ORIGINAL RESEARCH PAPER

Psychology

KEY WORDS: Coping, Elective surgery, Pain, Psycho-educational Interventions

COPING, HOSPITAL ANXIETY AND DEPRESSION AND PAIN EXPERIENCE IN ELECTIVE SURGERY PATIENTS: ROLE OF PSYCHO-EDUCATIONAL INTERVENTIONS

Dr. Usha Chivukula* Assistant professor Centre for Health Psychology University of Hyderabad *Corresponding Author

Durgesh Nandinee Guest faculty Centre for Health Psychology University of Hyderabad

ABSTRACT

Surgery of any kind can provoke distress in a patients. Preoperative psycho-educational interventions can significantly reduce anxiety, depression and pain experience of patients undergoing elective surgery. The study was conducted on 150 elective surgery patients undergoing cardiac, knee and visceral surgery. Preoperative psycho-educational interventions was found to enhance coping strategies, mitigate anxiety and depression and reduce the post-operative pain experience.

Introduction

Elective surgery in contrast to a medical emergency surgery is done in a scheduled time frame to stabilize the patient's condition. Surgery of any kind can provoke distress in patients, which includes fear of adjustment to hospital environment, fear of the outcome, fear of hospitalization, fear about time of recovery, dependency and concern about the family members, (Moser et al., 20013; Cosco, Doyle, Ward & McGhee, 2012). Depression and anxiety are widely diagnosed in patients undergoing and awaiting for surgery (Rocchi, Scalvini ,Boraso, Ghidelli, Giordano, 2004).Studies revealed that preoperative anxiety affects 60-70% of surgical patients (Guo, East & Arthur, 2012). Anxiety and depression adversely impact the quality of life of patients undergoing surgery. In many medical procedures the central aspect of recovery is coping, which mediate the disease symptoms and the outcomes such as pain management and psychosocial adjustment. Research reveals that patients use several coping strategies such as self-distraction, information seeking, and conversation with medical professionals to relieve themselves from anxiety (Aust, et al., 2016)

Researchers suggests that holistic individualized interventions can improve patient outcomes (Sharma, Kudesia, Shi & Gandhi, 2016). One such intervention is preoperative information. Pre-operative information which normally includes information related to surgery has varied effects on patient recovery. According to Hughes (2002) pre-operative information prepares patients for the physiological and psychological outcomes of surgery. Provision of pre-operative information leads to significant anxiety reduction in patients going for elective surgery (Nq, Chau & Leung, 2004). Sjöling, Nordahl, Asplund,Olofsson, and 2003 in their research found that pre-operative information declines the experience of pain in surgical patients. Cognitive distraction and reappraisal with information is found to have significant influence on post-operative outcomes in women who underwent hysterectomy (Callaghan & Li, 2002). The present study is an attempt to find out the role of preoperative psychoeducational interventions on coping, anxiety and depression and pain experience of patients undergoing elective surgery. Psycho-educational intervention is not information related to the pre and post-surgery outcomes, it includes enhancing coping and reducing anxiety with the help of psychoeducation, relaxation and counseling.

Objective

1. To assess the difference between the two groups of elective surgery patientson coping, hospital anxiety and depression and pain experience.
2. To determine if there is a relationship between coping, hospital anxiety and depressionand pain experience in patients undergoing an elective surgery.

Method

Design: A pretest-posttest control and experimental group design was used to assign participants to a control group (n=75) where no intervention was provided and an experimental group (n=75) where the participants received 45-50 minutes of pre-operative psychoeducation intervention.

Participants:

The participants in the study included 150 elective surgery patients undergoing Coronary Artery Bypass Graft, Knee replacement and visceral surgeries. The participants were in the age group of 35 to 60 years (M= 53.98 years).

Instruments

Psycho-educational intervention: constitutes of a book let comprising information about the surgery, a psycho educational component, relaxation and counselling. The psycho-educational intervention was provided to the intervention group prior to the surgery.

