

Patient Satisfaction with Preoperative Care and Its Relationship with Patient Characteristics

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Abstract

Objectives: Patient satisfaction is the major indicator of quality of care provided by health institutions. The aim of this study was to assess patient satisfaction with preoperative care and the relationships between patient satisfaction and patient characteristics.

Method: This study was descriptive, conducted on 199 patients, who underwent surgery at Sohag University Hospital. Through be interviewed and by well-trained assistant researchers, and using Arabic translated Leiden Preoperative Care Satisfaction questionnaire (LPPSq) measure the level of patients satisfaction.

Results: The reliability estimate of the translated LPPSq (Cronbach's- α) was (0.87). Patient characteristic were: 55.3% females, mean age 41.2 ± 16.7 , 60.8 unemployed, 73.9 married, 62.8% rural area, 19.1% underwent previous surgery, and 58.2% were general surgery with the overall satisfaction score was 61.9%. There were statistically significant differences between mean percent satisfaction score of the participants and their age, occupation, and type of ward. Conversely, no significant differences were found between patients satisfaction score of other socio-demographic characteristics ($p > 0.05$). For the male patients, rural and hospital stay from 7-15 days, were more satisfied with the information provided, while females, major operations, and surgical urology were more felt by fear and concern. Also, the age 50 years, retired, and surgical urology patients' were more satisfied with the staff-patient relationship.

Conclusion: Nearly a quarter of the patients' only had highly satisfied with preoperative care. Lack of preoperative surgical information and guidance, fear from undesirable outcomes, poor staff-patient relationships, low quality services, and some socio-demographic characteristics were important factors and affected on patients satisfaction. Certain areas need to be improving such as reducing waiting time before operation, providing more information about the operation and time spent and improving the communication skills with special emphasis on interpersonal skills

Key Words: *Leiden preoperative care patient satisfaction questionnaire (LPPSq) — Information — Discomfort and needs — Fear and concern — Staff-patient relationship — Service.*

Introduction

THE concept of "patient satisfaction" is not new and is consider an important issue for both patient, service providers and health care agencies which have delivered the reality that the choice and success of any treatment is based on the subjective patient-defined criteria. Patients are one of the main stakeholders among the ever-expansive modern world of medicine. Although the roles of patients and doctors have remained fixed, the contexts and backdrops have undergone tremendous changes overtime. Traditionally, there were no clear boundaries between patient care and patient cure. With the changing patterns of disease, newer therapies and patients' perceptions. Care and cure are now entirely separate concepts. A patient may never get cure but may feel very well cared for and vice versa [ii. Baba [2], added that, following increased levels of competition and the emphasis on consumerism patient satisfaction has become an important measurement for monitoring health care performance of health plans. Patient is the best judge, since he accurately assesses and provides inputs, which can help in the overall improvement of accurately the quality of health care provision through the rectification of the system weaknesses by concerned authorities.

According to [3] satisfaction is a psychological state resulting when the emotion surrounding disconfirmed, expectations is coupled with consumer's prior feelings about the consumption experience. Aragon and Gesell [4] added that, patient satisfaction is the degree of congruency between a patient's expectations of actual care and his/her perception of the real care him /her receives. Patients' ratings

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of their satisfaction can reflect many facets of care such as compassionate bedside skills, efficient attention to needs, participation in decision-making, adequate communication and information [5]. Patient's satisfaction for a given treatment is an important clinical outcome, because a satisfied patient is more likely to comply with treatment, attend follow-ups, and advocate the service to others [6].

Cheng et al. [7] reported various dimensions of patient's satisfaction, have been identified as ranging from admission to discharge services, as well from medical care to interpersonal communication. Well-recognized criteria include responsiveness, communication, attitude, clinical skill, comforting skill, amenities, and food services. It has also been reported that the interpersonal and technical skills of health care provider are two unique dimensions involved in patient assessment of hospital care.

Several studies have been carried out on the issue of patient satisfaction with care in many countries globally. For example in Gulf region, some studies on patients' satisfaction in countries like Qatar [3] Saudi Arabia [8], and Iraq [9]. In Egypt, a study done by Qayed and Ahmed [10] outlined that, the patient satisfaction score about health care provided at Assiut University Hospital ranged from 33.2% to 89.0%. Another study done by [11] to evaluate the patients' satisfaction about health services offered by mobile clinics in rural areas.

