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PSYCHOLOGICAL IMPACTS OF VISUAL IMPAIRMENTS IN WORKING AGE GROUPS

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ABSTRACT

OBJECTIVES: *To examine the similarities and differences related to psychological impacts of visual impairments among the patients of working age groups.*

METHODS: ***T****his study included 88 patients at College of Ophthalmology and Allied Vision Sciences, Mayo Hospital Lahore. Patients ranging from 20 to 60 years were included in this study. Patients with visual impairments due to cataract, low vision, angle closure glaucoma, diabetic retinopathy and age-related macular degeneration from different causes were included. These individuals were interviewed personally with self-designed questionnaires. The self-designed questionnaire included information about demographic knowledge, visual impairments, depression, anxiety, loneliness, general health and quality of life, and divided into four age related groups; Group – I (20 to 30 years 45.9%), group – II (31 to 40 years 19.9%), group – III (41 to 50 years 17.4%) and group – IV (51 to 60 years 18.1%).*

RESULT: *Visual acuity decreased with increasing age, visual acuity and vision dependent activity of life decreased on greater level of group III (age range 41 to 50 years) and group – VI(age range 51 to 60 years). There was no significant relation among profession, gender and visual impairments. Visually impaired patients were more afflicted with depression and anxiety than normal person. The influence of psychological disorder increased with increasing age and level of visual impairments.*

CONCLUSION: *The psychological impact of visual impairments in individuals of various age-groups depends mostly on visual acuity. Patients 40-50 years and 51-60 years age group experienced the low visual acuity, low physical health, and less personal satisfaction. Visual function is important for a best orientation in functional and social life and has an effect on physical and emotional well-being. Therefore decrease in vision leads to restrictions in all types of health-related quality of life.*

KEY WORDS: *Anxiety, Depression, Psychological traits, Visual impairments,*

INTRODUCTION

Visual impairment is a global health concern that has major impact and influences especially in developing countries of the world. It happened due to irreversible visual defect that can't be corrected by conventional methods such as refractive correction, surgery, or medical treatment, the affected person being unable to perform tasks of daily life. Visual impairment is considered as a factor that increases the socioeconomic burden due to loss in education, economic gains and career opportunities attain for suffered persons and their family.[1]

According to an estimated result globally 253 million people are visually impaired or blind, of whom 90% are living in low income and middle-income countries (LMICs). Cataract is the most common cause of blindness worldwide and is mostly treatable by surgery. Refractive errors, can easily be cured by spectacles, are the most common cause of visual impairment. Lack of awareness and lack of accessible eye care services are some of the reasons why people remain visually impaired even though poor results.[2] Prolonged mental stress is one of the main reasons of decrease in visual acuity. Continuous mental stress and raised cortical level showed negative effects on the eye and brain due to vascular dysfunction and systematic imbalance, hence mental stress might also be one of the main causes of eye diseases such as glaucoma and optic neuropathy that responsible for visual impairments.[3]

The International Classification of Diseases classified the vision impairment into two groups, the distance and the near presenting visual impairment.

Distance vision impairments are as follows:

- Mild visual impairment – visual acuity worse than 6/18
- Moderate visual impairment –visual acuity worse than 6/60
- Severe visual impairment– visual acuity worse than 3/60

Near vision impairment are as follows:

- Near vision for reading worse than N6 or M.08 with present correction.

Vision impairment (VI) and mental health conditions are highly prevalent among older adults and are major causes of morbidity and health care issues. However, there are few nationally representative data from the United States on the longitudinal association between VI and depressive symptoms, furthermore, the study suggests the need for effective strategies to screen for and address depression and anxiety among older US adults with VI.[4]

There is some association between anxiety and ocular pathology. According to a study reduced absorption of light due to retinal defect in degenerative diseases may lead to disturbed formation of melatonin, which results greater risk of anxiety, depression and sleep disturbance. Chronic conditions like diabetes and ischemic heart diseases are considered to be huge risk factor for progression of AMD, glaucoma, and cataract and totally associated with anxiety and depression.[5] Visual impairments have been considered as a harmful factor in the field of ophthalmology. Various studies explored the negative impacts of visual impairments and have bad effects on the quality of life of that person such as physical performance, social activities, self respect, depression and emotional defect. Visual impairment is also associated with increased suicide risk.[6] Glaucoma is characterized by progressive optic nerve damage, which is one of the most frequent cause of irreversible visual damage and blindness in the industrialized world. Stress is considered as a risk factor for glaucoma, and is reported as increasing the intraocular pressure (IOP) both in healthy subjects and glaucoma patients.[7]

People having visual impairments, employment level has been low as compared to those people without vision disabilities. A latest study calculated unemployment level and employment level for people who were visually impaired. People having visual impairment had low employment level of 44% as compared to without disabilities 77.2% while unemployment rate of visually impaired people were 10% and without impaired people were 4.8%.[8]

By the year 2020 depression is expected to be the huge cause of disease in older populations. In developing countries the prevalence of visual impairment is due to demographic aging. Therefore the magnitude of mental health and eye care for people with visual impairment is expected to increase.[9]

