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**KNOWLEDGE OF RISK FACTORS FOR SURGICAL COMPLICATIONS AND
PSYCHOSOCIAL WELL-BEING AMONG POST-OPERATIVE PATIENTS IN SELECTED
STATE HOSPITALS IN SOUTH WEST, NIGERIA**

KNOWLEDGE OF RISK FACTORS FOR SURGICAL COMPLICATIONS AND PSYCHOSOCIAL WELL-BEING AMONG POST-OPERATIVE PATIENTS IN SELECTED STATE HOSPITALS IN SOUTH WEST, NIGERIA

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ABSTRACT

Introduction: The study assessed the knowledge of risk factors for surgical complications; assessed the state of psychosocial well-being of postoperative patients after surgical intervention; identified factors for psychosocial well-being and determined the association between demographic variables and knowledge of risk factors for surgical complications among post-operative patients.

Methods: The study employed a descriptive cross-sectional design. Random sampling technique was used to select two hospitals and a census was adopted to select 80 respondents. Structured questionnaire was used to collect data that were analyzed using Statistical Package for Social Sciences version 25.0. Descriptive statistics were used to present data and inferential statistics were used to test association between variables at p value ≤ 0.05 .

Results: The mean age of respondents was 30.28 ± 2.68 years and 28.7%, 37.5% and 33.8% of respondents have good, moderate and poor knowledge of risk factors of complications of surgical interventions, respectively. Also, 45% had poor psychosocial wellbeing, 42.5% had good psychosocial wellbeing, and 12.5% had fair

psychosocial wellbeing level. Factors influencing the psychosocial well-being of post-operative patients were the type of surgery, duration of surgery, and presence of other ailments. Most respondents (82.5%) believed that adherence to drug regimens enhances speedy recovery, while 25.0% said smoking and drinking alcohol improves wound healing. There was a significant relationship between knowledge of risk factors for complications of surgical intervention and the psychosocial well-being of post-operative patients ($p = 0.01$).

Conclusion: A considerable percentage of surgical patients had poor knowledge of risk factors for complications and poor psychosocial well-being. Hence, there is a need to improve on the pre-operative education of patients to increase their knowledge on the risk factors for complications of surgical interventions.

Keywords: Knowledge; Risk Factors; Surgical Complications; Psychosocial Well-Being; Postoperative Patients; Nigeria

INTRODUCTION

Surgical interventions are integral aspect of healthcare services and despite advancement in surgical techniques, surgeries are not without complications. Surgical

complications pose major challenges for surgical patients. Complications may vary from very minor events that can be resolved relatively quickly without the need for pharmacological treatment or other intervention, to more serious events which can be life threatening or requiring multiple additional interventions. Such complications delay patient's discharge and may lead to multi-organ failure or death.¹

The operating room is one of the highest risk areas for patient safety incidents with potentially profound consequences for the patients affected. Nearly half of the adverse events that were identified in the Harvard Medical Practice study were related to surgery.² A review of the literature found that postoperative complications contribute to increased mortality, length of hospital stay and an increased need for care at discharge.³

Factors such as increased age, longer duration of surgery and prolonged exposure to the anaesthetic procedure and anaesthetic agents increase the risk of surgical complications.⁴ Patients with a high capacity to cope with surgical stress usually experience less severe postoperative complications while patients with a lower capacity to cope with stress experience greater problems during and after surgery and this affects their recovery rate and psychosocial well-being. Psychosocial symptoms such as anxiety and depression have been related to lower quality of life and well-being. These symptoms may negatively influence patients' motivation, energy, their coping with the disease, adherence to treatment and the recovery process.⁵

Other than the impact of complications on patients' postoperative recovery, they may also affect patients psychosocially. They may contribute to the experience of psychosocial distress such as depression or anxiety due to the challenges that are inherent to them in terms of prolonged recovery or long-lasting disability (e.g. severe postoperative pain, permanent disfigurement). An earlier study found that patients who experienced serious adverse events after surgery reported higher levels of distress than people who had

experienced serious accidents or bereavement and their psychosocial adjustments were worse than in patients with serious medical conditions.⁶