The objectives of the present study were to assess patient satisfaction with preoperative care and the relationships between patient satisfaction and patient characteristics.

Material and Methods

Research design and setting:

This study was descriptive, carrying out in four different departments: General Surgery, Orthopedic, Gynecological and obstetric, and Surgical urology, at Sohag University Hospital.

Sample:

One hundred and ninety nine patients are included in the survey, which carried out though four months. Their ages are ranged from 18 years old and up; a stay of >24 h in the hospital surgical units; underwent to regional (RA), general (GA) or local anesthesia and they were able to complete a questionnaire within 2 days of the operation. Exclusion criteria were refusal, undergoing emergency surgeries or surgeries that require planned or unplanned postoperative care admission, expect-

ed to go to the intensive care unit, not able to complete the questionnaire by themselves due to their disabilities to communicate either verbally or mentally.

Tools of data collection:

Two tools were used to collected study data included the following:

- Personal Characteristic of study subjects:

Included items related to: Gender, age, qualification, occupation, civil state, domicile, type of operation, anesthesia type, length of hospital stay, and previous surgeries.

- Patient Satisfaction Questionnaire:

It was Leiden Preoperative Care Satisfaction questionnaire tool (LPPSq), modified by Caljouw et al. [12] For purpose of this study, only 30 items of Caljouw et al. Questionnaire were used with slightly modified was done by researcher. These items divided into; to 5 dimensions related to patients' Satisfaction.

Dimension one: Information provision:

This dimension assesses the explanation and amount of information provided to patients regarding surgery, and stay duration in the operating theatre. It includes four questions.

Dimension two: Discomfort and needs:

This dimension investigates the adverse outcomes of the anesthesia, which influence patient satisfaction. It is shown through seven questions.

Dimension three: Staff-patient relationship:

This dimension assesses the relationship between patients and hospital staff, the amount of care shown to patients, and the magnitude of patient expectations of the attitude and behavior of the staff towards them. It includes thirteen items.

Dimension four: Fear and concern dimension:

This dimension assesses the degree of fear and concern among patients in respect to some situations, such as awaking during the operation, seeing the operating room and pain level due to administering anesthetics. It includes four items.

Dimension five: Service:

This dimension includes of two items, the first assess the patient's perception for the waiting time before surgery; the scale used was (too long, long, just right and short), and the second discusses the operation time and the date agreed upon. The scale adopts using (yes/no) pattern.

The response to each items was on a five points Likert scale ranged from; (5= completely satisfied; 4= satisfied; 3= don't know; 2= dissatisfied; and 1 completely dissatisfied) for dimension of information and staff-patient relationship. For, discomfort and need, fear and concern, the scale ranged from; (5= extremely; 4= quite a bit; 3= moderately; 2= a little bit; and 1= not at all). The score system was arranged from 21-105 points and the total satisfaction score was categorized as "low: 50.th percentile", "moderate: 51th-70th percentile", "high: >70 th percentile"

Content validity:

It was established by five experts in the field of study for relevance, clarity, comprehensiveness, applicability and easiness. The required corrections and modifications were done. The items upon which more than 85% of the experts have agreed were included in the proposed tool.

Pilot study:

A Pilot study, it was implemented on a group of 10% patients in selecting setting, which is not being included in the study to test the feasibility and clarity of the study tool. Reliability was estimates by Cronbach's-a, inter correlation for the all dimensions. The dimensions of information, fear and concern, staff-patient relation ship, service and the total LPPSq (range from 0.88 to 0.93); and were 0.87 suggesting adequate internal consistency, giving our questions a satisfactory reliability. The inter correlation between the items and their dimensions, ranged from (0.59 to 0.81). Hence, we decided to use the questionnaire for the survey with further modification for any ambiguity or vagueness. While the reliability of the discomfort and needs dimension was low (Cronbach's-a=0.37); therefore this dimension were measured as individual aspects.

Administrative and ethical consideration:

Prior to data collection, the necessary approval was secured from the director of Sohag University Hospitals after a brief explanation for the aims and nature of the survey. After that, verbal consent was obtained from participate with his/her right of refusal to answer any of the questions. Also, they were informed that their participation was voluntary and that they could withdraw at any time, as we guaranteed complete confidentiality for the question answer.

