

DOI: 10.21767/2471-8300.100032

# Predicting Role of Patients' Pre-operative Knowledge and Self-efficacy on their Post Operation Anxiety, Depression and Vision-related Quality of Life among the Elderly Patients Undergoing Retinal Surgery

Sakineh Gholamzadeh<sup>1\*</sup>, Seyedeh Sarah Sharifi<sup>2</sup> and Ladan Zarshenas<sup>1</sup>

<sup>1</sup>Community-Based Psychiatric Care Research Center, Shiraz University of Medical Sciences, Iran

<sup>2</sup>Fatemeh (PBUH) Nursing and Midwifery School, Shiraz University of Medical Sciences, Iran

\*Corresponding author: Sakineh Gholamzadeh, Community-Based Psychiatric Care Research Center, Shiraz University of Medical Sciences, Iran, Tel: 00989174165457; E-mail: sakinghsir@yahoo.com

Received date: May 06, 2017; Accepted date: July 27, 2017; Published date: July 31, 2017

Citation: Gholamzadeh S, Sarah Sharifi S, Zarshenas L (2017) Predicting Role of Patients' Pre-operative Knowledge and Self-efficacy on their Post Operation Anxiety, Depression and Vision-related Quality of Life among the Elderly Patients Undergoing Retinal Surgery. J Eye Cataract Surg Vol.3 No.3: 32.

Copyright: © 2017 Gholamzadeh S, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## Abstract

**Objective:** Macular degeneration and subsequent retinal detachment is one of the most common disorders in the elderly which is treated with surgery. Performing eye surgery leads into psychological distress and affects the lives of the patients. The current study is an attempt to determine the predicting role of patients' pre-operative knowledge and self-efficacy on their post operation anxiety, depression and vision-related quality of life among the elderly patients undergoing retinal surgery in Shiraz. Method: in this descriptive-analytical study, 168 elderly patients over 60 years were selected and studied using purposive sampling. The study tools include demographic, anxiety and self-efficacy questionnaires which filled in by the elderly patients in three stages: before surgery, at the time of discharged, and two months after the surgery. To achieve the objectives of the study, we used Pearson's correlation coefficient and regression analysis.

**Result:** The results revealed that there is a significant relationship between pre-operative self-efficacy with depression ( $p < 0.01$ ,  $r = -0.19$ ) and vision-related quality of life ( $p < 0.005$ ,  $r = 0.215$ ) two months after the surgery. However pre-operative knowledge only has a significant relationship with depression at two months after surgery ( $p < 0.005$ ,  $r = 0.213$ ). According to the regression analysis, self-efficacy was identified as predictors of depression and vision-related quality of life after surgery. Meanwhile, knowledge predicts 4.6% of the changes in post-operative depression.

**Conclusion:** Based on the results, in designing training interventions, self-efficacy and knowledge need to be considered as the important predictors of patients' psychological outcomes after surgery.

**Keywords:**

Aging; Macular degeneration; Depression; Anxiety; Vision-related quality of life; Knowledge; Self-efficacy

## Introduction

Age-related macular degeneration (AMD) is the most common cause of vision loss and blindness in people over 60 years in the developed countries [1]. Patients with advanced AMD have been shown to have significant disability and emotional distress similar to or greater than patients with other serious chronic diseases [2,3]. Since the disorder only impairs central vision, rarely causes blindness. However, it can make reading, driving and doing other daily activities that require central vision and precision very difficult or impossible [4].

The patient's normal activities are impaired and they suffers from mental and physical decline, leading to withdrawal and isolation, and inability to take care of themselves and carry out tasks of daily living [5]. Once leaving an active life, an elderly considers themselves patient and holds on to the false belief that they may never have a normal life. Thus, they suffer from anxiety and depression which is sometimes quick and sometimes remains for a long time causing more problems for the patient [6]. The main adverse effects of macular degeneration are retinal detachment [7]. Retinal detachment (RD) is a disorder which involves about one out of every 300 elderly people and usually needs urgent surgery to prevent permanent and severe visual impairment [8]. Surgery contributes to the problem and is itself a factor for increasing post operation depression and anxiety [9]. In this regard, preoperative knowledge and self-efficacy has been suggested as predictive factors of post-operative patients' psychological health, vision related quality of life and other surgery outcomes. Education and preparation of patients before surgery has positive effects on the care of patients after surgery and at the discharge phase [10]. Preoperative patient education is the process by which health care professional provide some

essential information about the surgery, post-operative emotional experiences, and other consequences to patients to assist them to decrease their fear and anxiety [11,12], and it has been beneficial for enhancing the patients' conditions and surgery results [13] such as length of hospital stay, recovery, pain experiences, use of painkiller, costs, satisfaction, and quality of vision [9].