MATERIALS AND METHODS

The study was approved by the Ethical Review Board of College of Ophthalmology and Allied Vision Sciences Mayo Hospital, King Edward Medical University Lahore, and consent signature was taken from each participants of the study. Demographical questions were assigned to interview by a single interviewer. The interviewer was trained in department of psychology King Edward Medical University Lahore, by experts of psychology. All patients were interviewed personally with self-designed questionnaires. The self-designed questionnaire included information about demographic knowledge, visual impairments, depression, anxiety, loneliness, general health and quality of life, and divided into four age related groups; Group 1 (age range 20 to 40 years 73.9%), group 2 (age range 41 to 50 years 13.9%), group 3 (age range 51 to 60 years 11.4%), group 4 (61 to 70 years 1.1%).

All ophthalmologic examinations were performed on each participant including slit lamp examination, diagnostic tests and complete refraction (both subjective and objective test). Best corrected visual acuity was measured by Snellen visual acuity chart at 6 meter before and after psych-diagnostic assessments.

Questionnaire

The questionnaire assigned for this investigation depended on the following criteria:

1. Social Functioning: interface with ordinary social

exercises because of physical and enthusiastic issues.

2. Role of feelings: Problems with work or other every day exercises because of passionate issues.
3. Mental Health: sentiments of anxiety and depression.
4. General visions: worldwide vision with glasses or contact focal points.
5. Distant visions: vision subordinate constraints in perceiving a companion in an enormous room, perceiving something over the road or review TV.
6. Peripheral visions.
7. Vision explicit social working: vision subordinate confinements in working remaining at home on account of low vision.
8. Near vision: vision subordinate restrictions in understanding paper, cooking, stitching, and discovering something.

All the data was entered and analyzed using Statistical Package for Social Science (SPSS Version 25.00)

Statistical analysis was done to show the psychological impact of visual impairments in working age groups. All data were showed as Chi square test to measure the frequencies of scale of questions of four different age-related groups were performed.

RESULTS

Table 1: Psychological impacts of visual impairment.

Questions	Group I (20-29) n = 40		Group II (30-39) n = 17		Group III (40-49) n = 15		Group IV (50-60) n = 16		P-value
	Agree	Dis-agree	Agree	Dis-agree	Agree	Dis-agree	Agree	Dis-agree	
Are you impatient when someone does not accept your opinions?	25(62%)	12(31%)	6(35%)	3(17%)	12(80%)	2(13%)	13(81%)	3(18%)	<0.05
Do you think that it does not always bother me to be alone?	32(80%)	9(21%)	7(41%)	4(23%)	9(60%)	1(6%)	12(70%)	4(25%)	<0.05
Do you feel that you get angry faster than most people?	18(45%)	22(55%)	7(41%)	6(35%)	7(46%)	8(56%)	14(87%)	1(06%)	<0.05
Do you think that you are more emotional than most people?	22(55%)	18(45%)	14(82%)	2(23%)	9(60%)	5(33%)	15(94%)	1(11%)	<0.05
In almost every social situation, you feel safe and secure?	34(85%)	5(12%)	13(76%)	2(23%)	9(61%)	5(33%)	14(87%)	2(12%)	<0.05
Even if they want me to make quick decision, I almost think in detail?	24(47%)	16(33%)	7(41%)	11(64%)	14(93%)	1(06%)	12(70%)	3(31%)	<0.05
Do you feel that you work harder than most people?	37(92%)	3(07%)	11(64%)	4(23%)	12(82%)	3(20%)	15(100%)	0.00%	<0.05
Do you think that your life has little purpose or meaning?	33(82%)	7(17%)	10(58%)	5(29%)	13(88%)	2(12%)	14(92%)	1(10%	<0.05
I have more energy than most people and I get tired later?	22(45%)	14(55%)	11(64%)	3(16%)	14(93%)	1(06%)	14(87%)	1(10%)	<0.05

This table showed that the psychological impact of visual impairments in patients of working age groups (p-value is <0.05). The mental effect of visual impairments in patients of various ages depends mostly on visual acuity. Old patients (40 to 49 years), and (50 to 60 years), experienced the lowest visual acuity, low physical health, and less personal satisfaction. Visual function is important for an optimal orientation in functional and social life and has an effect on physical and emotional well-being. Therefore, loss of vision leads to restrictions in all types of health-related quality of life. This study includes total 88 patients in which 39 were males and 49 were females. Above table is the summarization of the questionnaire about psychological characters and it shows that there is significant relationship between psychological traits (anxiety, depression) and visual impairments with aging.

Discussion

Visual impairment is the outcome of loss of functional vision, rather the disorder of eye itself. Impairment of vision consists of albinism, glaucoma, cataract, corneal disorder, diabetic retinopathy, infections and muscular disorder. Visual impairments may be caused by brain and nerves disorders, usually called cortical visual impairment. The prevalence of psychological traits (anxiety and depression), in people having visual impairment is very high as compared to normal people.

