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Psychosocial Predictors of Reported Fear among Patients for Surgery in University College Hospital, Ibadan, Oyo State, Nigeria

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Abstract

Having surgery is an experience that creates anxiety and fear in individuals which can lead to a failed appointment and refusal to get treated of an illness. This study therefore examined the psychosocial predictors of reported fear among patients scheduled for surgery in University College Hospital, Ibadan, Nigeria. The cross-sectional survey design was adopted to select 209 patients awaiting surgery in the University College Hospital, Ibadan in Nigeria using purposive sampling technique. Four validated scales were used for data collection. Findings revealed that self-esteem significantly predicted surgical fear among patients scheduled for surgery. Results also showed a significant positive relationship between social support and fear of patients scheduled for surgery. However, personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) did not account significantly for variations observed in the reported surgical fear. It was therefore recommended that nurses, doctors, and other health professionals who are part of the surgical team should be equipped with adequate knowledge on management and reduction of preoperative fear in patients scheduled for surgery.

Keywords: Psychosocial predictors, fear, patients scheduled for surgery

Introduction

Having surgery is an experience that creates anxiety and fear in individuals. Pre-operative fear is a typical emotional response in many patients awaiting surgery (Akutay & Ceyhan, 2023; Teunissen et al. 2018). Fear can be seen in 60–80% of patients before surgery (Akutay & Ceyhan, 2023; Guerrier et al. 2021; Karayağız et al. 2011). The reasons for the fear of the patients before the surgery are uncertainty about the disease and the future, lack of information about the operation process, inability to wake up from anesthesia, lifestyle changes, deterioration in body image, postoperative pain, disability, and fear of death (Karadağ et al. 2019). Fear before surgery can affect postoperative wound healing, pain and anesthesia intensity, and analgesia requirements (Stamenkovic et al. 2018; Maeshi et al. 2018; Sidar et al. 2013). In this process, the stress response affect wound healing directly and indirectly. The direct effect is due to stress hormones (cortisol, epinephrine, norepinephrine), while the indirect effect is due to the type of anesthesia, general health status before the surgery, and the effects of habits such as smoking and alcohol (Karadağ et al. 2019; Sürme 2019).

Many studies deal with patients' emotional, social, and individual factors and their effect on various health parameters. It is also argued that these factors may affect the course of acute and chronic disease and the recovery and survival of patients (Levett 2019; Mavros et al. 2011). In addition, it is stated in the literature that preoperative fear increases the intensity of postoperative pain and cause the individual to need more analgesics and have difficulty controlling pain (Sidar et al. 2013; Robleda et al. 2014; Socea et al. 2020; Peker 2020; Kandemir et al. 2019).

Despite good intentions of the dedicated surgical team, via pre-surgical counseling and pre visits, many patients still exhibit some degree of fear which invariably sometimes leads to poor outcome of surgery. It is a known fact that a mind that is not

at peace directly influences the functioning of the body, therefore it is imperative to know the level of fear the surgical clients are experiencing during the period of hospitalization before being operated. It is imperative to reveal the factors affecting the fear and explain the relationships of these factors in planning the right interventions for the patients to make the proper intervention regarding the patients' fears in the pre-operative period. However, studies examining the relationship between these factors which are thought to affect pre-operative fear, are limited in the literature (Sürme & Cimen 2022; Taylan & Çelik 2022; Amiri et al. 2021; Kaya & Karaman 2019). In addition, there is a dearth in which psychosocial variables (self-esteem, social support and personality traits) to surgical intervention are revealed and the relationship between fear levels. It is based on this backdrop that the present study seek to identify the psychosocial predictors (self-esteem, self-efficacy, social support and personality traits) of reported fear among patients schedule for surgery in the University College Hospital, Ibadan.

Hypotheses

1. Self-esteem will significantly predict surgical fear among patients scheduled for surgery.
2. Social support will significantly predict surgical fear among patients scheduled for surgery.
3. Extraversion will significantly predict surgical fear among patients scheduled for surgery.
4. Agreeableness will significantly predict surgical fear among patients scheduled for surgery.
5. Conscientiousness will significantly predict surgical fear among patients scheduled for surgery.
6. Emotional stability will significantly predict surgical fear among patients scheduled for surgery.