Aspari and Lakshman (2018) submitted that psychosocial well-being as a component of mental health is one of the most overlooked factors in daily clinical practice and have reported that poor mental health has a negative effect on postoperative recovery in terms of pain perception, return to work, and quality of life.⁷ It has also been reported that low preoperative mental health is associated with poorer postoperative recovery, which may include poorer postoperative sleep quality, lacking a general feeling of well-being, greater suffering from postoperative pain, difficulty concentrating, and difficulty returning to work or to usual home activities.⁸ Furthermore, there seems not to be gender difference in the experience of emotions among patients preoperatively though this has not been ascertained in postoperative patients.⁹

Psychosocial well-being denotes having good emotional and mental health as pillars of quality of life in a particular individual across diverse contexts.¹⁰ From this perspective, psychosocial well-being includes the way people evaluate their lives in the present and in the past; so, these assessments cover the emotional reactions of people to events, moods, and judgments related to the way they live their own lives.¹¹

Postoperative care, or the management of a patient after surgery is the care that begins as soon as the surgical procedure ends and continues until the patient has returned to their physiological preoperative state.¹² During the postoperative period, nursing care of the hospitalized patient on the general medical-surgical unit focuses on helping the patient recover from the effects of anaesthesia and surgery, frequently assessing the patient's physiologic status and re-establishing the patient's physiologic equilibrium, alleviating pain, monitoring and preventing complications, and implementing measures designed to achieve the long-range goals of independence with selfcare.¹³

There is limited empirical data on knowledge of risk factors for surgical complications and psychosocial well-being among surgical patients in this part of Nigeria. Hence, this study assessed the knowledge of risk factors for surgical complications; assessed the state of psychosocial well-being of postoperative patients after surgical intervention; identified factors for psychosocial well-being, determined the association between demographic variables and knowledge of risk factors for surgical complications among post-operative patients and also determined relationship between knowledge of risk factors for surgical complications of surgical intervention and psychosocial well-being of post-operative patients.

METHODS

The study adopted a descriptive cross-sectional design and simple random sampling technique was used to select two hospitals in Ibadan (Jericho Specialist hospital and Ring Road hospital) while a census (all the available surgical patients) was adopted to select 80 respondents from the selected hospitals because of the relatively small population of post-operative patients and their availability. The inclusion criteria were patients from 16 years and above and not having postoperative pain, while the exclusion criteria were patients below 16 years and those having serious post-operative pain.

A structured questionnaire that was developed from an extensive literature review was used for data collection. The questionnaire was divided into four sections; section A assessed socio-demographic characteristics of respondents; section B contained ten items on respondents' knowledge of risk factors for the complications of surgical intervention; section C was a 5-point Likert scale of 10 items that determined the psychosocial well-being of post-operative patients; section D had 8 items that identify factors influencing psychosocial wellbeing of post-operative patients.

The validity of the questionnaire was established through face and content validity

criteria. The questionnaire was given to an expert in the field of nursing to assess the relevance of the questionnaire to the subject matter, the scope and coverage. Ambiguous questions were reframed to suit the purpose of the study. Reliability was carried out through a test and pre-test to validate the questionnaires with Cronbach alpha value of 0.87.

Ethical approval was obtained from the ethical committee of Jericho hospital Ibadan with approval number AD13/479/4005A. Verbal consent was gained before questionnaire administration and questions from respondents were answered to provide clarification. Privacy and confidentiality of the research participants were assured and proposed respondents were informed of their right to participate in the study or not. The researcher with the support of research assistants made repeated visits to the surgical wards in both hospitals to obtain data over a period of four weeks to ensure that all the eligible participants were included.

Data collected were collated, screened, coded and analysed using SPSS version 25. Descriptive and inferential statistics were used to present the data. The association between variables were tested using univariate and bivariate analysis. The univariate analysis provided description of the variables using frequencies and percentages. The socio-demographic characteristics of the respondents were analyzed using frequency distribution and data presented in tables and charts.

Knowledge of risk factors for complications associated with surgery among post-operative patients was measured using items in Section B of the questionnaire. This was rated on dichotomous responses and "Yes" was scored 2 while "No" was scored 1. Based on the cumulative scores, the mean score was 8.6. Thus, respondents who scored above the mean were considered as having "Good knowledge", those at the mean point were considered as having "Moderate knowledge" and those who scored below the mean were considered as having "Poor knowledge".