Filed work:

The present study was carried out within four months started from the 1st of March 2011 to the

30th June 2011. The English adaptation of the (LPPSq) translated by researchers, into Arabic language with few items which slightly modified to give a clear meaning in an Arabic version to assess and measure different aspects of patient's satisfaction with preoperative care. Data was collected through well-trained assistant researchers on the process of guiding patients about how to fill in questionnaire, especially in cases of illiterate. Questionnaires have been provided to participants and were instructed how to read the questionnaire carefully and answer it. Also, the meaning of the rating scale for their items was instruct and that after the completion of their surgery, in the following day of surgery by themselves except in the case of illiterate patients. The questionnaire filled out by the assistant researcher with the help of verbal communications. By using the Arabic translated version of (LPPSq) and patients who fitted in the inclusion criteria. The time required to complete the questionnaire was about (15-20) minutes.

Data handling and analysis:

The responses were coded and data were transferred to the computer for analysis; using the SPSS (version 18.0). Followed by the computation of the initial descriptive statistics and a total score were calculated for each participant. Statistical analysis (validity, reliability) was used to validate the questionnaire. Reliability was assessing by Cronbach's-a and Spearman rank correlation was used to account the correlation between item scores and their dimensions scores (inter-item correlation) and between item scores of a given dimension with the other dimension scores. Results were presented as the frequencies, percentage, mean, and standard deviation. Chi-squared test was used to make comparison between patients subgroup. The Mann-Whitney and Kruskal-Wallis tests were used to analyze the influencing characteristics on satisfaction domains. A person correlation coefficient was used to test if there was any correlation found between satisfaction dimensions and some variable. A p-value of <0.05 was considered statistically significant.

Results

Sample characteristics:

Table (1) shows socio-demographic characteristics of the participants. Slightly less than a half of the examined samples (44.7%) were males and 55.3% were females. The highest percentage (36.7%) was in the age group 50 years and up, while the lowest (12.1%) was in the age group 40-50 years, with the mean age was 41.2 ± 16.7 (with

a range from (17-85). As for literacy level 52.8% were illiterate or just were able to read and write, 26.6% graduated from secondary school, and 13.1% were an educated from beyond secondary school, while 7.5% were preparatory school. More than two-thirds (62.8%) had rural residence and the married citizens constituted 73.9% of the participants. The highest proportion (76.9%) has undergone general anesthesia while the least (5.5%) has had local. Most of participants (80.9%) had no previous surgery and (62.8%) underwent major operation procedure. A high proportion of the participants (63.4%) hospital stay ranged from 7 to 15 days. These patients were a wide range of surgical procedures: (58.29%) general surgical, orthopedic (15.58%), urological (13.57%), and gynecological and obstetric (12.56%).

Table (1): Patient demographics and background characteristic (n=199).

Items	Number	Percent
Age (years):		
Mean (SD)	41.2 (16.7)	
Range	18-85	
Gender:		
Male	89	44.7
Female	110	55.3
Professional status:		
Employed	54	27.2
Unemployed	121	60.8
Student	17	8.5
Retired	7	3.5
Education:		
Illiterate/read and write	105	52.8
Preparatory	15	7.5
Secondary	53	26.6
University	26	13.1
Civil status:		
Married	147	73.9
Unmarried	46	23.1
Widow/ divorced	6	3.0
Domicile:		
Urban	74	37.2
Rural	125	62.8
Type o anesthesia:		
Regional	35	17.6
General	153	76.9
Local	11	5.5
Previous operations:		
No	161	80.9
Yes	38	19.1
Type of operations:		
Minor	15	7.5
Intennediate	59	29.6
Major	125	62.8
Word:		
General surgery	116	58.2
Gynecological & Obstetric	25	12.5
Orthopedic	31	15.5
Surgical urology	27	13.5
Duration of hospital stay (day):		
<7	73	36.6
7-15	103	51.7
>15	23	11.5

SD= Stander deviation*

Patient's satisfaction trends:

Table (2) Shows the level of satisfaction according to demographical characteristics of the patients'. It was found that, the higher satisfaction level with the preoperative care were associated with older (50+) and retired patients' than other groups (mean score 64.9 ± 13.8 ; 75.8 ± 9.4) with statistically significant association ($p < 0.05$). While, the study found that the employed patients' and age group 30<40 years, low educated, widow, intermediate surgery, gynecological and obstetric, and length stay more the 15 days were the least satisfied with preoperative care provided (58.8 ± 12.0 ; 58.9 ± 13.9).