The improvement of patients' knowledge of macular degeneration and considering the symptoms of the disease could affect their self-efficacy and vision-related quality of life [14]. Medical research has shown that knowledge of eye diseases and their treatment can play an important role in encouraging people to seek care and treatment for eye problems [15]. Increasing knowledge and self-efficacy can reduce visual impairment and levels of anxiety and depression in the community [16]. Unfortunately, despite the importance of the role of knowledge and self-efficacy in reducing the incidence of post-operative psychological problems, very little research has been done in this area. Therefore, the researchers decided to investigate the predicting role of patients' pre-operative knowledge and self-efficacy on their post operation anxiety, depression and vision-related quality of life among the elderly patients undergoing retinal surgery in Shiraz, Iran.

## Method

This is a descriptive-analytical cohort study in which 168 elderly patients over 60 years old who were admitted in a central hospital were selected and studied using purposive sampling. It was the only public hospital affiliated to Shiraz University of Medical Sciences which admits patients with retinal disorder who undergoing retinal surgery in southern of Iran. The inclusion criteria were: being aged 60 or over, diagnosed with macular degeneration and Myopia, being willing to attend the study, and signing the consent form consciously. The exclusion criteria were history of eye trauma and cognitive disorder, and unwillingness to cooperate for any reason. Data collection tools include the questionnaire recorded the demographic information includes; age, gender, marital status, education, employment, living condition, and past medical history. In addition, Hospital Anxiety and Depression Scale (HADS) were used to examine the patients' anxiety and depression after retinal surgery. This scale was designed by Zigmond and Snaith [17]. The questionnaire includes 14 items (7 items for anxiety and 7 items for depression) which are scaled with 4 answers (0–3). The total score for each dimension are in ranges 0 to 21; higher score indicates higher anxiety or depression. In a study by Montazeri et al. HADS and the sub-scales of anxiety and depression scored acceptable validity and internal consistency [18].

The researcher used Visual Function Index (VFQ-14) to measure vision-related quality of life. This is a brief questionnaire developed to measure functional deficit in the patients with cataract. It made up of 18 questions which covered 14 dimensions of visual function that influenced by cataracts [19]. Reliability and validity of the questionnaire is verified by Asghari et al. and Linder M [20,21].

To investigate self-efficacy, we used a self-structured questionnaire contain 13 items and consists of three subscales; self-efficacy in activities, knowledge, and communications. Each item is rated on a four-point likert scale (0-3), giving maximum scores of 21 for anxiety and depression. The tool is adjusted based on the review of the literature and macular degeneration self-efficacy scale [22] with the supervision of four ophthalmologists. Reliability of this scale was acceptable with a Cronbach's alpha of 0.95. The above steps were carried out on knowledge scale and Cronbach's alpha of 0.93 was observed [23]. This scale consisted of 11 items and answered as knows (2) or don't know (1).

The data was analyzed using descriptive and inferential statistics. In the analysis, correlation and regression analysis was used.

## Result

Out of 508 elderly patients with macular degeneration who undergone retinal surgery, 72 men (42.9%) and 96 women (57.1%) were studied. Their mean age was 66.73 years with a standard deviation of 7.12. In regard to education level; the highest majority of the participants was illiterate (63.1%). Based on the results of descriptive statistics (**Table 1**), the preoperative scores of knowledge (MD=13.2, SD=2.53) and self-efficacy (MD=25.1, SD=8.35) of the research subjects is moderate. With respect to the dependent variables of the study, anxiety (MD=7.8, SD=2.88) and depression (MD=7.4, SD=2.69) scores of the research units after operation (at discharge time) was also moderate. However, there was a reduction in the scores of anxiety (MD=5.92, SD=2, 37) and depression (MD=6.83, SD=2.27) two months following the surgery.