Psychosocial well-being of post-operative patients was measured using questions from Section C of the questionnaire. A total of ten questions were used to determine the psychosocial wellbeing of post-operative patients. These were rated on a five-point Likert scale ranging from “strongly agree” to “strongly disagree”. Based on the cumulated scores, the mean score of 28.0 was taken as the cut-off point. Therefore, the respondents who scored above the mean were considered as having “Good psychosocial wellbeing”, those at the point of the mean were considered as having “Fair psychosocial wellbeing” and those who scored below the mean were considered as having “Poor psychosocial wellbeing”.

Factors influencing psychosocial well-being of post-operative patients were measured using questions from Section D of the questionnaire. A total of eight questions were used to identify factors influencing psychosocial well-being of post-operative patients. This was rated on dichotomous responses; “Yes” was scored 2 and “No” was scored 1. Responses collected were analyzed using univariate and bivariate analysis. Association between variables was determined using Fisher’s exact chi-square test and multiple regression at a significance level of 0.05.

RESULTS

A total of 80 questionnaires were distributed and returned. After sorting out the questionnaires, all were found to be satisfactory enough for analysis and the data collected were analyzed based on the responses received from the respondents.

Table 1 shows the socio-demographic characteristics of respondents. The mean age of respondents was 30.28 years, and the majority of them were 30-39 years of age, 55.0% of them were Christians, 70.0% were male, 78.8% of them were married, and

48.8% of them were private employees while 27.5% had tertiary level of education.

Table 1: Distribution of Socio-Demographic Characteristics of the Respondents

Variables	Frequency	Percentage
Age as at last birthday		
Mean:30.28±2.68		
20-29	22	28.0
30-39	48	60.2
40-49	9	10.5
50 and above	1	1.3
Total	80	100.0
Religion		
Christian	44	55.0
Islam	35	43.8
African traditional religion	1	1.3
Total	80.0	100.0
Gender		
Male	56	70.0
Female	24	30.0
Total	80	100.0
Marital status		
Single	14	17.5
Married	63	78.8
Divorce	2	2.5
Separated	1	1.3
Total	80	100.0
Occupation		
Housewife	15	18.8
Private employee	39	48.8
Government employee	21	26.3
Merchant	4	5.0
Others	1	1.3
Total	80	100.0
Educational Level		
No formal Education	6	7.5
Primary education	33	41.3
Secondary education	19	23.8
Tertiary education	22	27.5
Total	80	100.0

Knowledge of Risk Factors for Complications of Surgical Intervention

Table 2 shows the distribution of knowledge of risk factors for complications of surgical intervention. All respondents (80%) accept that eating fruits and vegetables facilitates

recovery, 82.5% of them believe that adherence to drug regimen enhances speedy recovery and 86.3% believe that pain is a normal side effect of surgical intervention. Knowledge of risk factors for complications of surgical intervention is shown in figure 1. 28.7% of respondents have good knowledge, 37.5% of them have moderate knowledge, while 33.8% of them have poor knowledge of risk factors for complications of surgical intervention.

The Psychosocial Well-Being of Post-Operative Patients

Table 3 shows the psychosocial well-being of post-operative patients. Sixty-five percent of respondents said they were indifferent about the scar left on them due to the surgery, only 2.5% of them agreed that they did not receive adequate information to help them prepare for the surgery, 28.7% of them agreed that the pain they went through was unbearable, 31.3% of them agreed they experienced pain after surgery while 16.3% stated that their symptoms worsen now compared to before surgery. Also, 10.0% of respondents said their quality of life has reduced due to the surgery, 53.8% strongly agreed that they feel worthless as a result of the surgery, 12.5% of them agreed that surgical intervention is not the best option, while only 6.3% of them strongly agreed that their sleep pattern changed after the surgery and 25.0% of them agreed that their relationship with others had reduced due to the surgery.

Figure 2 shows the psychosocial well-being of post-operative patients. While the majority of respondents had poor psychosocial well-being, 42.5% of them had good psychosocial well-being, and 12.5% of them had a fair level of psychosocial well-being.

Factors Influencing Psychosocial well-being of Post-operative Patients

Table 4 shows the factors influencing the psychosocial well-being of post-operative patients. The factors were ranked in order of their importance as recognized by the respondents. The most important factor is the

type of surgery, followed by the duration of surgery and the presence of other ailments down to lack of family support, hospital bill, type of anaesthesia, nurses being aggressive and attitude of the surgical team.