According to the effect of type of surgery on overall patient satisfaction, it was found that, the type of surgical specialty had an effect on the LPPSq score ($X^2_{kw} = 11.6$; $p = 0.009$). Satisfaction scores ranged from 57.1% for gynecology and obstetric to 61.5% for general surgery. No significant effect were identified between patients' gender, educational level and overall patient satisfaction although the males satisfaction mean score was high ($z_{mwu} = 1.18$; $p = 0.23$; $x^2_{kw} = 4.73$, $p = 0.19$ respectively). No statistical significant relationship was established between domicile, type of anesthesia and patients' satisfaction ($z_{mwu} = 1.48$; $p = 0.136$, $x^2_{kw} = 1.19$; $p = 0.55$ respectively), previous surgeries ($z_{mwu} = 0.94$; $p = 0.24$), and type of operation ($x^2_{kw} = 3.28$; $p = 0.19$). Moreover, no significant differences was found between the length of hospital stay and patients' satisfaction ($x^2_{kw} = 3.24$; $p = 0.19$), although the hospital stay from 7-15 day reported higher satisfaction score than other groups (63.4 ± 12.9).

Table (3) summarizes the influence of the patients' characteristics, on satisfaction domains. It was found that men gender patients', rural residences and length of hospital stay from 7-15 days were more satisfied than other groups as to the explanation and amount and quality of information (12.5 ± 3.6 , 11.9 ± 3.7 , 11.8 ± 3.8). z_{mwu} =showed a significant difference (p -value<0.05). As for the fear and concern, our study revealed that the females', major operation, and gynecological and obstetric patients were more feeling, by fear and concern than other groups (12.6 ± 3.7 , 12.6 ± 3.9 , and 13.8 ± 3.1). z_{mwu} =showed a significant difference (p -value <0.05). Also the study indicated that, the age <50 years, retired, and orthopedic were more satisfied with staff-patient relationship (40.9 ± 10.1 , 49.0 ± 6.2 , 43.3 ± 10.8) and z_{mwu} = showed a significant difference (p -value <0.05); but the study it showed no statistical significant differences among the level of education, type of anesthesia,

and previous surgery and the dimensions of patients satisfaction.

Table (4) shows the correlation between the patients' satisfaction and other study continuous variables such as age and length of hospital stay. The study highlighted that, a negative correlation between the patient age and fear and concern. Also, it was found that a significant correlation between the amount and quality of information, staff-patient relationship. As well, the study found that, a significant correlation between the all dimensions.

Fig. (1) portrayed the percentage of patients' distribution according to undesirable anesthesia complaints. We found more than quarter of the patients (30.2%) reported that they are afraid of postoperative pain to a quite a bit, while the other postoperative side effects, such as (sore throat,

back pain, vomiting, cold, hunger, and thirst) were less frequency reported by patients'

Fig. (2) illustrates the percentage of service offered to patients'. It was found that nearly half of the patients' 82 (41.2%) complained from waiting a long time before the operation had occurred.

Fig. (3) illustrates the percentage of the operated patients' on the planned date and scheduled operation, it was found that more than half of the patients' reported that no operation were executed at the date and time stated.

Fig. (4) portrayed the percentage of the overall patient satisfaction level. It was found that, nearly a quarter of the patients' had highly satisfied with preoperative care, while the majority of patients' were moderate level of satisfaction (55.2%).

Table (2): Comparison of mean satisfaction score according to Socio-demographic variables of patients.

