



A study of Quality of Life, Self-efficacy and Emotional Reactions in Patients Undergoing Enucleation Referring to Dependent Hospitals of Tehran University of Medical Sciences

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ABSTRACT

Enucleation of the eye has a negative effect on the person's efficiency in society and the emergence of severe psychological stress for the individual. Therefore, these patients suffer from high levels of stress, anxiety and depression, which in turn leads to a decrease in their quality of life. Therefore, this study aimed to evaluate the quality of life, self-efficacy and emotional reactions in patients undergoing eye discharge surgery referring to selected hospitals of Tehran University of Medical Sciences in 2016. This Descriptive-sectional study was performed by quota sampling from 274 patients referred to selected hospitals of Tehran University of Medical Sciences for two consecutive years, from 2013 to 2015. Data collection tool was a questionnaire that included demographic characteristics, DASS-21 emotional reactions, Sherer's general self-efficacy and quality of life in VFQ-25 visual disturbances. The results of this study showed that the stress level of patients with eye discharge (20.31), anxiety (12.25) and depression (15.95), quality of life in these patients (47.015), and autoimmunity of these patients (53.45) Medium was measured. The results of independent t-test for stress, anxiety, depression, quality of life and self-efficacy ($p = 0.0001$) show a meaningful relationship. The findings of this study indicate that the level of stress, anxiety and depression in patients with enucleation is moderate, low quality of life and self-efficacy of these patients are moderate.

Key words: Quality of life, self-efficacy, stress, anxiety, depression, enucleation.

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vision are two important health, economical, and social issues in developed and developing countries [3].

INTRODUCTION

Eye is a sensitive and specialized organ, which is, at the same time, prone to multiple disorders. Some of these disorders lead to visual impairment [1]. Also, visual impairments cause disability, suffering, and losing efficacy [2]. One of the most prominent disabled groups are those suffering from blindness or low vision. Blindness and low

Returning to the normal condition after the defect in one of the eyes requires adjusting to monocular vision and analyzing a serious psychological trauma [4]. Visual impairment affects an individual's independence in taking care of themselves, choosing a job, lifestyle, self-confidence, health, the ability to interact with the society and the surrounding environment, and improving the quality of life [1]. Research studies

show that visual impairment affects people's quality of life and reduces their social activities and their independence [3]. Losing one eye causes the patient to suffer from depression, and it damages the patient's self-image [5], in a way that Hegarty *et al.*, (2014) believe that enucleation can be a physical, psychological, and social crisis for anyone [6]. Research studies show that visual impairment affects people's quality of life and reduces their social activities and their independence [3]. Finally, their emotional activities weaken and avoid participating in social events, which in turn becomes a factor that causes distress, stress, and depression in their lives [7]. The stress caused by visual impairment is definitely more severe than the stress caused by other sensational impairments [2]. Primary health care providers do not diagnose 50% of depression cases and are usually unaware of early symptoms like reduced self-esteem, lack of sense of pleasure, sleep disorders, difficulty in concentration and making decisions. Failing to diagnose depression can bring about tragic consequences like suicide [1].

In addition to devastating psychological effects, enucleation surgery disrupts an individual's personal affairs due to the physical disability in causes, and, consequently, the individual's social and economic affairs are also affected. Therefore, this surgery may not only exclude the person from economic activities in the society but also requires part of the government's efforts and expenses to be spent on this group of people [8]. Given all these, currently, patients who undergo enucleation surgery in Iran do not receive due attention, and no study has been conducted on these patients. Therefore, the present study aims at investigation the quality of life, self-efficacy, and emotional reactions in patients undergoing enucleation surgery in patients referred to hospitals dependent on the Tehran University of Medical Sciences in Tehran.

