

## Needed and Received Information for Preoperative Patients Undergoing Thoracic Surgery in Bangladesh

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### Abstract

Thoracic surgical patients, particularly those who lack relevant information, often perceive their operation as threatening and are therefore anxious. Providing appropriate information enables patients to reduce negative effects and to increase their participation in postoperative care. The aims of this study were to determine the level of preoperative information required by patients undergoing thoracic surgery, to investigate the actual information provided to these patients, and then, to compare this information.

The descriptive study was conducted in four surgical wards in a national, specialized hospital in Dhaka from November 2009 to January 2010. Seventy surgical patients were recruited for the study. The Needed Information Questionnaire (NIQ), and the Received Information Questionnaire (RIQ) used in this study were validated and tested for reliability, yielding Cronbach's alpha coefficients of .88 and .87, respectively. The data were analyzed using descriptive statistics and the Wilcoxon Signed Ranks test.

The study revealed that subjects rated the preoperative needed information and the received information at a high level. Needed information was rated significantly higher than received information ( $p < .01$ ). They received less preoperative information than required, particularly in terms of information relating to sensation and discomfort. This finding suggests that provision of specific information relating to sensation and discomfort should be made a priority.

The findings of the study provide baseline information for initiatives to improve quality care for preoperative patients. Further study with a large sample size is recommended.

**Keywords:** Preoperative Information, Required and Supplied Information, Thoracic Surgery

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## Background and Significance of the Problem

Thoracic surgery is the process in which patients are supposed to cut out some part of some organs. Patients who are suffering from chest diseases such as mass or tumor in the lungs, cancer in the lungs, and cancer in the esophagus that required operation, usually experience anxiety and fears.<sup>(1)</sup> Adequate information about their diseases and treatment enables the patients to cope with this stressful situation. Patients can participate in the process by doing some activities during preoperative period if they know the advantages of those activities. The study by Yount et al.<sup>(2)</sup> on nurses' perceptions of preoperative teaching found that the majority of the nurses perceived the teaching should be provided to patients after admission and before going to the operating theatre.

Thoracic surgery is one of the most critical, sensitive and fearful procedure in the field of surgery. Patients often view the procedure as risk of danger and experience stress or anxiety when they are in lack of knowledge or information or have misconception.<sup>(1, 3-4)</sup> Providing appropriate information enables the patients to understand about their diseases and prognosis. It also

helps patients to increase participation in decision making and setting up the treatment goal through collaboration with medical team. Involvement with the treatment process during preoperative period, patients may feel secure about surgical procedure and outcomes that can reduce patient's anxiety<sup>(2, 5-8)</sup> and minimize post-operative complications<sup>(3)</sup>.

Preoperative preparation and careful postoperative management is therefore crucial for successful patient outcomes. Previous literature on preoperative patient education in thoracic surgery reflects three main issues to be concerned. Firstly, it is necessary to allow the sufficient time for patient explanation and questioning. Secondly, it emphasizes the right of patient to receive explanation of any proposed treatment or care received. Thirdly, the content and material should be separated into two groups: related to thoracic surgery in general and a specific operation such as pneumonectomy, lobectomy, etc.<sup>(9)</sup> Not only the content of information, but the times of information should be addressed.

For preoperative information given to patients undergoing thoracic surgery, the following topics should be included: 1) general preoperative education, respiratory hygiene, pain, smoking cessation, diet

and nutrition, wound care and drains, post discharge social issues, and contact members; 2) specific procedure depending on the type of thoracic surgery; the common procedures includes pulmonary resection (lobectomy/pneumonectomy) and other operations in patients with severe emphysema, esophagectomy, transplantation, and; 3) lung rehabilitation skill training includes breathing exercise using incentive spirometer, chest physiotherapy, active coughing etc.<sup>(9)</sup>

In the study conducted by Yount, Edgell and Jakovec<sup>(2)</sup> about nurses' perception on preoperative teaching, it was found that several types of information were usually provided in the preoperative period. These include knowledge about physiological process, sensory experiences, coping strategies used to reduce anxiety, and skills training. In addition, they found that preoperative information about surgical procedures and outcomes can reduce patients' anxieties, decrease the requirements of postoperative analgesia, and reduce the length of hospital stay. This finding provides empirical support of significance of preoperative information to patient outcomes.

