

KNOWLEDGE OF SURGICAL CARE AMONG GENERAL POPULATION IN SAUDI  
ARABIA

Bashaer Dabsan Al Baqami<sup>\*1</sup>, Shayma Abdulwasea Asrar<sup>2</sup>, Rawan Wael Alalayan<sup>3</sup>, Mona Abdullah Alharbi<sup>4</sup>,  
Amani Abdullah Alharbi<sup>5</sup>, Khadija Abdullah Al-Bahrani<sup>6</sup>, Ibtihal Mohamed Aldrees<sup>7</sup>, Sakinah Matuq  
Alaithan<sup>8</sup>, Alaa Matuq Alaithan<sup>9</sup>

<sup>1,2,3,4,6,7,8</sup> Medical Intern.

<sup>5,9</sup> Medical Student.

\*Corresponding Author: Bashaer Dabsan Al Baqami

Medical Intern.

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## ABSTRACT

**Introduction:** In Saudi Arabia, the overall number of surgical interventions performed in 2013 was 942609. There are no adequate information about knowledge and attitudes towards surgical care in Saudi community. This study aimed to evaluate the knowledge and attitudes of surgical care among general population in Saudi Arabia. **Methods:** This study was a cross sectional study among general population conducted through email survey. The size of the sample selected in this study was 384 participants. The questionnaire consisted of three sections, personal information section, and two others sections to explore knowledge and attitudes towards surgical care. **Results:** About 88% of the respondents knew the definition of surgery, however less than half of them knew the routine steps of surgical care starting from admission until discharge. About 63% of them knew that they should be informed about the diagnosis and indications of the surgery, while only 38.2% knew that they must be informed about the steps of the surgery before the operation. About 79% of the respondents felt that the theater room is a scary place, and about 82% always link the surgery to the pain and suffer. The fear of surgery is significantly more common among females, young people, and people with low level of education. **Conclusion:** In Saudi Arabia, there is a good level of knowledge about surgery as general, however there is low level of knowledge about the detailed steps of the surgery. There are negative attitudes and high level of fear towards surgery in Saudi population.

**KEYWORDS:** Knowledge, Attitudes, Surgery, Theater, Anesthesia.

## INTRODUCTION

About one tenth of the global burden of disease is treated by surgical intervention.<sup>[1]</sup> Most of patients suffer of fear and anxiety prior to surgery.<sup>[2]</sup> Until seventies, the concept of hiding information about surgical operations from patients was dominant among operative staff. It was believed that a lack of knowledge could reduce patient fear and anxiety. After that, an evidence has been accumulating against this belief, and actually, the inadequate information giving for patients were proved to be the cause of increased fear and anxiety.<sup>[3,4]</sup>

An adequate level of knowledge of surgery is important to relief anxiety of patients undergoing surgery, which subsequently increases the success rate and reduces the postoperative complications.<sup>[5]</sup> An elevated level of anxiety before operations was associated with psychosomatic effects such as increase in blood pressure and dysrhythmias and could lead to patients' withdrawal from optional surgical interventions.<sup>[6]</sup> In general population, there is a high chance for acquisition of wrong information from television dramas, which could

considerably elevates the level of anxiety towards surgeries.<sup>[7]</sup> Nowadays, patients can search internet and see detailed videos about their planned surgeries, which may increase the preoperative anxiety. Studies found women, young people, less educated patients, and those without prior surgical intervention have more fears and anxiety about surgery.<sup>[8]</sup>

Generally, medical specialists should spend not less than 25% of their official time in educating patients.<sup>[9]</sup> Patients with lack of knowledge, fears, or high anxiety may need more time for education and reassurance, which could put more workload on medical staff who are already overloaded and crowded. Thus, the conduction of public campaigns that aimed to knowledge improvement and fear relief could benefit both patients and medical staff in achieving good surgical outcomes.

In Saudi Arabia, the overall number of surgical interventions performed in 2013 was 942609, of them 450183 were in hospitals belonging to Ministry of Health.<sup>[10]</sup> There are no adequate information about

knowledge and believes towards surgical care in Saudi community. This study aimed to evaluate the knowledge and attitudes of surgical care among general population in Saudi Arabia.