MATERIAL AND METHODS

The present research is a descriptive-cross sectional study which was conducted after obtaining the required code from the ethics committee of the Tehran medical sciences Islamic Azad university, Tehran, Iran. The population of the present study comprises the patients referring to the hospitals dependent on Tehran University of Medical Sciences in the two consecutive years of 2014 to 2016 who underwent the eye enucleation surgery. Based on the sample size formula, the

sample size of the study was determined to be 260 patients. Given the possible dropping of some cases, 300 questionnaires were distributed among the patients of the following hospitals using a quota sampling technique: Farabi ophthalmology Hospital, Shahid Labbafinejad Hospital, and Hazrate Rasoule Akram Hospital, all of them in Tehran. Finally, 274 questionnaires were investigated by applying the criteria for the exclusion and acceptance of cases.

The criteria for entering the study included above 18 of age at the time the surgery was performed, having proper speaking ability in Persian, having undergone enucleation surgery on one eye during the time period from 2014 to 2016, not having other surgeries on the face, having vision in the other eye to the extent that they are able to do their daily activities, willingness to participate in the study and having an interview.

In this study, questionnaires were used as data gathering instruments, which included: demographic information questionnaire (gender, marital status, age, education level, occupational status, being covered by an insurance program, the reason for the enucleation), DASS21 questionnaire (dispersion anxiety stress scale), Sherer self-efficacy scale, and VFQ25 (visual function questionnaire).

The DASS21 questionnaire was used to gather information about the level of dispersion, stress, and anxiety. The questionnaire comprises 21 items each having 3 sections. Each section is measured through 7 questions. The choices of the questionnaire are valued in a 3-level Likert scale from never (0) to always (3). Given that this questionnaire is the shortened version of the main scale (42 questions), the final score for each of the sub-scales needs to be doubled. The validity and reliability of the questionnaire have been proved by Anthony *et al.* (1988). The factors for dispersion, stress, and anxiety in the study in question were 9.007, 2.89, and 1.23, respectively, and the alpha coefficient for these three factors were 0.97, 0.92, and 0.95, respectively. The reliability of the scale has been evaluated in a general population of 400 people, and the reliability coefficients 76% for stress, 66% for dispersion, and 70% for depression were obtained (9). In this study, the reliability of the questionnaire was 90.5%, using Cronbach's alpha [9].

Sherer's self-efficacy questionnaire includes 17 questions which are scaled based on a 5-level Likert scale from "completely disagree" to "completely agree". Based on this scale, the minimum point is 17 and the maximum point is 85. Since there is not cut-off points in this questionnaire, the intensity of self-efficacy is divided into low (17-40), medium (41-60), and high (61-85) ranges. Najafi (2001) randomly separated 30 subjects, and Cronbach's alpha was obtained to be 83%, and the Spearman-Brown yielded 83%, too. In this study, reliability was obtained through Cronbach's alpha (96.6%).

The third questionnaire is the quality of life in visual impairments VFQ-25 questionnaire which is specifically developed to evaluate the quality of life in patients with visual impairment and comprises 25 components. 12 components are questions related to different areas, general health conditions, general vision, eye pain, near vision, far vision, social functioning, mental functioning, problems in playing role (occupational), dependence, driving, color vision, and peripheral vision. Some of these questions have 5 choices, and some have 6 choices. A point of 0 to 100 is given to the selected choices. The validity of this questionnaire was confirmed by Caroul *et al.* (1998) in Washington Ophthalmology Department [10]. Cronbach's alpha was reported by the World Health Organization was reported to be 0.73 to 0.89 [11]. In 2011, the internal validity of the questionnaire was obtained by Ziaee *et al.* to be 89.3% with the internal consistency. Also, in Asghari *et al.*'s study in 2011, Cronbach's alpha was obtained to be 0.7, and the reliability of the questionnaire in this study was obtained to be 84.3%. The validity of all the questionnaires in this study have been confirmed by faculty members of the Faculty of Nursing in Tehran Islamic Azad University of Medical Sciences. All the data were

analyzed in Microsoft Excel and version 20 of the SPSS using single sample t-test.

