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Correlation Between Cataract Surgery and Anxiety Levels in Senile Cataract Patients

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Abstract

Background: Cataract may cause decrease of vision due to clouding of the lens. Poor vision and surgery caused by cataract may also result in an increased risk of anxiety and depression. **Purposes:** to determine the correlation between cataract surgery and anxiety levels in patients who will undergo cataract surgery. **Methods:** This is a cross-sectional study design and conducted according to the Declaration of Helsinki and was approved by the local ethical committee amongst the senile cataract patients. The data were analyzed by using spearman's rank correlation test to find the correlation between cataract surgery and anxiety level. The sampling method was purposive sampling. The Hamilton Anxiety Rating Scale (HAM-A) or HRS-A (Hamilton Rating Scale for Anxiety) was used to rate the severity of patient's anxiety. **Results:** A number of 63 cataract patients who will undergo cataract surgery were included for analysis and have been interviewed to get the anxiety level by using HAM-A. The most age of patient was 50-59 years old (29;46%). The stage of the senile cataract was mostly the mature stage of about 36 patients (57.1%). From HAM-A questionnaire the most anxiety level of senile cataract patients who will be operated was moderate level (49;77,8%). Spearman's rank correlation test with SPSS 17 obtained $p = 0.002$ with sig (2-tailed) value < 0.05 and correlation coefficient $r = 0,383$. **Conclusion:** There is a correlation between cataract surgery and anxiety levels in senile cataract patients who will undergo cataract surgery.

Keywords: Senile Cataract, Cataract Surgery, Anxiety Level, Hamilton Anxiety Rating Scale

Introduction

Cataract is the condition when the transparency loss from the lens and begins to opacify that may affect the vision. It is the world's leading cause of treatable blindness. Cataract can affect all humans due to the physiological aging process. Senile cataract is the most prevalent type in adult with the onset started at the age of 45 to 50 (Murthy G et al., 2008; Tsentalovich Y et al., 2015)

Senile cataract is an age-related cataract, characterized by gradual progressive thickening of the lens. The clinical staging of senile cataract may be divided as, incipient cataract, immature cataract, mature cataract and hypermature

cataract. Surgical extraction is the only available treatment for cataractous lens (Limburg H et al., 1999; Foggitt P, 2001). Anxiety in surgical patients is a well-known preoperative sentiment, and is present regardless of perceived intrusiveness of the operation. Indeed, one manifestation of this anxiety, the fear of death, predominates patient concerns irrespective of whether the patient undergoes major or minor surgery (Limburg H et al., 1999). Some studies indicate that cataract patients may have anxiety before surgery, during surgery and after surgery (David A et al., 2017). ¹Patient with cataract often got anxiety preoperatively not only due to the technique and the anesthesia administration but also becoming blindness after cataract surgery (David A et al., 2017; Foggitt P, 2001).

Methods

This is an observational analytic study with cross-sectional design. The study was conducted on all senile cataract patients who were registered as patients undergoing cataract surgery, and diagnosed as a senile cataract at Handayani Kotabumi Hospital in North Lampung in the period of May to July 2018. The data from 63 respondents were collected using purposive sampling method. The Hamilton Anxiety Rating Scale (HAM-A) was used to rate the severity of patient's anxiety. HAM-A is a clinician rating scale that assesses the severity of predominantly biological and behavioral symptoms of anxiety, by using psychological questionnaire. To implement the HAM-A scale, the scale has been translated into Bahasa (Indonesian language) to make the participants easy to understand, take approximately ten to fifteen minutes to administer, and under the supervision of a psychiatrist. To implement the Hamilton Anxiety Rating Scale, the acting clinician proceeds through the fourteen items, and for the evaluation, the clinician compiles a total, composite score based upon the summation of each of the 14 individually rated items. This calculation will yield a comprehensive score in the range of 0 to 56. It has been predetermined that the results of the evaluation can be interpreted as follows. A score lower than 14 indicates no anxiety. A score from 14 to 20 indicates mild anxiety. A score of 21 to 27 indicates moderate anxiety. A score from 28 to 41 indicates severe anxiety. Lastly, a score of 42 to 56 indicates panic attack.

Results

Data collection is done within 2 months by following a predetermined operating schedule. Data collection techniques for anxiety were carried out by using the Hamilton Rating Scale for Anxiety (HRS-A) questionnaire. The characteristics of respondents are based on age, cataract stage, and anxiety level. Based on age, participants taken as respondents are those aged 50 years and above. And then the researcher conducted an interview based on the questionnaire.

A total of 63 cataract patients who will undergo cataract surgery met the inclusion criteria to be participants. From this study, the most common age of group was the age of 50-59 years (29; 46 %), followed by the age of 60-69 years (19; 30,2%)

Table 1. Distribution of participants, based on the age

Age (Years)	Frequency	Percentage(%)
50-59	29	46
60-69	19	30,2
70-79	11	17,5
≥ 80	4	6,3
Total	63	100

Table 2. Distribution of participants, based on the gender

Sex	Frequency	Percentage(%)
Male	14	22,2
Female	49	77,8
Total	63	100

From table 2 the most participants who get anxiety preoperatively are female (49;77,8%). Only 14 males suffering anxiety during this study. Woman tend to experience anxiety more often than men in this study.