## METHODS

This study will be a cross sectional study among general population through email survey. The size of the sample selected in this study was 384 participants, which was determined by the equation of proportion estimation. The error of estimation was set to 0.05 and the confidence level was 95%. The data were collected through a questionnaire that was sent by the email to all study participants. The response collected through Google forms directly into excel sheet. The questionnaire was piloted in a sample of 20 participants to ensure clarity of the questions. Then it was modified to be a short and concise questionnaire, which improved the response rate of this study. The data were introduced for Statistical Package for Social Science (SPSS), Version 20, in order to be analyzed. The questionnaire consisted of three sections; section "A" contained questions about background variables such as age, sex, residence and educational level. The numbers and percentages were used to describe the level of those who answer true questions regarding knowledge of surgical care (section B). The attitudes towards surgical care were assessed in the section C by direct yes/no questions. The informed consents were obtained from all study participants before data collection.

## RESULTS

This study included 384 study respondents of them 223 (58.2%) were males and 161 (41.8%) were females. The majority of the respondents (53.9%) were at the university level of education, while only 7.7% were at the primary level of education. about the third of the respondents were from western region, followed by the respondents from central region (24.8%), and the lowest percentage of the respondents (6.1%) were from northern region. The majority of the respondents (57.3%) were at 18 – 30 years old, while only 14.9% of the respondents were older than 40 years old (table 1).

About the knowledge of surgical care among the respondents in Saudi Arabia, the majority of the respondents (88.1%) knew that surgery involving treating diseases, injuries, or deformities by manual or operative procedures, however less than half of them knew the routine steps of surgical care starting from admission until discharge. About 63% of them knew they should be informed about the diagnosis and indications of the surgery before the operation, while only 38.2% knew that they must be informed about the steps of the surgery before the operation. Approximately 42% of the respondents knew that they should oriented about the possible complications of the surgery before the operation, and the majority of them knew that they should sign a written consent before subjecting to a surgery (table 2).

Concerning the attitudes towards the surgical care, 63.5% of the respondents thought that the theater room a strange place. The vast majority of respondents (79.4%) felt that the theater room is a scary place, and 81.5% always link the surgery to the pain and suffer. About 44% of the respondents had fear towards anesthesia, and only 42.7% of them feel relax with a room with many doctors and nurses. About 62% of the respondents prefer a treatment by medications with long-term effect over a surgery with short-term effects. In regards to the previous history, 37.8% of the respondents were subjected to a surgery, while the majority of respondents had a family member who had subjected to a surgery (table 2).

The significant association was detected between age and feeling that theater is a scary place, where 86.5% of those who were  $\leq 40$  years felt that the theater is scary place in comparison to only 38.6% of those who were  $>40$  years old ( $P$  value= 0.000). Higher percentages of females and low educated people than males and high-educated people felt that the theater is a scary place. These differences were statistically significant with  $p$  values = 0.000 (table 3).

**Table (1): Distribution of the study population according to the background variables**

Background variables	Frequency	Percentage
Male	223	58.2%
Females	161	41.8%
<b>Educational level</b>		
Primary level	30	7.7%
Secondary level	91	23.8%
University level	207	53.9%
Postgraduate level	56	14.6%
<b>Residence</b>		
Central region	95	24.8%
Western region	125	32.6%
Eastern region	75	19.4%
Southern region	66	17.1%
Northern region	23	6.1%

Age		
18 - 30	220	57.3%
31 - 40	107	27.8%
>40	57	14.9%
<b>Total</b>	<b>384</b>	<b>100%</b>

**Table (2): Distribution of the study participants regarding the knowledge and attitudes about surgical care**

<b>Knowledge about surgical care</b>	<b>Yes (%)</b>	<b>No (%)</b>
Do you know that surgery involving “treating diseases, injuries, or deformities by manual or operative procedures”?	338 (88.1%)	46 (11.9%)
Do you know the routine steps of surgical care starting from admission until discharge?	177 (46.2%)	207 (53.8%)
Do you know that you must be informed about the diagnosis and indications of the surgery before the operation?	242 (63.0%)	142 (37.0%)
Do you know that you must be informed about the steps of the surgery before the operation?	147 (38.2%)	237 (61.8%)
Do you know that you must be informed about the possible complications of the surgery before the operation?	160 (41.7%)	224 (58.3%)
Do you know that you should sign a written consent before subjecting to a surgery?	288 (75.0%)	96 (25.0%)
<b>Attitudes towards surgical care</b>	<b>Yes (%)</b>	<b>No (%)</b>
Do you think the theater room is a strange place?	244 (63.5%)	140 (36.5%)
Do you think the theater room is a scary place?	305 (79.4%)	79 (20.6%)
Do you always link the surgery to the pain and suffer?	313 (81.5%)	71 (18.5%)
Do you have a special fear of anesthesia?	169 (44.0%)	215 (66.0%)
If there is a treatment of medications with long-term outcomes or a surgery with short-term outcomes, do you prefer the surgery?	148 (38.5%)	236 (61.5%)
When you see a room with many doctors and nurses, is this make you relax and relief your fears?	164 (42.7%)	220 (57.3%)
<b>Other questions</b>	<b>Yes (%)</b>	<b>No (%)</b>
Did you have subjected to any surgery?	145 (37.8%)	239 (62.2%)
Did you have a family member who had subjected to a surgery?	339 (88.3%)	45 (11.7%)