RESULTS

The results of the study show that men have the highest frequency among the participants in the study with a frequency of 69.7%, then followed by women who made up 30.3% of the participants. The age range 21-30 years of old has the highest frequency with 33.2% of the participants and the age range 18-20 has the lowest frequency with only 1.8% of the participants. Most of the participants (58%) had an education level of lower than high school diploma. Most of the participants were single (78.9%), and 43.4% of the participants were married. 51.1% of the participants were employed, 33.6% unemployed, and 15.3% had quit their jobs. 88.3% of the participants had an insurance coverage, of whom 75.2% were covered by social security insurance, 15.7% by health insurance, and 9.1% by villagers' insurance. 50% of the patients had to undergo the enucleation due to an incident and a blow to the eye, and 50% due to eye diseases. 51.5% of the participants had the enucleation surgery on their right eyes, and 48.5% on their left eyes. 66.1% of the participants used prosthetic eyes.

The results showed a mean and standard deviation of (15.95+6.71) for stress, (12.25+6.53) for anxiety, and (15.95+6.71) for depression, which show that they are at an average level. Given the p value ($p=0.0001$) obtained for these three variables, it can be concluded that there is significant difference between the level of stress, anxiety, and depression among enucleation patients referred to hospitals dependent on Tehran University of Medical Sciences in 2015 and the average for the society (Table 1).

Table 1: Frequency distribution for the levels of stress, anxiety, and depression of patients who had undergone eye enucleation surgery in selected hospitals dependent on Tehran University of Medical Sciences in 2015

	depression	anxiety	stress
Intensity	Frequency (%)	Frequency (%)	Frequency (%)
Normal	32 (11.68%)	37 (13.50%)	48 (17.52%)
Mild	67 (24.45%)	74 (27.01%)	93 (33.94%)
Moderate	126 (45.99%)	89 (32.48%)	79 (28.83%)
Intensive	27 (9.85%)	40 (14.60%)	37 (13.50%)
Very intensive	22 (8.03%)	34 (12.41%)	17 (6.20%)
Mean + Standard Deviation	15.95+6.71	12.25+6.53	20.31+7.089
Significance level	0.00	0.00	0.003

Table 2: Frequency distribution of quality of life and self-efficacy in patients who had undergone eye enucleation surgery in selected hospitals dependent on Tehran University of Medical Sciences in 2015

Intensity	Quality of life		Self-efficacy	
	Frequency	Percentage	Frequency	Percentage
Low	174		-	-
Moderate	79		222	
High	21		52	
Mean + Standard Deviation				
Significance level	0.00			

The mean and standard deviation for quality of life in patients who had undergone eye enucleation surgery was (47.15±15.35), which is a low level. The results of inferential statistics show that (p=0.0001) which indicates that the quality of life is significantly different from the average quality of life for the society (Table 2). The level of self-efficacy for eye enucleation patients was (53.445±6.13), which is a moderate level. The results of inferential statistics show that p=0.0001, which indicates that there is a significant difference between the level of self-efficacy in eye enucleation patients referred to the hospitals dependent on Tehran University of Medical Sciences in 2015 and the average level for the society (Table 2).

DISCUSSION

The results of the present study show that the level of stress in patients who had undergone enucleation surgery was moderate. Rasmosen *et al.*, (2011) reported the level of stress in enucleation patients to be high, results that are not in line with the results of the present study. In order to reduce the amount stress, the presence of a psychologist before and after the enucleation surgery and the presence of a physician and providing information regarding the problems and issue that the patient may encounter is effective [12].

Based on the results of the present study, the amount of anxiety in enucleation surgery patients is at a moderate level. The more detailed results show an increase in anxiety in these patients. However, in the study conducted in Fars Province by Manaii (2016), the anxiety of devotees (former soldiers) who were blind in one eye was reported to be high, results that are in line with the results of the present study [13]. Also, based on the results of the present study, the amount of depression in enucleation surgery patients is at a moderate level, while in the study by Manayie (2016) the depression among devotees who were blind in one eye was reported to be high, results

that are not in line with the results we obtained in the present study [13].