In literature specific to preoperative teaching information, the common types of information provided for surgical patients consist of five dimensions including

1) situational/procedural, 2) sensation/discomfort, 3) patient role, 4) psychosocial support, and 5) skills training information.<sup>(2)</sup>

Following these five dimensions of information, there was a study conducted to examine perception of patients undergoing general surgery and nurses in relation to patient information needs in perioperative period in Malaysia. The findings showed that overall perception of nurses and patients were not significantly different. However, the patients and nurses gave response in different order.<sup>(10)</sup> To our knowledge, there is no study in this area, particularly in patients undergoing thoracic surgery in Bangladesh. This study was then conducted to find out the discrepancy between needed information and received information in patients undergoing thoracic surgery. Identifying the gap between needed information and received information among thoracic surgical patients would be very helpful to develop further improvement of preoperative patient education.

## Objectives

1. To describe the level of preoperative needed information and received information of patient undergoing thoracic surgery.
2. To compare the preoperative needed information and received information of patient undergoing thoracic surgery.



## Conceptual framework

To cover all content of information relevant to thoracic surgical care, the conceptualization of preoperative information needs and received consisting of five dimensions of information explored by Yount, Edgell and Jakovec<sup>(2)</sup> was used or incorporated with the concept of caring for patient undergoing thoracic surgery. The five dimensions include: 1) situational and procedural information refers to the explanations about nursing care activities, equipment, events and their time sequence. The thoracic surgical patients should be informed about the type and procedure of operation, 2) sensation–discomfort information includes patients feeling of pain and discomfort that he/she may feel light-headed the first time he or she stands up after surgery, 3) patient role information includes the behavior expected from the patient to make decision for operation and perform some activities to achieve treatment goals such as the patient will be expected to perform coughing, deep breathing, and doing leg and foot exercises for the prevention of complication, 4) skill training information includes explanation and guided practice by physiotherapist to develop some skills such as coughing and deep breathing that help with post-operative recovery.

Patients need to be well trained to support the incision when moving in bed, coughing, or deep breathing, and 5) psychosocial support information refers to the patient–nurse interactions that enable the patient to deal with the anxiety and enhance coping. The nurse encourages the patient to discuss any fears or concerns that he or she has about surgery. All of above information should be provided to the patient during the preoperative period. In terms of thoracic surgery, the specific content of information needs to be investigated. This study aimed to see whether there is any difference between needed and received information in patient undergoing thoracic surgery in their perspectives.

## Research Methodology

This study was conducted at a national specialized hospital in Dhaka during November 2009 to January 2010. Initially, 98 subjects were proposed based on a power analysis with alpha .05, power .80, and effect size .40. However, during the study period there was limited number of cases who met the inclusion criteria. Thus only 70 adult patients undergoing major thoracic surgery participated in this study.

The Needed Information Questionnaire (NIQ) and Received Information Question-

naire (RIQ) consisted of 52 items rated by a 4-point Likert scale ranging from '1' (not at all), to '4' (mostly needed/always received). In order to determine the level of needed and received information, the total scores were divided into three levels. Scores 52-104 were low level, scores 105-156 were moderate level, and scores 157-208 were high level of needed and received information.

After the proposal was approved by the Institutional Review Board (IRB), Faculty of Nursing, Prince of Songkla University and permission by the hospital authority was granted, subjects were chosen from the medical records or a schedule of elective thoracic surgery. The primary investigator reviewed the patients' medical records. Potential subjects were approached to ask their willingness and verbal consent was obtained. A set of questionnaires was used to collect data on needed information at one day after admission and received information at the day before the operation.

Descriptive statistics were used to describe the subjects' characteristics. The normality assumption was tested and revealed non-normal distribution of the datasets. Wilcoxon Signed Ranks test, then, was used to determine the differences between needed and received information.