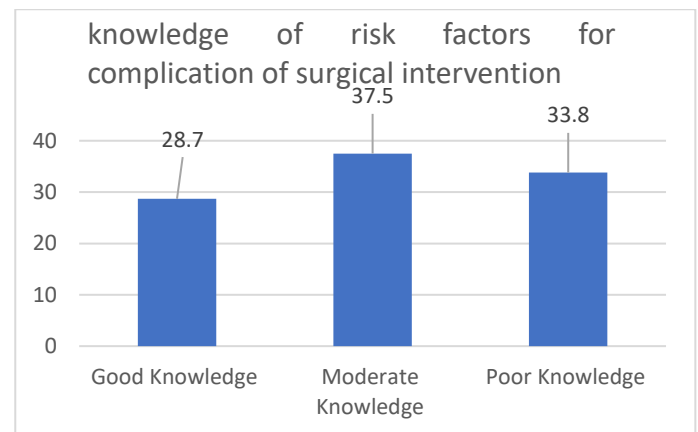


Figure 1: Knowledge of risk factors for complications of surgical intervention

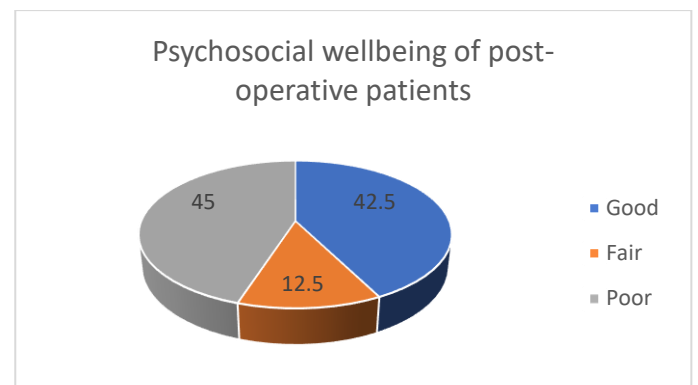


Figure 2: Psychosocial well-being of post-operative patients

Hypotheses Testing

Hypothesis one: There is no significant relationship between knowledge of risk factors for Complications of Surgical Intervention and Psychosocial well-being of post-operative patients.

Table 5 shows the hypothesis testing between knowledge of risk factors for complications of surgical intervention and the psychosocial well-being of post-operative patients. There was a significant relationship between the knowledge of risk factors for complications of surgical intervention and the psychosocial well-being of post-operative patients since the p-value is less than 0.05.

Table 2: Knowledge of Risk Factors for Complications of Surgical Intervention

Variables	Yes	No
Smoking and drinking alcohol will improve wound healing?	20(25)	60(75)
Eating fruits and vegetables facilitates recovery?	80(100)	0(0)
Adherence to drug regimen enhances speedy recovery?	66(82.5)	14(17.5)
Keeping wounds dry will prevent wound infections and breakdown?	58(72.5)	22(27.5)
Ambulation will help reduce the risk of deep vein thrombosis (swelling and redness of the legs)	56(70)	24(30)
Pain is a normal side effect of surgical intervention?	69(86.3)	11(13.8)
Obesity increases the risks of wound infections	43(53.8)	37(46.3)
Sitting up and moving out of bed as soon as you can helps to restore muscle tone?	62(77.5)	18(22.5)
Pelvic floor exercise will help prevent urinary tract incontinence?	47(58.8)	33(41.3)

Table 3: Distribution of the Psychosocial Well-being of Post-Operative Patients

Variables	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I do not like the scar left on me due to my surgery	3(3.8)	6(7.5)	52(65)	4(5)	15(18.8)
I did not receive adequate information to help me prepare for the surgery	2(2.5)	5(6.3)	51(63.7)	9(11.3)	13(16.3)
The pain is unbearable	13(16.3)	23(28.7)	16(20)	20(25)	8(10)
The pain you experienced after surgery?	6(7.5)	25(31.3)	16(20)	14(17.5)	19(23.8)
Your symptoms are now worse compared to before surgery	4(5)	13(16.3)	31(38.8)	6(7.5)	26(32.5)
My quality of life has reduced due to the surgery	4(5)	8(10)	41(51.2)	2(2.5)	25(31.3)
I feel worthless as a result of the surgery.	43(53.8)	6(7.5)	15(18.8)	6(7.5)	10(12.5)
Surgical intervention are not the best options	6(7.5)	10(12.5)	37(46.3)	6(7.5)	21(26.3)
My sleep pattern changed after the surgery.	5(6.3)	3(3.8)	34(42.5)	8(10)	30(37.5)
My relationship with others has reduced due to the surgery	7(8.8)	20(25)	23(28.7)	6(7.5)	24(30)