7. Openness to experience will significantly predict surgical fear among patients scheduled for surgery.

Method

Research Design

A cross-sectional research design was adopted in this study. This is to know the influence of the independent variables on the dependent variable without necessarily manipulating the independent variables. The independent variables are psychosocial factors (self-esteem, social support, personality traits and coping skills while the dependent variable is reported fear. The study utilized a design to identify the psychosocial predictors of reported fear among patients schedule for surgery in the University College Hospital, Ibadan.

Research Setting

The study was carried out in the Surgical Outpatients Clinic/wards of the University College Hospital (UCH), Ibadan. It is a tertiary institution, which receives referral cases from other health facilities. University College Hospital was established by an act of parliament in November 1952. It is strategically located in Ibadan the largest city in West Africa which is also the seat of the first University in Nigeria. The hospital has 1000 bed spaces with various specialties such as**:** Internal medicine, surgery, obstetrics and gynecology, pediatrics, otorhinolaryngology, ophthalmology, anesthesia, laboratory medicine, psychiatry, community medicine, general medical practice, radiology, radiotherapy, dentistry, and geriatrics. The hospital surgical departments render surgical treatment in 11 different specialties. The hospital has a main theatre complex which consists of 7 operating suites and ancillary areas of the operating department. The research was carried out at the Adult surgical wards of the University College Hospital, Ibadan, where pre and post –operative clients are admitted.

Population

The target population comprised patients awaiting surgery in the UCH, Ibadan.

Sample Size Determination

The sample size for this study was determined using the (Yamane, 1967) sample size formula below:

Where,

n = required sample size

N= estimated population of patients schedule for surgery in the selected wards of the UCH on weekly basis (250)

e = level of error tolerance 5%

Adjusting the sample size for 10% non-response

where,

Therefore, a total of 209 patients was recruited for the study.

Sampling Techniques

Purposive sampling technique was used to select participants for the study.

Inclusion Criteria

- Participants were patients scheduled for surgery.
- Participants were willing to participate in the study.
- Participants were available at the time of data collection.

Exclusion Criteria

- Unconscious surgical patients.

- Non-consenting patients.
- Participants who were not available at the time of data collection.
- Peadiatric patients

Procedure

A validated structured questionnaire that was delivered by the interviewer and modified from Rosenberg (1965) was used to elicit information from the participants on socio-demographic characteristics, self-esteem, Social Support Questionnaire, Five-Dimensional Personality Inventory (FDPI), Surgical Fear Questionnaire and effect of fear on surgical patients.

Self Esteem Scale

Rosenberg's self-esteem scale (Rosenberg, 1965) was used to assess self-esteem of the participants. Rosenberg's scale is a 10-item dimensional instrument with a Likert scale in which a positive or a negative response is weighed with a four-point scale, ranging from 'strongly agree' to 'strongly disagree', resulting in a scale of 0–30 points. This scale has been used many times with proven reliability and validity for the general population and orthodontic patients (Jung, 2010; Nicodemo ET AL., 2008; Vaida ET AL., 2009). The items 2, 5, 6, 8, 9 are reverse scored. Give "Strongly Disagree" 1 point, "Disagree" 2 points, "Agree" 3 points, and "Strongly Agree" 4 points. Sum scores for all ten items. Keep scores on a continuous scale. Higher scores indicate higher self-esteem.

Surgical Fear Questionnaire (SFQ)

Surgical Fear Questionnaire (SFQ) developed by Theunissen, Peters, Schouten, Fiddelers, Willemsen & Pinto (2014) determines the level of fear of patients who will undergo elective surgery. The questionnaire, consisting of eight items, has an 11-Likert structure. Each item is scored as 0, "not afraid at all," and 10, "very afraid." The questionnaire has two sub-dimensions, each consisting of four items, showing the

fear of surgery's short and long-term results. The subscale score is obtained by adding the scores of the four items in the sub-dimensions of the questionnaire, and the total score of the questionnaire is formed by adding the scores of the two subscales. The total questionnaire score is 0 at the lowest and 80 at the highest. A high score indicates a heightened fear of surgery. In this study, the mean score of the Surgical Fear Questionnaire was 18.04 ± 20.38, the mean score of the short-term sub-dimension (SFQ-S) was 9.49. In this study, the Cronbach a coefficient of the scale was 0.88.