Hospital Anxiety and Depression Scale (HADS) was developed by Zigmond and Snaith, (1983) was used to measure the levels of anxiety and depression. It is a 4-point Likert scale with 14 items, equally divided into two sub-scales: anxiety and depression. Total score ranged from 0 to 21 and it was calculated by summing up the item scores.

Brief Cope: was developed by Carver, Scheier & Weintraub (1989) is a 28-item, self-report questionnaire consists of 14 scales with two items under each. The scales are computed individually with no reversals of coding and no overall scoring.

Pain Catastrophizing Scale (PCS): is a 13-item instrument developed by Sullivan et al., (1995) with three dimensions viz. rumination, magnification, and helplessness. The total scores ranged between 0 – 52, higher score indicating higher pain experience.

Procedure

Permission order and consent was taken from six hospitals, in Hyderabad and Vishakhapatnam. Written consent was obtained from pre-operative patients. For the control group all the three scales were administered, while the experimental group received intervention along with the scales. The responses of the patients were analyzed and the results were interpreted.

Results

Table 1: **Results of Mann-Whitney U-test on Pain, Coping and Hospital Anxiety and Depression of elective surgery patients.**

Variables			Elective Surgery Groups		
			Control	Experimental	Sig
Pain	Z	U	Mean rank	Mean rank	

Rumination	6.77	1028.50	99.29	51.71	.000
Magnification	8.77	509	106.21	44.79	.000
Helplessness	10.50	25	112.91	38.09	.000
Coping					
Self-distraction	8.15	712.50	64.23	86.77	.001
Active coping	4.88	1562	41.65	109.35	.000
Denial	6.83	1045.50	99.06	51.94	.000
Substance use	.00	2812.50	75.50	75.50	.099
Emotional support	2.30	2211	67.48	83.52	.002
Instrumental support	.89	2583	78.56	72.44	.370
Behavioral disengagement	.92	2573	72.31	78.69	.354
Venting	4.57	1631.50	91.25	59.75	.000
Positive reframing	2.62	2136	66.48	84.52	.009
Planning	1.43	2437.50	70.50	80.50	.152
Humor	6.06	1508	92.89	58.11	.000
Acceptance	7.62	988	92.17	58.83	.000
Religion	7.18	968	100.09	50.91	.000
Self-blame	9.01	466.50	106.78	44.22	.000
HADS					
Anxiety	7.82	715	102.99	48.01	.000
Depression	6.53	1095.50	102.57	48.43	.000

Table 1 presents the result of Mann Whitney U test of the two groups of elective surgery patients on pain, coping and hospital anxiety and depression. The results revealed both control and experimental groups significantly differed (Z = 6.77; p < .000) on rumination where the mean rank of both the groups were 99.29 and 51.71 respectively. The difference between both the groups on magnification subscale was significant (Z = 8.77; p < .000) and the mean rank for control group was 106.21 and experimental group was 44.79. Both groups differed significantly on helplessness subscale (Z = 10.50; p < .000) and the mean rank for both control and experimental groups were 112.91 and 38.09 respectively. The mean rank of self-distraction of control group was 64.23 and experimental group was 86.77 and the difference between two groups found to be significant (Z = 8.15; p < .000).The difference was found to be significant (Z = 4.88; p < .001) in relation to active coping in both control and experimental group where the mean ranks were 41.65 and 109.35respectively. Similarly for subscale denial the difference was found to be significant (Z = 6.83; p < .001) in both control group and experimental group with mean ranks 99.06 and51.94 respectively. There was a significant difference (Z = 2.30; p < .020) between control group (67.48) and experimental group (83.52) in relation to emotional support. There was a significant difference between control group and experimental group in relation to venting (Z = 4.57; p < .000) and ranks were 91.25 and59.75respectively. The rank of positive reframing in control group (66.48) and in experimental group (84.52) was found to be significantly different (Z = 2.62; p < .009). No significant difference found between the two groups on instrumental support, behavioral disengagement and planning subscales. The rank of humor in control group was 92.89 and 58.11 in experimental group showing a significant difference (Z =6.06 p < .000). The rank of acceptance in control group was 92.17and in experimental group was 58.83where difference also found to be significant (Z = 7.62; p < .000). There was a significant difference between control group (100.09) and experimental group (50.91) on religion (Z = 7.18p < .001). The result also revealed that there is significant difference between control group (106.78) and experimental group (44.22)on self-blame (Z = 9.01; p < .001). The result also showed a significant difference between control group (102.99) and experimental group (48.01) in relation to anxiety (Z = 7.82; p < .001).The result revealed a significant difference between control group and experimental group on depression (Z = 6.73; p < .001) and the rank of both the groups were 102.57 and48.43respectively.