The results of the present study show that the intensity of emotional reactions in enucleation surgery patients is moderate. However, compared together, the amount of stress in these patients is higher than the amount of depression, and depression is higher than anxiety. The more detailed results indicate an increase in the amount of anxiety in these patients. Therefore, some information regarding the procedure of the surgery and the available prostheses for improving the appearance should be provided for the patients in order to psychologically prepare them for the surgery. Psychology classes and methods of dealing with emotional reactions can be useful. Providing financial means and visual aids that reduce the complications of the disease to some extent can pave the way for entering the society and participating in social interactions.

The results of this study show the low quality of life for these patients. Comparing the components of quality of life for these patients shows that they have the highest point on color vision and the lowest point on general health, among the twelve components of the quality of life. Mohammadiania *et al.*, (2012) reported the visual functioning status of old people and their quality of life to be moderate [14]. In the study by Asgari *et al.*, (2011), the quality of life for patients with chronic eye diseases in Nour Ophthalmology Hospital was low which in line with the results of the present study [15]. In a study conducted by Takaki (2014) in New England on enucleation surgery patients, the quality of life for enucleation patients was lower compared with people who had two healthy eyes [16]. In the study by Ziaee *et al.*, the quality of life in patients who used glasses or lenses and a group of patients who had undergone photorefractive keratectomy surgery were (97+4.5 and 86.1+10.7), respectively, and the scores for different aspects of the quality of life such as general health, total sight, near sight, far sight, social performance, mental health, role play limitation, dependence on others, driving, and

peripheral vision were higher in the group who had undergone the photorefractive keratectomy surgery [17]. Sarabandi *et al.*, reported that the score for the quality of life in people who had been provided with rehabilitation services was significantly higher than people who did not enjoy the services ($p=0.03$). In patients with low vision, in addition to the fact that reduced vision causes a reduction in performance and quality of life, the depression caused by losing vision causes further reduction in quality of life (3). The results of the present study show that most of the patients have a low or moderate quality of life. Only 7.66% of them had a high quality of life. Based on the results of this study, most of the patients had a poor general health status, in a way that most of them were worried about their vision. In this regards, the presence of an ophthalmologist (the examining doctor) and providing the patients with information and the required advice to promote their health and vision can reduce these worries to a great extent. Nurses can be effective in promoting these patients' mental and social health by providing health services, so that they can be effectively accepted and adapted to daily personal and occupational affairs. Visual impairment as a barrier to social interactions causes the blind people to have less social interactions and lack the tendency and willingness to express their presence. Therefore, raising people's knowledge, improving people's self-confidence, organizing social activities, and providing multiple social support can pave the way for improving their social performance. To this end, using the social media can be very effective. Organizing educational and skill-learning classes, occupational and social skills promotion workshops, self-confidence psychological programs, and accepting the principle that losing one eye is not the end of the life can reduce psychological stresses to a great extent. The results showed reduction to a very low level in these patients' peripheral vision. Therefore, it is recommended that these people receive the necessary trainings by experts in the field to increase their peripheral vision, and due attention be paid to these trainings. Fereidoon *et al.*, (2013) showed that using visual aids can improve the quality of life in patients with low vision to some extent and be very effective in their independence [18]. Therefore, the relevant negotiations between social security organization, the ministry of health, and other relevant organizations seem necessary in order to support these patients.

The results of the study showed that the amount of self-efficacy in enucleation surgery patients was at a moderate level. In Ahmadi study (2014), the self-efficacy of blind male teenagers was lower than the self-efficacy of sighted male teenagers, which are not in line with the results of the present study [19]. Studies have shown that improving self-efficacy brings about improvement in mental health. Therefore, educating these people and organizing self-efficacy improvement programs are necessary for these patients.

It is suggested that further studied replicate this study based on patients' city of residence in order to find effective environment on quality of life and emotional reactions, and similar studies be conducted in state-run and private clinics and results be compared, and the effects of social support as an effective factor on quality of life and emotional reactions be investigated.

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