Social Support Scale:

Social Support Questionnaire developed by Cohen et al, (1985) is a self-report measure of social support. Reliability ranged from 0.67 – 0.97. The most common forms of validation reported were content validity and construct validity and the least was criterion-related validity. The total score is calculated by finding the sum of the all items. The total score ranges between 12 and 24, with a higher score indicating high social support.

Five-Dimensional Personality Inventory (FDPI)

Five-Dimensional Personality Inventory (FDPI) was developed by Muzamil & Shawkat (2015), consist of 20 items having 4 items in each of the five dimensions namely openness, conscientiousness, extraversion, agreeableness and emotional stability to measure personality attributes. The scale has a 7-point Likert scoring format ranging from 1- strongly disagree, 2.-disagree, 3- somewhat agree, 4-neutral, 5-somewhat agree, 6- agree and 7- strongly agree options for each item.

Data Analysis

Data obtained was screened for errors and completeness. Analysis was performed using IBM-SPSS version 22. Descriptive statistics of frequency counts, simple

percentage, mean and standard deviation was used to summarize and present the results. Chi-square test was used to investigate whether the relationship between identified psychosocial factors and level of education of the patients.

Ethical Consideration

Ethical approval for the study was gotten from UI/UCH Ethical Committee board. A brief introduction of the study were made known to the study participants. Anonymity and confidentiality were maintained, as respondents were told not to write their names on the questionnaire.

Confidentiality

Confidentiality and anonymity were guarded. The information was collected through a questionnaire which does not require disclosure of the participants' name. Serial number was used instead of names.

Translation

The informed consent form was translated into Yoruba language.

Beneficence

This study was also of importance to the surgical patients as the result of the study helped surgical care practitioners in reducing and managing preoperative fear in patients scheduled for surgery.

Non-malfeasance:

This study does not pose any threat, harm or injury to respondents since it does not require invasive procedures. Their time of participation was only needed.

Voluntariness

Participants were free to choose to be involved in study and to withdraw at any time without compulsion.

Result

This section presents results of data obtained from the fieldwork for this research.

Table 4.1: Correlation Matrix Showing the Relationship between Demographics and Surgical Fear

Variables	N	X	SD	1	2	3	4	5	6	7	8	9
1.Age	209	1.54	.78	1								
2.Gender	209	1.47	.50	.043	1							
3.Religion	209	1.26	.45	.294**	.11	1						
4.Tribe	209	1.30	.65	.03	.09	.31**	1					
5.Level of Education	209	3.01	1.17	-.37**	-.27**	-.34**	-.33**	1				
6.Marital Status	209	1.60	.73	.32**	.06	.22**	.13	-.59**	1			
7.Occupation	209	1.98	1.07	.02	-.22**	-.09	-.10	.26**	-.07	1		
8.Estimated Monthly Income	209	1.51	.72	.21**	-.14	.16*	.29**	-.22**	.20**	.06	1	
9.Surgical Fear	209	133.30	30.50	-.02	-.20**	-.16*	-.16*	.38**	-.28**	.17*	-.0	1

*P<.05, **P<.01

Results on Table 4.1 revealed that, age was not significantly related to surgical fear (r = -.02; P > .05). Likewise, estimated income did not have significant relationship with surgical fear (r = -.01; P > .05). However, sex (r = -.20; P < .01), religion (r = -.16; P < .05), tribe (r = -.16; P < .05), level of education (r = .38; P < .01), marital status (r = -.28; P < .01) and occupation (r = .17; P < .05) significantly correlated with surgical fear.

Table 4.2: Summary of Independent t-Test Showing Influence of Self-esteem on Surgical Fear

Self-esteem	N	$\bar{X}$	df	t	P
Low	104	127.42			
			207	2.82	< .03
High	105	139.11			

Hypothesis one which stated that, patients with low self-esteem will report significantly higher surgical fear than patients with high self-esteem was tested using independent t-test. The result on Table 4.8 revealed that self-esteem significantly influenced surgical fear [t (207) = 2.82; p <. 05]. However, observation of the mean scores indicated that patients with high self-esteem (p = 139.11) reported higher surgical fear than patients with low self-esteem (p = 127.42).