Table 2: **Correlation between Coping, Pain and Hospital Anxiety and Depression in patients undergoing elective surgery**

	Rumination	Magnification	Helplessness	Anxiety	Depression
Coping					
Self-distraction	.11	.00	.03	.18**	.33**
Active coping	-.25**	-.42**	-.54**	-.38*	-.31**
Denial	.18*	.31**	.41**	.38**	.31**
Substance use	-.11	-.04	-.04	-.02	-.04
Emotional support	-.35**	-.34**	-.05	-.18*	-.20**
Instrumental support	.28**	.31**	.38**	.36**	.47**
Behavioral disengagement	.21**	.20*	.25**	.31**	.48**
Venting	.31**	.32**	.50**	.46**	.59**
Positive reframing	.18*	.08	.09	.22**	.34**
Planning	.29**	.23**	.26**	.32**	.43**
Humor	.59**	.67**	.81**	.74**	.88**
Acceptance	.53**	.59**	.76**	.71**	.82**
Religion	.61**	.67**	.84**	.76**	.90**
Self-blame	.60**	.66**	.83**	.69**	.76**

Note: **p < .001; * p < .05.

From Table 2 it is evident that 12 dimensions of coping are significantly correlated with the dimensions of pain. Significant positive correlation was observed between the subscale rumination and the three dimensions of coping viz. religion (r = .61, p < .01), self-blame (r = .60, p < .01), humor (r = .59, p < .01), acceptance. A significant negative correlation was observed between rumination and the two dimensions of coping viz. active coping (r = -.25, p < .01), emotional support (r = -.35, p < .01). The results also showed a positive correlation between acceptance (r = .53, p < .01); humor (r = .67, p < .01); self-blame (r = .66, p < .01); religion (r = .67, p < .01) and the dimension of pain magnification. Significant negative correlation found between coping subscale viz. active coping, (r = -.42, p < .01); substance use (r = -.34, p < .01) and pain magnification. Out of 14 dimensions of coping 10 dimensions are significantly correlated with the dimensions of pain that is helplessness. Significant positive correlation was found between the dimensions of coping viz. religion (r = .84, p < .01); self-blame (r = .83, p < .01); humor (r = .81, p < .01); acceptance (r = .76, p < .01); denial (r = .41, p < .01); planning (r = .26, p < .05) and helplessness dimension of pain. Significant negative correlation found between active coping and helplessness (r = -.54, p < .01). Out of 14 dimensions of coping 13 dimensions are significantly correlated with the anxiety. Significant positive correlation found between anxiety and the coping subscales viz. religion (r = .76, p < .01); humor (r = .74, p < .01); acceptance (r = .71, p < .01); self-blame (r = .69, p < .01); venting (r = .46, p < .01); instrumental support (r = .36, p < .01). Significant negative correlation found between active coping, (r = -.38, p < .01); emotional support (r = -.18, p < .01) and anxiety. Out of 14 dimensions of coping 13 dimensions are significantly correlated with the dimensions of depression. Significant positive correlation was found between depression and coping subscales viz. religion (r = .90, p < .01); self-blame (r = .76, p < .01); venting (r = .59, p < .01); denial (r = .31, p< .01). Significant negative correlation found between active coping (r = -.31, p < .01); emotional support(r = -.20, p < .01) support and depression.

