ultimately improve their quality of life. In this study, the subjects were divided under two categories on the basis of rehabilitation. The first category comprised of individuals who never got any rehabilitation for their condition and the second category included the subjects who received any type of rehabilitation. Subjects who received any sort of rehabilitation were further sub-divided into subjects who were given low visual aids for their conditions without any other rehabilitation and subjects who received a multidisciplinary approach to rehabilitation including occupational training, mobility training, vocational training, house training and psychological training. It was observed that the subjects who received a multidisciplinary rehabilitation had much lower mean depression score in comparison to those who did not receive any rehabilitation for their condition or those who were just prescribed low visual aids without any additional trainings. This amplifies the importance of multidisciplinary approach to rehabilitation for the visually impaired.

Duration for which an individual had received rehabilitation services also seems to play an important role in uplifting the mental health of the individual. In this study we found that subjects who received rehabilitation services for a duration of at least 4 months or more had significantly much lesser mean depression scores than those who received the services for a duration of less than 4 months.

The role of psychological counselling cannot be overlooked when talking about rehabilitating the visually impaired [15]. Our study found a significant difference between the mean depression scores of subjects who received a psychological counselling and those who did not receive it. The depression scores were much higher amongst those who did not receive psychological counselling throughout their course of treatment or diagnosis. It is very important to understand that an individual suffering visual impairment is most likely to have a deteriorated psychological state but is still least likely to seek for psychological help at this point of time. A low vision practitioner should have adequate knowledge of not only counselling the patient but also to decide when to refer the patient for psychological assessment and help. In-fact we believe that it should be mandatory to refer the visually impaired patients for psychological evaluation.

Other important factors that may be important for understanding depression in the visually impaired can be lack of independence, impaired mobility, being dependent on others for their daily living activities (DLA), feeling secluded or isolated from the society, family support, source of income, lack of confidence and feeling abnormal. While collecting the data for this study, we came across subjects who were receiving rehabilitation in special centers dedicated to visual rehabilitation. While talking to these subjects we realized that they were much more confident than those who either did not receive any rehabilitation or received rehabilitation in hospitals individually. This could be because these subjects had a chance to witness people like them leading a normal life. We infer that, the perception of a dark future is likely an important factor for causing depression among these individuals. Support groups and rehabilitation centers can play a key role in improving mental health status and quality of life of such individuals.

Ultimately, the role of low vision practitioners, optometrists and ophthalmologists is very important in providing optimal services to the visually impaired. Dealing these patients with empathy while providing a component of normalcy is very important. Since eyecare practitioners are among the first contact points of these patients, they play a vital role in defining their "new normal". This makes it necessary for the eye care practitioners to have a knowledge of the rehabilitation process and local rehabilitation resources. Selecting the right rehabilitation approach can turn out to be crucial in improving the quality of life of these patients.

One of the limitations of this study was its small sample size, we believe that having a larger sample size could help in better understanding of depression and associated factors. Another limitation was short duration and cross-sectional design, a before and after design could provide much valuable data regarding the role of rehabilitation in the visually impaired. However, this pilot study can contribute to become a basis to reshape further research in this field.

CONCLUSION

Mental health is the most important part of a human's life, and it is related to the general functioning of an individual in a society. With many studies suggesting that visual impairment might be a substantial cause of depression, anxiety, and stress, we propose that mental and psychological checkup of visually impaired patients be also included in the history taking and treatment module. This study concludes that visual impairment is associated with depression and rehabilitation can play an important role in lowering its incidence. Moreover, a multimodal approach, which includes sessions of psychological counselling can prove beneficial and should be adopted by the eye care practitioners.

Литература/References

1. Update IC, Platform R. Change the definition of blindness. WHO. WHO <http://www.who.int/blindness/en/index.html> (consultado: 12/12/2011).
2. Stevens GA, White RA, Flaxman SR, et al. Global prevalence of vision impairment and blindness: magnitude and temporal trends, 1990–2010. *Ophthalmology*. 2013 Dec 1; 120 (12): 2377–84.
3. Zamzam AM. Understanding the correlation between visual impairment and mental health: A literature review. *Sriwijaya Journal of Ophthalmology*. 2021 Aug 26; 4 (1): 58–63. <https://doi.org/10.37275/sjo.v4i1.57>
4. Zalai D, Szeifert L, Novak M. Psychological distress and depression in patients with chronic kidney disease. In: *Seminars in dialysis*. 2012 Jul; 25 (4): 428–8. Oxford, UK: Blackwell Publishing Ltd.
5. Bisschop MI, Kriegsman DM, Beekman AT, Deeg DJ. Chronic diseases and depression: the modifying role of psychosocial resources. *Soc Sci Med*. 2004 Aug; 59 (4): 721–33. doi: 10.1016/j.socscimed.2003.11.038
6. Rees G, Tee HW, Marella M, et al. Vision-specific distress and depressive symptoms in people with vision impairment. *Invest Ophthalmol Vis Sci*. 2010 Jun; 51 (6): 2891–6. doi: 10.1167/iops.09-5080
7. Van Nispen RM, Virgili G, Hoeben M, et al. Low vision rehabilitation for better quality of life in visually impaired adults. *Cochrane Database Syst Rev*. 2020 Jan 27; 1 (1): CD006543. doi: 10.1002/14651858.CD006543.pub2
8. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand*. 1983 Jun; 67 (6): 361–70. doi: 10.1111/j.1600-0447.1983.tb09716.x
9. Hartung TJ, Friedrich M, Johansen C, et al. The hospital anxiety and depression scale (HADS) and the 9 item patient health questionnaire (PHQ 9) as screening instruments for depression in patients with cancer. *Cancer*. 2017 Nov 1; 123 (21): 4236–43. doi: 10.1002/cncr.30846
10. Mykletun A, Stordal E, Dahl AA. Hospital Anxiety and Depression (HAD) scale: factor structure, item analyses and internal consistency in a large population. *Br J Psychiatry*. 2001 Dec; 179: 540–4. doi: 10.1192/bjp.179.6.540
11. Parravano M, Petri D, Maurutto E, et al. Association between visual impairment and depression in patients attending eye clinics: a meta-analysis. *JAMA Ophthalmol*. 2021 Jul 1; 139 (7): 753–61. doi: 10.1001/jamaophthalmol.2021.1557
12. Kizilaslan A, Kizilaslan MM. Anxiety in visually impaired students about the future. *International Journal of Evaluation and Research in Education*. 2018 Jun; 7 (2): 152–8. <https://eric.ed.gov/?id=EJ1183749>

13. Kanter JW, Busch AM, Weeks CE, Landes SJ. The nature of clinical depression: Symptoms, syndromes, and behavior analysis. *The Behavior Analyst*. 2008 Spring; 31 (1): 1–21. doi: 10.1007/BF03392158
14. Bolat N, Dogangun B, Yavuz M, Demir T, Kayaalp L. Depression and anxiety levels and self-concept characteristics of adolescents with congenital complete visual impairment. *Turk Psikiyatri Derg*. 2011 Summer; 22 (2): 77–82. PMID: 21638229.
15. Hodge S, Barr W, Bowen L, Leeven M, Knox P. Exploring the role of an emotional support and counselling service for people with visual impairments. *Br Journ of Vis Impairment*. 2013 Jan; 31 (1): 5–19. <https://doi.org/10.1177/026461961246>

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