Table 4.3: Summary of Pearson Product Moment Correlation Showing Relationship Between Social Support and Surgical Fear

Variables	N	$\overline{X}$	SD	r	p
Social Support	209	59.69	11.10		
				0.36**	<.01
Surgical Fear	209	133.30	30.50		

Hypothesis two which stated that, there will be significant negative relationship between social support and reported surgical fear among patients scheduled for surgery was tested using Pearson product moment correlation. The result presented on Table 4.10 revealed that, there was significant positive relationship between social support and reported fear ($r = 0.36$, $p < .01$).

Table 4.4: Summary of Hierarchical Regression Analysis Showing Predictive Influence of Self-esteem, Social Support and Personality Traits (Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience) on Surgical Fear

Predictors		β	t	p	R	R^2	$^{\Delta}R^2$	F	p
Model 1	Extraversion	.09	1.10	> .05					
	Agreeableness	.07	1.00	> .05					
	Consciousness	-.003	-.04	> .05	0.27	.071	.071	3.10	< .05
	Emotional Stability	.21	2.53	< . 05					
	Openness to Experience	-.13	-1.67	> .05					
Model 2	Extraversion	.08	1.01	> .05					
	Agreeableness	.08	1.03	> .05					
	Consciousness	-.02	-.25	> .05	0.29	0.086	.015	3.16	< .01
	Emotional Stability	.17	2.00	<. 05					
	Openness to Experience	-.13	-1.76	> .05					
	Self-esteem	.13	1.81	> .05					
Model 3	Extraversion	.09	1.13	> .05					
	Agreeableness	.03	.49	> .05					
	Consciousness	-.06	-.82	> .05					

	Emotional Stability	.19	2.29	< . 05	0.44	0.20	.112	7.05	< .01
	Openness to Experience	-.17	-2.30	< .05					
	Self-esteem	.05	.75	> .05					
	Social Support	.35	5.28	< .01					
Model 4	Extraversion	.004	.06	> .05					
	Agreeableness	.001	.01	> .05					
	Consciousness	-.08	-1.31	> .05					
	Emotional Stability	.23	3.05	< . 05	.56	.31	.114	11.31	< .01
	Openness to Experience	-.18	-2.61	< .05					
	Self esteem	.10	1.57	> .05					
	Social Support	.23	3.45	< .01					

Table 4.5 showed in the model Hypothesis seven which stated that, self-esteem, social support and personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) will jointly and independently predict surgical fear significantly among patients scheduled for surgery was analyzed using hierarchical multiple regression analysis. Results on Table 4.11 for model 1 showed that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) significantly predicted surgical fear

R^2= 0.07, F (5, 203) = 3.10; p < .05]. Personality traits contributed 7% of the variance observed in surgical fear. Independently, only emotional stability (β = .21, t = 2.53; p < .05) accounted for significant variation in surgical fear. Extraversion (β =.09, t = 1.10; p > .05), agreeableness (β =.07, t = 1.00; p > .05), conscientiousness (β =.09, t = 1.10; p > .05), (β = -.003, t = -.04; p > .05) and openness to experience (β = -.13, t = -1.67; p > .05) did not account significant for variation in surgical fear.

In addition, findings revealed that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) and self-esteem jointly predicted surgical fear among patients scheduled for surgical fear significantly [R^2= 0.09, F (6, 202) = 3.16; p < .01]. Observation of R^2 value revealed further that personality traits and self-esteem contributed 9% of the variance observed in the surgical fear. Independently, only emotional stability (β = .17, t = 2.00; p < .05) accounted for 17% variation in the surgical fear.

Furthermore, Table 4.4 indicated in the model 3 that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience), self-esteem and social support jointly predicted surgical fear among patients scheduled for surgical fear significantly [R^2= 0.20, F (7, 201) = 7.05; p < .01]. Analysis revealed further that, personality traits, self-esteem and social support jointly contributed 20% of the variance observed in the surgical fear. Regarding independent prediction, emotional stability (β = .19, t = 2.29; p < .05), openness to experience (β = -.17, t = -2.30; p < .05) and social support (β = .35, t = 5.28; p < .01) independently predicted surgical fear significantly.

Finally, Table 4.4 revealed in the model 4 that, personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience), self-esteem, social support and self-efficacy jointly predicted surgical fear among patients scheduled for surgical fear significantly [R^2= 0.31, F (8, 200) = 11.31; p < .01].