Discussion

Elective surgery is often associated with anxiety and pain. The objective of the study was to establish if pre-operative psycho-educational intervention could help in mitigating anxiety, depression and pain in patients. The study shows that pre-operative psycho-educational intervention has a significant influence on pain, coping and hospital anxiety and depression. The results of the study showed that patients who received pre-operative psychoeducation had lower levels of anxiety and depression. Patients who received pre-operative psycho-educational intervention experienced a reduced amount of post-

surgical pain in terms of rumination, magnification and helplessness. Patients of the intervention group were found to use coping strategies like self-distraction, active coping, emotional support, venting, positive reframing, planning, and acceptance. Self-blame as a coping strategies was found be less used by the group that were given the intervention. It was also observed that increasing use of active coping can considerably lower pain, anxiety and depression in elective surgery patients. Emotional support also seemed to be a moderator of pain experience, anxiety and depression. Pre-operative psycho-educational interventions seem to have considerable influence on the coping, pain experience and psychological distress among elective surgery patients. The study reveals that providing pre-operative psycho-educational intervention which comprises of psychoeducation, relaxation and counseling can help alleviate anxiety in patients. Such interventions help patients get an understanding of the surgical procedure and assist them in facing the condition and return to normalcy.

References

1. Aust. H., Rüsch, D., Schuster, M., Sturm, T., Brehm, F., & Nestoriuc, Y. (2016). Coping strategies in anxious surgical patients. BMC Health Services Research, 16(1):250. doi: 10.1186/s12913-016-1492-5
2. Callaghan, P, & Li, C. H. (2002).The effect of pre-operative psychological interventions on post-operative outcomes in Chinese women having an elective hysterectomy. The British journal of health psychology, 7(2), 247-252. Doi: 10.1348/135910702169475
3. Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 56(2), 267-283.
4. Cosco, T. D., Doyle, F., Ward, M., & McGee, H. (2012). Latent structure of the Hospital Anxiety and Depression Scale: A 10-year systematic review, Journal of psychosomatic research, 72(3), 180-184. Doi: 10.1016
5. Moser, J. S., Moran, T. P., Schroder, H. S., Donnellan, M. B., & Yeung, N. (2013). On the relationship between anxiety and error monitoring: a meta-analysis and conceptual framework. Frontiers in Human Neuroscience, 7, 466. Doi:10.3389/fnhum.2013.00466
6. Nq, S. K., Chau, A.W., & Leung W. K. (2004). The effect of pre-operative information in relieving anxiety in oral surgery patients. Community Dental Oral Epidemiology. 32(3)227-35
7. Guo, P., East, L., & Arthur, A. (2012). A preoperative education intervention to reduce anxiety and improve recovery among Chinese cardiac patients: A randomized controlled trial. International Journal of Nursing Studies, 49(2), 129-137. DOI: 10.1016/j.ijnurstu.2011.08.008
8. Hughes, S. J. (2002). The effect of giving pre-operative information. Nursing standard: official newspaper of Royal College of Nursing. 16(28), 33-37
9. Rocchi, S., Scalvini, S., Boraso, A., Ghidelli, C., & Giordano, A. (2004). Anxiety, depression, and stressed life in patients awaiting heart transplantation: Are these factors to be considered? Monaldi Archives for Chest Disease, 62(1), 1-6.
10. Sharma, A., Kudesia, P., Shi, Q., & Gandhi, R. (2016). Anxiety and depression in patients with osteoarthritis: impact and management challenges. Open Access Rheumatology : Research and Reviews, 8, 103–113. http://doi.org/10.2147/OARRR.S93516
11. Sjöling, M., Nordahl, G., Olofsson, N., & Asplund, K. (2003).The impact of preoperative information on state anxiety, postoperative pain and satisfaction with pain management .Patient Educcation and Counseling, 51(2),169-76.
12. Sullivan, M. J. .L, Bishop, S., & Pivik. J. (1995). The Pain Catastrophizing Scale: Development and validation. Psychological Assessment, 7, 524-532.
13. Zigmond, A. S., & Snaith, R. P.(1983).The hospital anxiety and depression scale. Acta Psychiatrica Scandinavica.67(6),361-70.