**Table (3): Effect of certain background factors on attitude towards surgical care**

		<b>Do you think that the theater room a scary place?</b>		<b>P value</b>
		<b>Yes</b>	<b>No</b>	
Gender	Male	162 (72.6%)	61 (27.4%)	0.000*
	Females	143 (88.8%)	18 (11.2%)	
Age	18 - 40	283 (86.5%)	44 (13.5%)	0.000*
	>40	22 (38.6%)	35 (61.4%)	
Educational level	Secondary level or less	113 (93.4%)	8 (6.6%)	0.000*
	Graduate and postgraduate level	192 (73.0%)	71 (27.0%)	

\*significant P value

**DISCUSSION**

The public knowledge about surgical care found to correlate to the anxiety and fear before operation. In addition, the quality of healthcare is related to the patient satisfaction and feeling relax with medical care including surgical interventions.<sup>[2]</sup> Generally, surgeons underestimate the patients' need for information about their upcoming surgeries.<sup>[11-13]</sup>

In the presents study, the majority of the respondents (88.1%) knew that surgery involving treating diseases,

injuries, or deformities by manual or operative procedures, however less than half of them knew the routine steps of surgical care starting from admission until discharge. This is in agreement with Williams et al. who found considerable lack of knowledge about details of surgical care such as anesthesia.<sup>[14]</sup> In the presents study, bout 63% of them knew they should be informed about the diagnosis and indications of the surgery before the operation, while only 38.2% knew that they must be informed about the steps of the surgery before the operation. This is consistent with Williams et al. who

found that 63% of patients thought that they were informed about treatment details they needed, although some of them found the detailed information stressful and they objected the provision of such details.<sup>[11]</sup>

In the presents study, approximately 42% of the respondents knew that they should oriented about the possible complications of the surgery before the operation, and the majority of them knew that they should sign a written consent before subjecting to a surgery. Turner et al. found patients forgot many of the information provided for them before signing the consent.<sup>[15]</sup> Lack of communication skills by the surgeon could contribute to this rapid deterioration in preoperative knowledge.

In the present study, the vast majority of the respondents (79.4%) felt that the theater room is a scary place, and 81.5% always link the surgery to the pain and suffer. Lower findings were found by Hume et al. who reported that 47% of study participants were thought that pain is a necessary outcome of the surgery.<sup>[16]</sup> These findings reflected the need for patients' education about management of postoperative pain. In the present study, about 44% of the respondents had fear towards anesthesia, and only 42.7% of them feel relax with a room with many doctors and nurses. This is in agreement with findings of Hume et al. who found that fear of inability to wake up after anesthesia, reported by 43.4%<sup>[16]</sup>; and it was higher than 23% found by Dodds et al.<sup>[17]</sup>

In the present study, higher percentages of females and low educated people than males and high educated people felt that the theater is a scary place. This is in agreement with a study of Jlala et al. who found higher anxiety levels among females in regards to surgical care.<sup>[18]</sup> Women usually have more questions, prefer verbal communication with healthcare personnel, and needs more social support.<sup>[12]</sup> Therefore, women need more attention in the programs targeting relief of preoperative anxiety and fear.

An important limitation of this study is the lack of a validated questionnaire, in addition to the cross sectional approach in this study. The prospective approach evaluating knowledge and attitude pre- and post-operatively will be more comprehensive and the measurement of knowledge and attitudes using 5-point likert scale will be more informative rather than yes/no questions.

## CONCLUSION

In Saudi Arabia, there is a good level of knowledge about surgery as general, however low level of knowledge about the detailed steps of surgery. There are negative attitudes and high level of fear towards surgery in Saudi population. The fear of surgery is significantly more common among females, young people, and people with low level of education.

## Conflict of interest

The authors stated no financial support was received, and no conflict of interests.

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