**Table 1:** Descriptive of the study variables at pre and post operation among patients undergoing retinal surgery.

| Time                                  | Variables     | Min | Max | MD   | SD   |
|---------------------------------------|---------------|-----|-----|------|------|
| Pre-Operative                         | Knowledge     | 11  | 22  | 13.2 | 2.53 |
|                                       | Self-Efficacy | 13  | 51  | 25.1 | 8.35 |
| Post-Operative<br>(Discharge time)    | Anxiety       | 2   | 16  | 7.8  | 2.88 |
|                                       | Depression    | 0   | 13  | 7.4  | 2.69 |
| Post-Operative<br>(Two months latter) | VFQ           | 14  | 72  | 26.8 | 8.75 |
|                                       | Anxiety       | 3   | 14  | 5.92 | 2.37 |
| Post-Operative<br>(Two months latter) | Depression    | 0   | 11  | 6.83 | 2.27 |
|                                       | VFQ           | 17  | 58  | 36.2 | 8.61 |

In addition, the score for post-operative vision-related quality of life is low at discharge time (MD=26.8, SD=8.75) and is increased at the two months after operation (MD=36.2, SD=8.61). According to Pearson's correlation coefficient test, there was no significant relationship between pre-operative knowledge and self-efficacy with post-operative anxiety, depression, and quality of life at the time of discharge (**Table 2**).

But, pre-operative self-efficacy has an inverse significant relationship with depression ( $p < 0.01$ ,  $r = -0.19$ ) and also with vision-related quality of life ( $p < 0.005$ ,  $r = 0.215$ ) two months after surgery. Also, pre-operative knowledge has an inverse significant relationship with patient' depression at two months following surgery ( $p < 0.005$ ,  $r = -0.213$ ). However, the strength of correlation between these variables was small ( $r = 10$  to  $29$  indicate a small correlation). Multiple regression analysis was used to test if the preoperative self-efficacy and knowledge significantly predicted participants' depression and vision related quality of life at two months following the surgery. Preliminary analysis was performed to ensure no violation of the assumption of normality, linearity, multicolliniarity, and

homoscedasticity. The tolerance value for each independent variable was 1, which was not less than 0.1; therefore we didn't violate the multicollinearity assumption. This was also supported by VIF value ( $=1$ ) which was less than cut off point of 10. The results of the regression (**Table 3**) indicated the pre-operative self-efficacy explained only 4% of the variance in post-operative depression score ( $R^2 = .04$ ,  $F(1,167) = 6.84$ ,  $p = .01$ ) and 4.6% of the variance in vision related quality of life score ( $R^2 = .046$ ,  $F(1,167) = 8.04$ ,  $p = .005$ ) at two months following the surgery. Also, preoperative knowledge explained 4.6% of the variance in post-operative depression score ( $R^2 = .046$ ,  $F(1,167) = 7.92$ ,  $p = .005$ ).

**Table 2:** Pearson Product Moment Correlation Summary of Inter correlations between patients' pre-operative self-efficacy and knowledge with post-operative anxiety, depression and vision related quality of life (VFQ), ( $n = 168$ ); \*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed).

| Time                                  | Variables        | 1 | 2      | 3      | 4      | 5       | 6      | 7       | 8       |
|---------------------------------------|------------------|---|--------|--------|--------|---------|--------|---------|---------|
| Pre-Operative                         | 1-knowledge      | 1 | .433** | 0.092  | 0.055  | -0.062  | -0.071 | -.213** | 0.111   |
|                                       | 2-Self- Efficacy |   | 1      | -0.125 | -0.109 | -0.025  | -0.138 | -.199** | .215**  |
| Post-Operative<br>(discharge time)    | 3-Anxiety        |   |        | 1      | .308** | -.253** | .276** | 0.108   | -.153*  |
|                                       | 4-Depression     |   |        |        | 1      | -.250** | -0.064 | 0.029   | 0.016   |
| Post-Operative<br>(two months latter) | 5-VFQ            |   |        |        |        | 1       | -0.057 | 0.127   | 0.016   |
|                                       | 6-Anxiety        |   |        |        |        |         | 1      | .255**  | -.533** |
|                                       | 7-Depression     |   |        |        |        |         |        | 1       | -.163*  |
|                                       | 8-VFQ            |   |        |        |        |         |        |         | 1       |

**Table 3:** Regression coefficient between preoperative knowledge and self-efficacy with post-operative depression and vision related quality of life; †Unstandardized Coefficients; ††Standardized Coefficients; \*\*Sig at 0.05.