Attributes	Total satisfaction score			
	Number = (199)	Mean satisfaction Percent score ± SD	Median	Statistical analysis
Gender	Male	89	63.3 (14.0)	Zmwu =-1.184 p=0.236
	Female	110	60.8 (11.8)	
Age	Total	199	61.9 (12.9)	X2kw=8.738*p=0.033
	<30	60	59.4 (10.7)	
	30:<40	42	58.9 (13.9)	
	40:<50	24	64.4 (11.0)	
	>=50	73	64.9 (11.0)	
	Total	199	61.9 (12.9)	
Professional status	Employed	54	58.8 (12.0)	X2kw=11.908*p=0.008
	Unemployed	121	62.5 (13.2)	
	Students	17	62.2 (10.1)	
	Retired	7	75.8 (9.4)	
	Total	199	61.9 (12.9)	
Education	Illiterate/read & write	105	62.6 (12.9)	X2kw=4.733 p:;1.192
	Preparatory	15	59.1 (12.7)	
	Secondary	53	63.2 (13.2)	
	University	26	58.1 (11.8)	
	Total	199	61.95 (12.9)	
Domicile	Urban	74	60.0 (11.2)	Zmwu=-1.489 p=0.136
	Rural	125	63.0 (13.7)	
	Total	199	61.9 (12.9)	
	Regional	35	63.4 (11.3)	
	General	153	61.4 (13.5)	
Anesthesia type	Local	11	64.6 (7.2)	X2kw =1.190 p.7.1.551
	Total	199	61.9 (12.9)	
Previous surgery	No	161	61.95 (12.9)	Zmwu=-0.942p=0.346
	Yes	38	63.3 (14.1)	
	Total	199	61.9 (12.9)	
Type of operation	Minor	15	64.0 (6.8)	X2kw =3.280 p:;1.194
	Intennediate	59	58.9 (13.3)	
	Major	125	63.1 (13.0)	
	Total	199	61.9 (12.9)	
	General surgery	116	61.5 (12.6)	
	Gynecology & obstetric	25	57.1 (8.16)	
Ward	Orthopedic	31	60.8 (12.6)	X2kw =3.242 p:;1.198
	Surgical urology	27	60.8 (12.6)	
	Total	199	61.9 (12.9)	
	<7	73	60.9 (11.7)	
	7-15	103	63.4 (12.9)	
	>15	23	58.4 (15.5)	
Duration of hospital stay	Total	199	61.9 (12.9)	62.00

SD= Stander deviation, the Kruskal-Wallis test and Mann-Whitney test was used. X2kw= Chi-Square, Zm = Z score of Mann-Whitney test. * Statistical significant difference (p<0.05).

Table (3): Influencing characteristics on satisfaction dimensions.

Attributes	Informaton	Fear and concern	Staff-Patient relationship
	Mean (SD)	Mean (SD)	Mean (SD)
Gender:			
Male	12.5 (3.68)	11.1 (4.32)	39.6 (10.65)
Female	10.4 (3.65)	12.6 (3.70)	37.7 (10.09)
p-value	0.0005*	0.0040*	0.2530
Age groups:			
<30	11.1 (3.37)	12.53 (4.32)	35.7 (9.13)
30:<40	10.3 (3.81)	11.60 (3.90)	37.0 (11.82)
40:<50	12.8 (3.18)	10.75 (3.71)	40.8 (9.48)
>=50	11.7 (4.17)	12.21 (3.98)	40.9 (10.16)
p-value	0.0636	0.3706	0.0146*
Professional status:			
Employed	11.3 (3.72)	10.9 (3.78)	36.4 (9.54)
Unemployed	11.2 (3.76)	12.3 (3.97)	39.0 (10.66)
Students	11.1 (4.41)	13.1 (5.27)	38.0 (9.77)
Retired	14.8 (2.41)	12.0 (3.27)	49.0(6.27)
p-value	0.1062	0.1626	0.0132*
Education:			
Illiterate/read & write	11.2 (3.85)	11.8 (3.89)	39.5 (10.47)
Preparatory	11.2 (3.77)	12.2 (2.34)	35.6 (11.43)
Secondary	11.9 (3.78)	12.4 (4.25)	38.9 (10.09)
University	10.8 (3.78)	11.6 (5.05)	35.6 (9.54)
p-value	0.7196	0.6295	0.1651
Domicile:			
Urban area	10.3 (3.70)	11.7 (4.15)	37.9 (9.23)
Rural area	11.9 (3.75)	12.1 (4.0)	38.9 (11)
p-value	0.0038*	0.4832	0.5075
Previous surgery:			
No	11.3 (3.76)	12.0 (3.87)	38.2 (10.01)
Yes	11.5 (4.02)	11.7 (4.76)	40.0 (11.76)
p-value	0.7648	0.3632	0.3061
Anesthesia type:			
Regional	11.5 (3.24)	12.8 (4.84)	39.1 (9.83)
General	11.2 (3.94)	11.9 (3.87)	38.2 (10.71)
Local	12.3 (3.64)	10.7 (3.58)	41.5 (6.47)
p-value	0.5025	0.4069	0.6280
Type of operation:			
Minor	13.2 (2.37)	9.6 (3.44)	41.1 (6.80)
Intermediate	11.4 (3.76)	11.1 (4.15)	36.3 (11.20)
Major	11.1 (3.91)	12.6 (3.91)	39.3 (10.19)
p-value	0.0846	0.0021*	0.1792
Ward:			
General surgery	11.3 (3.65)	11.3 (3.82)	38.8 (10.54)
Gynecology& obstetric	10.4 (2.53)	13.8 (3.10)	32.8 (6.88)
Orthopedic	12.9 (4.22)	11.9 (4.08)	43.3 (10.89)
Surgical urology	10.5 (4.49)	13.1 (5.04)	37.2 (9.20)
p-value	0.064	0.020*	0.001*
Duration of hospital stay:			
<7	11.2 (3.53)	11.8 (4.11)	37.7 (9.68)
"7-15"	11.8 (3.82)	12.0 (4.13)	39.5 (10.20)
>15	9.6 (4.16)	12.1 (3.60)	36.6 (12.90)
p-value	0.037*	0.860	0.358