Table 4: Factors Influencing Psychosocial well-being of Post-operative Patients

Variables	Yes	No	Mean(SD)	Rank
Type of surgery	56(70.0)	24(30.0)	1.61±0.49	1
Duration of surgery	42(52.5)	38(47.5)	1.60±0.49	2
Presence of other Ailment	45(56.3)	35(43.8)	1.58±0.49	3
Lack of Family Support	43(53.8)	37(46.3)	1.50±0.50	4
Hospital Bill	40(50.0)	40(50.0)	1.48±0.50	5
Type of Anaesthesia	31(38.8)	49(61.3)	1.46±0.50	6
Aggressive Nurses	34(42.5)	46(57.5)	1.44±0.49	7
Attitude of Surgical Team	32(40.0)	48(60.0)	1.30±0.46	8

Table 5: Relationship between Knowledge of Risk Factors and Psychosocial Well-being.

knowledge of risk	Psychosocial well-being of post-operative patients			χ^2	p-value
	Good	Fair	Poor		
Good knowledge	5(21.7%)	1(4.3%)	17(73.9%)	17.97	0.01
Fair knowledge	14(46.7%)	2(6.7%)	14(46.7%)		
Poor knowledge	15(55.6%)	7(25.9%)	5(18.5%)		

Table 6: Multiple Regression Analysis of the Relationship Between Psychosocial Wellbeing of Post-Operative Patients and Factors Influencing Psychosocial Well-being of Post-Operative Patients

Factors	Coef.	Std. Err.	T	P> t	[95% Conf. Interval]
Type of surgery	.135	1.861	1.219	.227	15.89-5.97
Duration of surgery	-.340	1.810	-2.891	.005	-1.44—1.62
Presence of other Ailment	-.032	1.806	-.276	.783	-8.84-3.10
Lack of Family Support	-.002	1.702	-.021	.984	-4.09-3.35
Hospital Bill	-.022	1.552	-.218	.828	-3.42-3.35
Type of Anaesthesia	.406	1.580	3.963	.000	-3.43-2.75
Aggressive Nurses	-.017	1.690	-.158	.875	3.11-9.41
Attitude of Surgical Team	.120	1.667	1.123	.265	-3.63-3.10

Table 7: Relationship between Socio Demographic Characteristics and Psychosocial wellbeing of post-operative patients.

Variables	Psychosocial wellbeing			χ^2	P
	Good	Fair	Poor		
Age as at last birthday					
20-29	9(26.5)	3(30.0)	7(19.4)	3.29	0.77
30-39	14(41.2)	6(60.0)	16(44.4)		
40-49	6(17.6)	0(0.0)	7(19.4)		
50 and above	5(14.7)	1(10.0)	6(16.7)		
Religion					
Christian	19(55.9)	4(40.0)	21(58.3)	2.50	0.64
Islam	15(44.1)	6(60.0)	14(38.9)		
African traditional religion	0(0.0)	0(0.0)	1(2.8)		
Gender					
Male	20(58.8)	9(90.0)	27(75.0)	4.35	0.11
Female	14(41.2)	1(10.0)	9(25.0)		
Marital status					
Single	7(20.6)	0(0.0)	7(19.4)	6.45	0.37
Married	27(79.4)	10(100.0)	26(72.2)		
Divorce	0(0.0)	0(0.0)	2(5.6)		
Separated	0(0.0)	0(0.0)	1(2.8)		
Occupation					
House wife	6(17.6)	4(40.0)	5(13.9)	7.53	0.48
Private employee	18(52.9)	3(30.0)	18(50.0)		
Government employee	7(20.6)	3(30.0)	11(30.6)		
Merchant	3(8.8)	0(0.0)	1(2.8)		
Others	0(0.0)	0(0.0)	1(2.8)		
Educational Level					
No formal education	4(11.8)	1(10.0)	1(2.8)	11.79	1.60
Primary education	13(38.2)	3(30.0)	17(47.2)		
Secondary education	10(29.4)	1(10.0)	8(22.2)		
Tertiary education	7(20.6)	5(50.0)	10(27.8)		

Hypothesis Two: there is no significant relationship between the psychosocial well-being of post-operative patients and factors influencing the psychosocial well-being of post-operative patients.