| Dependent Variables            | Independent Variables | B†     | SE    | Beta†† | t     | P-value | R2    |
|--------------------------------|-----------------------|--------|-------|--------|-------|---------|-------|
|                                |                       |        |       |        |       |         |       |
| (two months after surgery)     | (Before Surgery)      |        |       |        |       |         |       |
|                                |                       |        |       |        |       |         |       |
| Depression                     | Constant              | 9.35   | 0.912 |        | 10.25 | 0       | 0.049 |
|                                | Knowledge             | -0.191 | 0.068 | -0.213 | -2.81 | 0.005   |       |
|                                | Constant              | 8.19   | 0.547 |        | 14.9  | 0       | 0.04  |
|                                | Self-efficacy         | -0.054 | 0.021 | -0.199 | -2.61 | 0.01    |       |
| Vision related quality of life | Constant              | 30.6   | 2.06  |        | 14.8  | 0       | 0.046 |
|                                | Self-efficacy         | 0.221  | 0.078 | 0.215  | 2.83  | 0.005   |       |

## Discussion

The results of the study revealed that the knowledge and self-efficacy of the elderly patients before RD surgery is moderate. Other studies have also reported low levels of knowledge and self-efficacy among the elderly patients with macular degeneration or other eye problems. According to a research by Attebo et al. in Australia, people have low knowledge of macular degeneration [24]. In addition, the study by Mohammed et al. [25] and the study by Loisa Ramus proves that knowledge of the patients before eye surgery is low [26] which is consistent with

this study. This suggests that planning and educational interventions before eye surgery are necessary. With respect to self-efficacy, Lau Lee et al. and Brodly et al. found that patients suffering from macular degeneration had low self-efficacy [27,28]. Jackson et al. show that self-efficacy of the patients before vitrectomy surgery is extremely low [29]. The results of the above are in line with the results of current study. The results of this study also revealed that the patients' post-operative anxiety and depression level is high following the surgery at discharge time. According to Augustin, people with 95% macular degeneration suffer from mild depression [30].

Another study by Lotery et al. shows that, people who suffering from macular degeneration had higher level of depression, low quality of life, and needed help with their daily activities [31]. Berman & Brodaty reveals that people suffering from macular degeneration disorder have higher levels of anxiety and depression [32] which is in line with the current study. Also, Mitsonis et al. found that the patients experience psychological disorders such as anxiety and depression after surgery, especially if their vision quality has not enhanced significantly [33]. The above results show that researchers and policy-makers need to focus more on the mental status resulting from macular degeneration and plan to remove it and improve the lives of these patients.

Also, the results of this study demonstrate that vision-related quality of life of the patients after surgery and at the time of discharge were low. However, it is increased two months later. The studies by Hariprasad et al. and Hargirneiß et al. in Germany reveals that visual acuity and vision-related quality of life before retinal surgery in various retinal disorders, such as macular degeneration and retinopathy is decreased [34,35]. This may have an impact on the quality of vision immediately after surgery and at the discharge time.

in regard to the relationship between the patients' pre-operative knowledge and self-efficacy with post-operative anxiety, depression and vision-related quality of life, the results demonstrate that there is a positive significant relationship between pre-operative self-efficacy and vision-related quality of life two months after surgery. According to the results, self-efficacy increases vision-related quality of life in individuals. Pre-operative self-efficacy leads into the change in post-operative vision-related quality of life. In this respect, a study by Brody BL et al. showed that increased self-efficacy in the elderly suffering from acute macular degeneration improves visual quality, and visual functionality [22]. The results also proved that pre-operative self-efficacy has an inverse significant relationship with depression at two months after surgery. Regression test reveals that pre-operative self-efficacy leads into change in depression after surgery. Another study reveals that increased self-efficacy among the elderly leads into less stress, better performance, and lower depression in the elderly suffering from macular degeneration [36]. Findings of the current research is in accord with the results of Bandura et al. Ogunyemi & Mabekoje, Schwarzer & Fuchs and Schwarzer & Luszczynska which found a positive relationship between self-efficacy and anxiety and depression [37-40]. The results also proved that pre-operative knowledge has an inverse significant relationship with depression two months after surgery. Regression test reveals that pre-operative knowledge leads into change in depression after surgery. Loghmani et al. in a study in Kerman found that knowledge and pre-operative training decreases depression up to 50% in the intervention group [41]. In the same vein, the study by Ezzati shows that knowledge of self-care behaviors before surgery decreases fear, anxiety, and depression among patients after the surgery [42]. Self-efficacy and knowledge are valuable factors in controlling and attaining the outcomes expected by patients and reduces unnecessary hospital stay. Known their essential role in enhancing knowledge and self-efficacy of patients, nurses can help patients in performing

activities of daily living and reducing their psychological problems such as depression and anxiety. This study has limitations that need to be considered. Among the limitations affecting the study are small sample sizes. Moreover, the fact that some of the elderly were illiterate and some had hearing and visual disorders brought about some difficulties in filling the questionnaires which might have affected the results. Some questionnaire was self-structured and the researcher did not have the chance to carry out psychometric analysis. Given the fact that the literature in this area in Iran is few, further work is needed to fill the gap.