The Kruskal-Wallis test and Mann-Whitney test was used.

* Statistical significant difference ($p < 0.05$).

Table (4): Correlation between LPPSq and some variables in the study group.

Items	Age	Information	Fear and concern	Staff-patient relationship	Global LPPSq
1- Age	0.175	0.446	0.007*	0.953	0.227
2- Duration of hospital stay		0.609	0.182	0.434	0.769
3- Information			0.553	0.000*	0.000*
4- Fear and concern				0.453	0.000*
5- Staff-patient relationship					0.000*

* Statistical significant difference ($p < 0.05$).

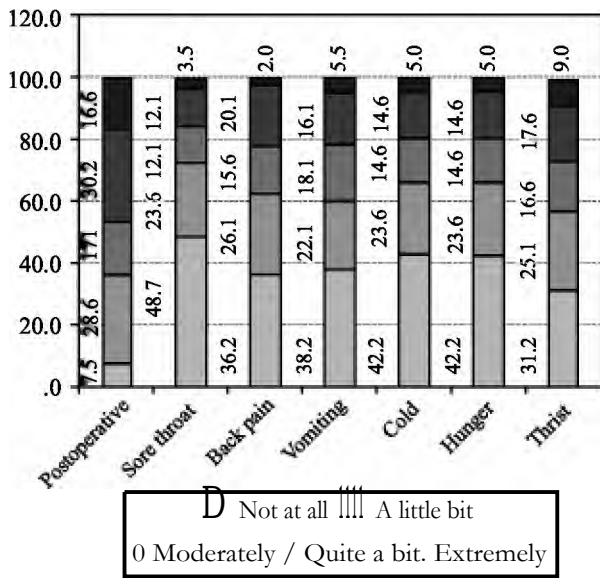


Fig. (1): Prevalence of patients' fear from undesirable outcomes.

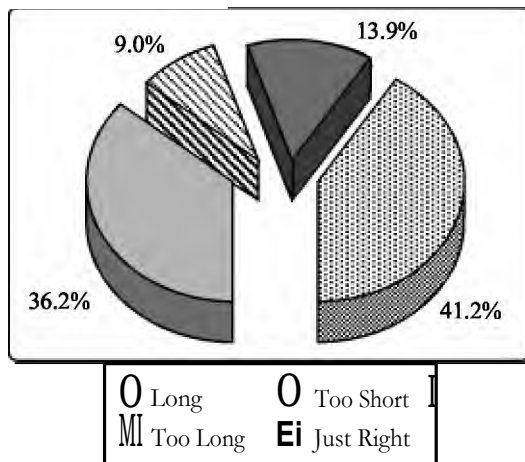


Fig. (2): Distribution of waiting time before surgery according to service window.