Analysis revealed further that, personality traits, self-esteem, social support and self-efficacy jointly contributed 31% of the variance observed in the surgical fear.

Discussion

This study investigated psychosocial predictors of reported surgical fear among patients scheduled for surgery in the University College Hospital. The psychosocial factors include: fear, self-esteem/ personality and social support. It was revealed that, self-esteem significantly influenced surgical fear. However, observation of the mean scores indicated that patients with high self-esteem reported higher surgical fear than patients with low self-esteem. One plausible reason why self-esteem is a predictor of surgical fear is that self-esteem influences how people cope with stressful situations (Du, King,& Chi, 2017). People with high self-esteem tend to use more adaptive coping strategies, such as positive reappraisal, problem-solving, and seeking social support (Orth & Robins, 2024; Thoits, 2012). People with low self-esteem tend to use more maladaptive coping strategies, such as avoidance, denial, and self-blame.

In addition, findings also revealed that there was a significant positive relationship between social support and reported surgical fear. This hypothesis is therefore confirmed.

According to Teach and Rose (2001), lower land of social support is one of the predictors of psychological problems. It is associated with higher level of depression, anxiety, attention problem, thought problems, social problems, sometic complaints and low self-esteem. Closa Leon et all (2010) also conducted an observational study on 101 patients scheduled for elective coronary angiography and found, as expected that participants who reported lower levels of social support were more anxious about undergoing surgery and reported were more anxious about undergoing surgery and reported more cardiac symptoms.

Furthermore, findings of the study showed that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience) did account significant for variation in surgical fear except for emotional stability. Though there is paucity of studies on the influence personality traits on reported surgical fear, Gramstad et al (2013) found similar results suggesting a connection between neuroticism and anxiety.

Finally, findings also revealed that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience), self-esteem, and social support jointly predicted surgical fear among patients scheduled for surgical fear significantly. Analysis revealed further that, personality traits, self-esteem, social support and coping jointly contributed 31% of the variance observed in the surgical fear. Though there is paucity of studies on the joint influence personality self-esteem, social support and coping skills on reported surgical fear, Gramstad et al (2013) found similar results suggesting a connection between neuroticism and anxiety.

Conclusion

This study examined the psychosocial predictors of surgical fear among patients scheduled for surgical operation. Findings revealed that self-esteem significantly influenced surgical fear. Findings also showed that there was a significant positive relationship between social support and reported surgical fear. Findings also revealed that personality traits except emotionality stability significantly influenced surgical fear. Findings also showed that personality traits (extraversion, agreeableness, conscientiousness, emotional stability and openness to experience), self-esteem, social support and self-efficacy jointly predicted surgical fear among patients scheduled for surgical fear significantly. It was therefore concluded that personality traits, self-esteem and social support are psychosocial factors that predict surgical fear among patients scheduled for surgical operation.

Based on these findings, it is suggested that clinicians and psychologists should assess the personality traits, self-esteem and social support of patients scheduled for surgical operation and tailor their interventions accordingly. For example, patients with high levels of neuroticism, anxiety sensitivity or intolerance of uncertainty may benefit from cognitive-behavioral therapy, relaxation training or mindfulness-based interventions, which can help them challenge their negative thoughts, regulate their emotions and cope with uncertainty. Patients with low self-esteem may benefit from self-compassion training, positive affirmations or feedback, which can help them improve their self-image, self-acceptance and self-confidence. Patients with low social support may benefit from social skills training, group therapy or peer support programs, which can help them enhance their interpersonal relationships, communication and sense of belonging.

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Limitations

Since the study was conducted with patients in a single center, the results obtained from the study can only be generalized to the patient group participating in the study.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on request.

Declarations

Ethics approval and consent to participate Ethics committee approval (2023/132) and institutional permissions were obtained from the clinical research ethics committee before starting the study. The patients participating in the study were informed about the study, and their written consent for participation was obtained. It was explained to the patients that their answers would be kept confidential, and that the information provided would only be used within the scope of the research. They were told that participation in the study was voluntary, and that they could leave it at any time. Ethical principles such as patient privacy and informed consent were followed to protect patient rights.

Consent for publication

Not applicable.

Conflicting interests

The authors declare no competing interests.

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