## Acknowledgment

This study was extracted from Ms. Seyedeh Sara Sharifi M.Sc. thesis in geriatric nursing approved by Shiraz University of Medical Sciences. The researcher would like to thank the Research Department of Shiraz University of Medical Sciences, the Khalili Hospital's staff, and all the patients participating in the study.

## References

1. Mitchell J, Bradley C (2006) Quality of life in age-related macular degeneration: a review of the literature. *Health and quality of life outcomes* 4: 97.
2. Williams RA, Brody BL, Thomas RG, Kaplan RM, Brown SI (1998) The psychosocial impact of macular degeneration. *Archives of ophthalmology* (Chicago, Ill: 1960); 116: 514-520.
3. Scott IU, Schein OD, Feuer WJ, Folstein MF, Bandeen-Roche K (2001) Emotional distress in patients with retinal disease. *Am J Ophthal* 131: 584-589.
4. Ahmadi F, Salar A, Faghihzadeh S (2004) Assessing quality of life among elderly people in Zahedan. *Hayat* 10: 61-67.
5. Fuentes K, Cox BJ (1997) Prevalence of anxiety disorders in elderly adults: a critical analysis. *J Behavior Therapy and Experimental Psychiatry* 28: 269-279.
6. Moser DK (2007) "The rust of life": impact of anxiety on cardiac patients. *American Journal of Critical Care* 16: 361-369.
7. Byer NE (1994) Natural history of posterior vitreous detachment with early management as the premier line of defense against retinal detachment. *Ophthalmology* 101: 1503-1514.
8. Alhassan M, Rabiou M, Olongusua Y, Ahmed A (2005) Outcome of scleral buckling for primary rhegmatogenous retinal detachment in Nigeria. *Medical Science Monitor* 11: CR589-CR593.
9. Ramesh C, Nayak BS, Pai VB, Patil NT, George A, et al. (2017). Effect of Preoperative Education on Postoperative Outcomes Among Patients Undergoing Cardiac Surgery: A Systematic Review and Meta-Analysis. *J Peri Anesthesia Nursing*.
10. Deyirmenjian M, Karam N, Salameh P (2006). Preoperative patient education for open-heart patients: a source of anxiety? *Patient Education and Counseling* 62: 111-117.
11. Kongstvedt PR (2001) *The managed health care handbook*: Jones & Bartlett Learning.
12. Kruzik N (2009) Benefits of preoperative education for adult elective surgery patients. *AORN J* 90: 381-387.