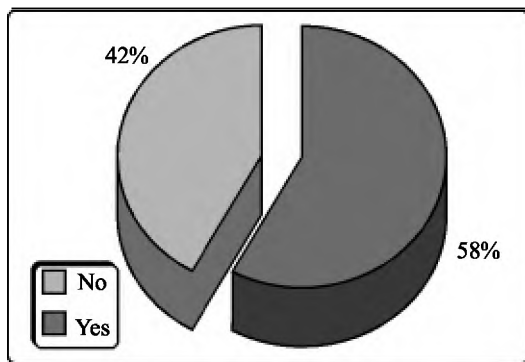


Fig. (3): Distribution of the operated patients' on the planned date and scheduled operation.

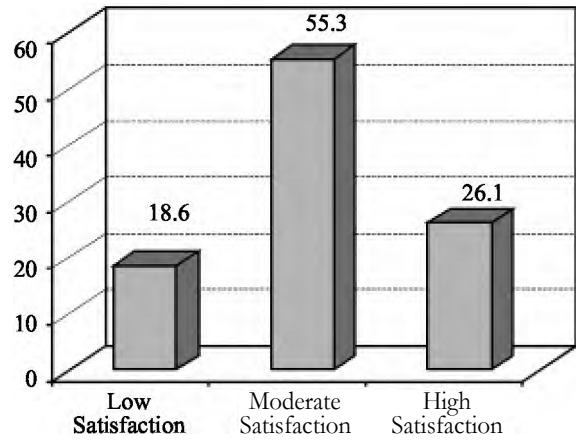


Fig. (4): Distribution of the level of patients' satisfaction with preoperative care.

Discussion

Patients' views have become an important element in the evaluation of health care. The current study shows that more than half of patients' were female, and illiterate, and the majority was unemployed. Slightly less than two-thirds were married. These results were consistent with [9] which reported that, more than half of the patients' were women and 28.3% employed, and 71.1% were =employed. Similarly, Maqsood et al. [13] added that the majority of participants were married (60%).

The important finding in this study was that the overall patients' satisfaction was lower than that reported from the other studies conducted by [12,14]. Male patients were more satisfied than females during the preoperative period. This result supported by the result of [15] that the females were significantly more dissatisfied than males. Our study found that, the patients aged 50 years and above, were more satisfied than other age groups. These results are consistent with [16] who found that, the age has proved to be a significant factor to determine the satisfaction level of patients. Elderly patients' were more significantly satisfied with the management of the hospitals than other age groups. The same result by [11,17]. As for the influence of occupation on the patients' satisfaction, our study found the retired patients were more significantly satisfied than other occupational groups especially, in staff-patient relationships. These results were convenient with [12] who reported that patient with paid employment was less satisfied than household and retired patient. According to the qualification and the domicile area on patient satisfaction, our study showed that, the secondary school graduate and rural patients were significantly higher mean satisfaction than other

groups. This result agrees with [18] who reported that, modest negative correlation was found between patients' years of education and satisfaction, higher level of education was associated with lower level of patient satisfaction. The findings in our study are similar to study done in the Saudi Arabia by [19] about the effect of residence area on patient satisfaction. It was found that, the rural patients' were more satisfied than urban area.

The study found the previous surgery and local anesthesia patients' were more satisfied than other groups. These results were consistent with Jlala et al. [14] who stated that, the fear and concern dimension influenced by age, type of anesthesia, history of surgery, and amount of discomfort complaints.

As for the influence of surgical specialty and type of operation on patients' satisfaction, our study revealed that, the lowest satisfaction level in this study was for the services provided in gynecology and obstetric, while the general surgery and minor operation were more satisfied than other groups. These results were agrees with Sa'adoon et al. [9] found that, the lowest level of patients' satisfaction for services provides in gynecology and obstetric facility which might be explained partially by the high rate of interventions and to the work overload imposed on the staff. By contrast, the result was inconvenient with [12] who reported that, the type of surgery did not influence the overall patient satisfaction.

Concerning to the influence to the civil status in our patient satisfaction, it was found that no significant differences in scorers between the married or unmarried patients satisfaction. This result is inconsistent with [20] who reported that, several significant correlations were found between patient satisfaction and preoperative factors such as married and currently working ($p=0.05$).

As for the respondents' answers regarding service provided, the study found that, the majority of patients had complained from long waiting time before operations. These results were supported by findings of Singh et al. [15] who revealed that, the duration of stay in the preoperative holding area significantly correlated with the preoperative period problem and satisfaction levels.