The logistic regression analysis predicting the possible factors influencing the psychosocial well-being of post-operative patients is shown in Table 6. From the results, only the type of anaesthesia used during the surgery was likely to influence the psychosocial well-being of post-operative patients. ($P < 0.05$, CI: 3.43 – 2.75).

Table 7 shows the Fisher's exact test used to test the association between socio-demographic characteristics of respondents and psychosocial wellbeing of post-operative patients. None of the variables predict the psychological wellbeing of post-operative patients with p-values greater than 0.05.

DISCUSSION

The study had a predominance of the respondents within the age range of 30-39 years with the majority of respondents being Christians. Most of the respondents were married and were non-government employees and also graduates of tertiary tiers of education. This is consistent with the findings of studies conducted by Shawa in 2012 and Atinyagrika et al. in 2018 among surgical patients in Kenya and Ghana where majority of the respondents were below forty years of age, mostly Christians and were married.^{13,14,15}

The results of this study showed that one quarter of the respondents have good knowledge and almost half of them have poor knowledge of risk factors for complications of surgical intervention. All respondents agreed that eating fruits and vegetables facilitates recovery. This is similar to the findings of Mogoanta et al. where it was reported that close to half of the day surgery patients have limited knowledge of surgical intervention

while overall low knowledge was recorded among one-third of surgical patients.¹⁵

The foregoing was acknowledged by Roy et al. and Berg et al. who stated that patient's inability to recall the post-operative information that has been provided presents another challenge for healthcare providers.^{16,17} Similarly, according to Greenslade et al., limited knowledge is associated with problems of taking medications according to prescription and overall poorer health status.¹⁸ Berkman et al. admitted that people with limited knowledge tend to ask fewer questions about medical issues than those with adequate skills due to poor comprehension of medical information and that patient with limited skills might take a more passive role in decision making.^{19,20}

Results of this study revealed that while the majority of respondents have poor psychosocial well-being. It has also been reported that more than half of the post-surgical patients were said to have psychiatric symptoms, of which some resulted in death, accounting for one tenth of all hospital deaths in Utah and Colorado.²¹ Another study reported that low pre-operative mental health is associated with poorer post-operative recovery, which may include poorer post-operative sleep quality, lack of general feeling of well-being, greater suffering from post-operative pain, difficulty in concentrating, and difficulty returning to work or to usual home activities.²² In the research conducted by Pinto et al. in patients who had experienced a serious adverse event after surgery, the patients experienced higher levels of distress than people who had experienced serious accidents or bereavement and psychosocial adjustment worse than in patients with serious medical conditions.⁹

There was a significant relationship between knowledge of risk factors for complications of surgical intervention and the psychosocial well-being of post-operative patients ($p=0.01$). The major factors shown to

influence the psychosocial well-being of post-operative patients are the type of surgery, the duration of surgery, the presence of other ailments and lack of family support. Others are hospital bills, type of anaesthesia, nurses being aggressive and attitude of the surgical team.²³ The role of pre-operative ailment has been well emphasized in the literature; pre-operative anxiety and/or depression is an important predictor of dissatisfaction with surgical outcome. Adogwa et al. said pre-operative anxiety/depression could affect patient's dissatisfaction for up to 2 years after surgery.²⁴ Poor mental health has a negative effect on post-operative recovery in terms of pain perception, return to work and quality of life.²⁵ It has also been documented that low pre-operative mental health is related to poorer post-operative recovery and this may include poorer post-operative sleep quality, lack of a general feeling of well-being and difficulty returning to work or to usual home activities.²⁶

The role of gender in influencing the psychosocial well-being of post-operative patients have been recognised in the literature. Women are prone to having post discharge nausea and vomiting, although another study found no difference in the post-operative recovery of men and women.^{27,28}

CONCLUSION

This study concluded that majority of the surgical patients had poor knowledge of risk factors for surgical complications and post-surgical psychosocial well-being was also found to be poor among the respondents from the selected hospitals in Ibadan. Hence, there is the need for all surgical teams to improve on pre-operative information given to patients and nurses need to reinforce and clarify pre-operative information given to patients by the surgeons.

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