Another study on Hospital anxiety depression scale (HADS) was based on visual impairment included retinal dystrophy/degeneration (n = 35), scatters of the optic nerve (n = 17), glaucoma (n = 10), diabetic retinopathy (n = 9), age-related macular degeneration (n = 5), uncorrected refractive blunders (n = 5), and different illnesses (n = 19). Mean introducing BCVA in the better eye was 0.83 (±0.64) which improved to 0.78 (±0.63) after LVC (P < 0.001). The HADS-Depression subscale score was equal for significance of visual impairments for both distant (P = 0.57) and near vision (P = 0.61). So also, HADS-Anxiety scores were j3nnlikewise similar for significance of separation (P = 0.34) and close visual impairment (NVI; P = 0.50). At scale, mean HADS-Depression and HADS-Anxiety scores were 8.4 (±3.7) and 9.6 (±4.3) focuses, which improved basically to 6.0 (±3.4) and 6.7 (±3.7), individually, after low-vision improvement (P < 0.001). That proved that visual impairment is associated with depression and anxiety.

The final results from these studies showed clearly that there is need of greater sensitization towards the problem, together with the facility of guidelines to stop secondary depression.[5]

A "stepped-care" approach to depression has been advocated by experts who formulated guidelines to treat lower levels of depression by lower intensity psychosocial interventions, since even mild grades of depression may affect quality of life negatively, and may also be associated with functional disabilities, increased mortality, and risk of transition to severe depression and suicidal behavior. Lower intensity psychosocial interventions often incorporate the concept of self-management, an approach that can complement treatment combinations for mild and moderate depression by empowering patients while reducing demands on health care services. This study also revealed that functional impairments are also associated with depression and anxiety.[10] Another important point evoked from this study is visual restoration that has also been directly correlated with the prognosis of a psychopathological syndrome, even to the point of raising suicide. When vision is restored, patient must develop an understanding about a new environment, where things are look synchronically and often induce shock to the patients. According to the result of the same research these reactions are a mirror image of the same shock, a changing in the lifestyle of individual. The final results from these studies showed clearly that the need of greater sensitization towards the problem, together with the facility of guidelines to stop secondary depression and suicidal behavior. The later phenomenon is rare but not unpredictable, so should not be ignored. Depression is not only the disability in itself but it is a huge barrier of consequences of good vision.

For the aged patients it was generally difficult to see clearly both near and distant objects. They suffered from Near Vision disability and could not read newspaper, Holy Quran, do cooking, stitching and finding something in room, or recognizing something across the street. They also suffered from Distant Vision disability and faced difficulties in walking, moving, driving, and became limited to all vision dependent quality of life.

In the statistical analysis it is demonstrated that there was no significant relation among gender, duration of visual impairments, professions and visual impairments of patients. The statistical analysis also explored that there is huge significant relation between age and visual impairments of patients; with increasing age of patients their visual acuity also starts decrease. With the declined of visual acuity patient's psychological trait also affected badly, it starts to create negative feelings and their quality of life become suffered.

Different studies showed that there are no differences in the process of accepting blindness between patients gradually becoming blind and those who had already impairment of vision over several years. It means that the response of patients to visual defect was same regardless the duration of the phenomena and the disability, is more important than that the time factor.[11]

RECOMMENDATIONS

Depression is not only the disability in itself but it is a huge barrier of consequences of good vision. On the basis of this study, we recommend that:

- To enhance the status of practitioners that are incorporated in screening of depression and anxiety and referred to any nearby mental health care center.
- Moreover for better results practitioners might be needed to facilitate depressed patients with low vision rehabilitation.
- Ophthalmologists, optometrists and eye care professionals needed to train about the visual defect and related symptoms of psychological traits.
- For the screening of depressed patients Patient Health Questionnaire is very helpful tool, with the help of this questionnaire we can assume whether symptoms of depression are present or not, hopefully this will prove time saving method to screen depressed patients.
- The same way of screening method can be followed with anxiety patients.
- To build psycho-ophthalmology because it is the best way to treat visually impaired patients, both visually and psychologically. We believe that co-ordination between ophthalmologist, eye care professional and psychologist or psychiatrist can treat visually impaired patients in a better way both

visually and psychologically.

CONCLUSION

Quality of life management is very important in the field of ophthalmology. The probability to attain the patient's account of his situations not only in physical, but also in emotional and functional aspects enhances the potential of medical-psychological evaluation. In the statistical analysis it is demonstrated that there was no significant relation among gender, duration of visual impairments, professions and visual impairments of patients. The statistical analysis also explored that there is huge significant relation between age and visual impairments of patients, with increasing age of patients their visual acuity also start decrease. With the declined of visual acuity patient's psychological trait also affected badly, it starts to create negative feelings and their quality of life become suffered.

We conclude that quality of life assessments are very useful and reliable for psycho-diagnostic purpose and we suggest using this method of assessment in future studies to examine the quality of life of visually impaired patients specially in exploring the impacts of psychological traits (depression and anxiety).

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