13. O'Brien L, McKeough C, Abbasi R (2013) Pre-surgery education for elective cardiac surgery patients: A survey from the patient's perspective. *Australian Occupational Therapy J* 60: 404-409.
14. Hamidzadeh S, AHMADI F, Asghari M (2006) Study Effect of Relaxation Technique on Anxiety and Stress in Elders with Hypertension.
15. Dandona R, Dandona L, John RK, McCarty CA, Rao GN (2001). Awareness of eye diseases in an urban population in southern India. *Bulletin of the World Health Organization* 79: 96-102.
16. Silva E (2001) Nursing concepts of stress adaptation. *Rehabilitation Nursing* 18: 25-28.
17. Zigmond AS, Snaith RP (1983) The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica* 67: 361-370.
18. Montazeri A, Vahdaninia M, Ebrahimi M, Jarvandi S (2003) The Hospital Anxiety and Depression Scale (HADS): translation and validation study of the Iranian version. *Health and Quality of Life Outcomes* 1: 14.
19. Steinberg EP, Tielsch JM, Schein OD, Javitt JC, Sharkey P, et al. (1994). The VF-14: an index of functional impairment in patients with cataract. *Archives of Ophthalmol* 112: 630-638.
20. Asgari S, Hashemi H, Nedjat S, Shahnazi A, Fotouhi A (2011) Persian version of the 25-item National Eye Institute Visual Functioning Questionnaire (NEI-VFQ 39): a validation study. *Iranian J Ophthalmology* 23: 5-14.
21. Linder M, Chang TS, Scott IU, Hay D, Chambers K, et al. (1999) Validity of the visual function index (VF-14) in patients with retinal disease. *Archives of Ophth* 117: 1611-1616.
22. Brody BL, Roch-Levecq AC, Gamst AC, Maclean K, Kaplan RM (2002) Self-management of age-related macular degeneration and quality of life: a randomized controlled trial. *Archives of Ophtha* 120: 1477-1483.
23. Lau J, Lee V, Fan D, Lau M, Michon J (2002). Knowledge about cataract, glaucoma, and age related macular degeneration in the Hong Kong Chinese population. *British J Ophtha* 86: 1080-1084.
24. Attebo K, Mitchell P, Cumming R, BMATH WS (1997) Knowledge and beliefs about common eye diseases. *Australian and New Zealand J Ophthalmology* 25: 283-287.
25. Mohammed SF, Al Garba A, Saleh JA, Aqeel AS (2015) Awareness and Knowledge of Diabetic Ocular Diseases among Diabetic Patients at Aden Diabetic Center, Aden, Yemen. *Iraqi J Medical Sci* 13(1).
26. Ramos ML, de Matos MG, Branquinho C, Atia, Pereira LM (2011) Helping patients in cataract peri-and post-surgery: A simple intervention addressing anxiety. *International J Nursing and Midwifery* 3: 76-80.
27. Lee L, Packer TL, Tang SH, Girdler S (2008). Self-management education programs for age-related macular degeneration: A systematic review. *Australasian journal on ageing* 27: 170-176.
28. Brody BL, Williams RA, Thomas RG, Kaplan RM, Chu RM, et al. (1999) Age-related macular degeneration: a randomized clinical trial of a self-management intervention. *Annals of Behavioral Med* 21: 322-329.
29. Jackson TL, Nicod E, Angelis A, Grimaccia F, Prevost AT, et al. (2013) Pars plana vitrectomy for vitreomacular traction syndrome: a systematic review and metaanalysis of safety and efficacy. *Retina* 33: 2012-2017.
30. Augustin A, Sahel JA, Bandello F, Dardennes R, Maurel F, et al. (2007) Anxiety and depression prevalence rates in age-related macular degeneration. *Investigative Ophthalmology & Visual Science* 48: 1498-1503.
31. Lotery A, Xu X, Zlatava G, Loftus J (2007) Burden of illness, visual impairment and health resource utilisation of patients with neovascular age-related macular degeneration: results from the UK cohort of a five-country cross-sectional study. *British J Ophtha* 91: 1303-1307.
32. Berman K, Brodaty H (2006) Psychosocial effects of age-related macular degeneration. *International Psychogeriatrics* 18: 415-428.
33. Mitsonis CI, Dimopoulos NP, Andriotis NM, Mitropoulos PA, Mitsonis MI, et al. (2006) Anxiety and depression in cataract surgery: a pilot study in the elderly. *Psychological Reports* 99: 257-265.
34. Hariprasad SM, Mieler W, Grassi M, Green J, Jager R (2008) Vision-related quality of life in patients with diabetic macular oedema. *British J Ophthalmology* 92: 89-92.
35. Hirneiß C, Neubauer AS, Gass CA, Reiniger IW, Priglinger SG et al. (2007) Visual quality of life after macular hole surgery: outcome and predictive factors. *British J Ophtha* 91: 481-484.
36. Brody BL, Roch-Levecq AC, Thomas RG, Kaplan RM, Brown SI (2005) Self-management of age-related macular degeneration at the 6-month follow-up: a randomized controlled trial. *Archives of Ophthalmology* 123: 46-53.
37. Bandura A (1997) *Self-efficacy: The exercise of control* New York: Freeman.
38. Ogunyemi AO, Mabekoje SO (2007) Self-efficacy, risk-taking behavior and mental health as predictors of personal growth initiative among university undergraduates. *J Research in Educational Psychology* 12: 349-362.
39. Schwarzer R, Fuchs R (1996) Self-efficacy and health behaviours. Predicting health behavior. Research and practice with social cognition models, Freie Universität Berlin 163-196.
40. Schwarzer R, Luszczynska A (2007) Self-efficacy. *Health Behavior Constructs. Theory, Measurement and Research* National Cancer Institute Website: <http://cancercontrol.cancer.gov/constructs>.
41. Loghmani L, Jariani A, Borhani F (2006) Effect of preoperative education in the postoperative depression in patients undergoing open heart surgery. *J Daneshvar* 14: 33-42.
42. EZATI N (2012) Effect of Knowledge about Self Care Behaviors on Fear and Anxiety in Patients with Coronary Artery Disease.