According to the effect of length of hospital stay on patient satisfaction; our study revealed that the patient staying from 7 to 15 days was more satisfied than other groups. This result was convenient with Singh et al. [15] Likely, this result was similar to the result of [21] who indicated that, there

was a negative relation between total length of hospital staying (LOS) in emergency department and head injury patients satisfaction. There was a statistical significant difference observed at $p<0.001$, those longer LOS were less satisfied.

Our study showed the only 41.7% of patient operated on the planned date and scheduled operation. This was incompatible with the majority 94.4% of patients who were admitted and operated upon on the planned date, operation scheduled in the study by [22,23]. Similarly, the study by [14] concluded that, the majority of the surveyed patients had their operations on the agreed date, and most of them were satisfied with the time spent waiting to be taken to the theatre.

Regarding the amount and quality of information and the level of patient satisfaction, our results indicate that, men gender patients, rural and length of hospital stay from 7-15 days were more satisfied than other groups with the amount and quality of information. This result was similar to the result reported by [14] who found that, empathy at the preoperative visit significantly reduced patient anxiety, while increasing patient satisfaction and perceived quality of information provided. The results also, showed similarity to the findings of [25] who reported that, the preoperative patient education has been used by many institutions to deal with patient anxiety, pain control, and overall satisfaction.

We found that patients' coming from rural area were more satisfied than urban especially, with quality and amount of information. Prior research has consistently demonstrated that patients' coming from suburbs were significantly satisfied with the management ($p=0.014$) of the hospitals [16]. As for very recent landmark studies, the questionnaire measuring patients' satisfaction by [19] added that to improve patient satisfaction, certain areas need to be improved such as: Reducing waiting period for appointments, providing more information about the disease and by ensuring that patients' have the opportunity to ask questions.

Regarding the influence of fear and concern on the level of patients' satisfaction, our results indicated that the female patients', major operation, and gynecological and obstetric patients' were more felt by fear and concern than other groups. These findings were inconsistent with those of other research who done by [14] found that, only the fear and concern were influenced by age, type of anesthesia, history of surgery and amount of discomfort complaints.

As regard to, the effect of staff-patient relationship and patients' satisfaction, the current study indicated that, the age 50 years, retired, and orthopedic patients' were more satisfied with staff-patient relationship. These findings went with those of other researchers who also found the orthopedic patients were more satisfied with staff-patient relationships [14].

As for the effect of level of education, marital status, type of anesthesia and previous surgeries on the patients' satisfaction, the results revealed no statistical significant differences between the level of education, marital status, type of anesthesia, and previous surgery and patients' satisfaction. In the study done by [3,26] which reported that, the education level has a positive and sometimes negative effect on satisfaction.

According to correlation between the patients' satisfaction and other study continuous variables such as age and length of hospital stay. The study highlighted that, a negative correlation found between the patient age, and fear and concern. Also, it was found that a significant correlation between the amount and quality of information and staff-patient relationship. As well, the study found that, a significant correlation between the all dimensions. This results were consistent with [14] reported that, amount and quality of information and staff-patient relationship were found to significantly correlate with patient satisfaction and the overall patient satisfaction.

Conclusion:

The study concluded that, nearly a quarter of the patients' only had highly satisfied with preoperative care. Lack of preoperative surgical information and guidance, fear from undesirable outcomes, poor staff-patient relationships and in addition, to low quality services were an important factor in overall patient satisfaction for a given care and contributed to patient dissatisfaction. Also the results confirm the varying importance for socio-demographic variables such as age, qualification, ward were important factors that influenced on the judgment of patients regarding their level of satisfaction.

Recommendation: According to our findings, it is recommended that:

- More effort and endeavors should be done to achieve maximum results to patient satisfaction and provide comfort for patient during the preoperative phase.

- Discuss the survey results and findings with hospital managers and other related members in the hospital service.
- Contact scheme for patient to provide all relevant information prior to surgery, in order to minimize patient fear and anxiety and to improve the patient's satisfaction.
- Certain areas need to be improving such as reducing waiting time before operation and compliance by the date and time schedule for operation, with more emphasis on patients-staff relationship skill.
- Continue service evaluation via satisfaction survey annually to provide feedback for continuous quality of care improvement.

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