Table 3. Distribution of participants based on the stage of senile cataract

Senile Cataract Stage	Frequency	Percentage (%)
Immature	5	7.9
Mature	36	57.1
Hypermaturation	22	35
Total	63	100

From table 3 the most participants who will undergo cataract surgery is those who diagnosed as a Mature cataract (36; 57.1%), followed by hypermaturation cataract stage (22;35%)

Table 4. Distribution of participants Based on Anxiety Level

Anxiety Level	Frequency	Percentage (%)
Mild	14	22.2
Moderate	49	77.8
Total	63	100

From table 4. The most anxiety level amongst the participant is moderate level (49;77,8%) level. From this study, there is no one amongst the participants get the severe anxiety and very severe anxiety or panic attack.

Table 5. Distribution of Anxiety Levels amongst the Senile Cataract patients

Senile Cataract Stage	Anxiety Level						Total	
	Mild		Moderate		Severe		N	%
	N	%	N	%	N	%		
Immature	2	40	3	60	0	0	5	100
Mature	12	33,3	24	66,7	0	0	32	100
Hypermaturation	0	0	22	100	0	0	22	100
Total	14		49		0		63	

We conducted this study at the time the patients firstly diagnosed as a cataract and agreed to undergo surgery. The participants with immature cataract experienced more to get anxiety in moderate level (3;60%) rather than mild level (2;40%). In the mature cataract stage, which has more moderate levels of anxiety than mild anxiety levels (24;66.7%). All the participants with hypermaturation cataract experienced with moderate anxiety (22;100%).

Table 6. Statistical analysis correlation between Anxiety Levels and Senile Cataract Patients

		Senile Cataract Stage	Anxiety Level	
Spearman's rho	Senile Cataract Stage	Correlation Coefficient	1.000	.383**
		Sig. (2-tailed)		.002
		N	63	63
		Correlation Coefficient		
	Anxiety Level		.383**	1.000
		Sig. (2-tailed)	.002	
		N	63	63

** . Correlation is significant at the 0.01 level (2-tailed).

Spearman rank correlation test, based on the above data can be seen that after the rank spearman correlation test with SPSS 17 obtained $p = 0.002$ with a sig (2-tailed) value < 0.05 found a significant correlation between the

variables associated with the senile cataract stage variable with anxiety level. The correlation coefficient $r = 0,383$ which indicates that the relationship between stages of cataract with anxiety level has a positive or unidirectional value which means that the higher the stage of senile cataract, the higher the level of anxiety.

Discussion

Senile cataracts may cause irreversible blindness. Blindness of cataract is curable by simple surgical procedure. Surgical can have an effect on anxiety in some individuals, especially in developing country populations. Some studies on patients undergoing surgery, anxiety and depression often reported especially in patients who planned elective surgery (Theunissen M et al., 2012; Rodin G and Voshart K, 1986; Valenzuela M et al., 2010). Severe level of anxiety in elective patients are almost experienced, almost all patients are afraid of magnitude of operation, anesthesia and postoperative pain (Lee D et al., 2004; Klopfenstein et al., 2000; *Anna R et al., 2016*). From this study, all the participants were the patients who planned elective cataract surgery. From this study, no severe anxiety level in senile cataract patients who will undergo surgery because all participants know that surgery was the best management so that they could return to see clearly. Even some of the participants had undergone previous cataract surgery on the opposite side of the eye, so they already knew that cataract surgery was not something to worry about too much. In this study we found a correlation between cataract surgery and anxiety levels in senile cataract patients. This study also showed that the higher the age, the better the level of one's emotional maturity and ability to deal with various problems, including anxiety. Different from previous study that age showed no relation to the level of anxiety (*Nijkamp M et al, 2004*). In accordance with former studies woman experienced higher of anxiety level than men (*Spielberger C, 1995; Spina J, 1984; Ezkin E, 2017*). Many researchers have previously looked for the factors that might be reduce anxiety facing surgery. Previous studies did not find any relationship between music and anxiety (Allen K, 2001; Cruise J, 1997). Actually, anxiety facing the surgery will be avoided by providing clear information about the aim of the operation. In accordance with former study, the structured and clear preoperative instructions will decrease the level of anxiety amongst the patient that will undergo cataract surgery (Cruise J, 1997; Morrell G, 2001) However, patient education should include information about visual perception during the procedure and patients should be accompanied by their families or partners at the time of giving information, so that they providing social support to the patients and may relieving the unnecessary distress. The lack of this research is that, all participants are patients who will undergo cataract surgery without distinguishing the surgical technique that will be undertaken. Considering the difference in surgical technique may probably cause different levels on anxiety. Future research should therefore not only illustrate in anxiety level between the different surgical technique but also examined differences in anxiety levels before and after cataract surgery.

Conclusion

Anxiety is a natural feeling and commonly occurrence in every human being. Anxious feelings about surgical procedures, pain, and anaesthetic are almost found in every patient who will undergo cataract surgery. By giving a good informed consent, clear information and good education will reduce the patient's anxiety level.

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