## Results

Age of the subjects ranged from 18 to 68 years with the average age of 40 years (SD =15.04). Three-fourths were male and married. The majority of the subjects was Muslim (94.3%). Approximately 43% of the subjects had completed a secondary school education. One quarter (25.7%) of the subjects was a farmer. Almost half of the subjects had no income with only 8.6% had monthly income between 3000 Tk to 5000 Tk (approximately 1,500-2,500 Thai Baht or 45-75 US \$).

According to health related characteristics, the majority of the subjects (90%) had their first surgical experience with different types of operation such as decoration (24.3%), resection and anastomosis of esophagus (21.4%). Approximately 30% had been diagnosed with mass, lesion in the lung, followed by thickened pleura (27.1%).

Overall the average scores of preoperative needed and received information were at high level (M = 205, SD = 9.23 and M = 193, SD = 6.73, respectively). The mean scores of preoperative needed information in each dimension were also high (Table 1). The top 5 items of the highest score of preoperative needed information (M = 3.99-4.00) were related to situation-



procedural information and psychosocial support. Information about the date and time of operation and having nurses to listen and answer to patient's worries were rated as the highest needed information (Table 2). While the last 5 items receiving the lowest scores of preoperative received information ( $M = 2.36-2.87$ ) were related

to sensation discomfort especially about operating room environment and anesthesia (Table 3).

The results indicated that there was a significant difference in mean ranks of needed information (35.11) and received information (24.75) (Table 4).

**Table 1** Possible range, actual range, mean, standard deviation (SD) of preoperative needed and received information (N = 70)

Preoperative information	Possible score	Needed information			Received information		
		Actual score	Mean	SD	Actual score	Mean	SD
Total score	52-208	158-208	205	9.23	162-208	193	6.73
Stratified by dimension	23-92	70-92	91.10	3.64	82-92	91.1	2.38
Situation-procedural							
Sensation-discomfort	12-48	20-48	46.5	4.56	18-48	34.9	4.38
Patient role	7-28	21-28	27.8	.96	24-28	27.2	1.17
Skills training	5-20	16-20	19.9	.55	16-20	17.7	1.86
Psychosocial support	5-20	13-20	19.8	.90	13-20	19.6	1.26

**Table 2** Mean and standard deviation (SD) of 5 items with the highest score of preoperative needed information (n = 70)

Preoperative information	Mean	SD	Dimension
The date and time of operation	4.00	0.00	Situation procedural
Having nurses to listen and answer to your worries	4.00	0.00	Psychosocial support
The type of operation you are going to have	3.99	0.12	Situation procedural
The estimated time you will need to recover after operation	3.99	0.12	Situation procedural
The care you need after being discharge from hospital	3.99	0.12	Situation procedural

**Table 3** Mean and standard deviation (SD) of 5 items with the lowest score of preoperative received information (n = 70)

Preoperative information	Mean	SD	Dimension
The sensation you may feel after receiving general anesthesia	2.36	0.59	Sensation discomfort
The feeling of exciting and anxiety of seeing many medical equipments and unfamiliar environments (operating lighting, masked/gowned personnel)	2.37	0.62	Sensation discomfort
The sensation you may feel as a result of preoperative medication (e.g. drowsy)	2.44	0.61	Sensation discomfort
The sensation of wearing an operation gown	2.44	0.61	Sensation discomfort
The feeling of coldness in operating room	2.63	0.73	Sensation discomfort

**Table 4** The Difference between Needed Information and Received Information using Wilcoxon Signed Ranks Test (N = 70)

Preoperative Information	n	Mean rank	Sum of ranks	z
Received < Needed	64	35.11	2247	-6.57**
Received > Needed	4	24.75	99	
Received = Needed	2			

\*\* p <.01

### Discussion (needs more empirical research support)

This study was conducted to describe the level of needed and received pre-operative information and determine the differences between needed and received preoperative information among thoracic surgical patients.

The findings showed that thoracic surgical patients participated in this study rated the needed information at a high level during preoperative period. They also rated all five dimensions at high level. The high needed information was about situation-procedural information and psychosocial support (Table 2). The findings of this present study were consistent with Samsudin's study<sup>(10)</sup> on patients' information needs in perioperative period perceived by patients and nurses. Samsudin found that patients

and nurses gave higher rating in situation-procedural information, followed by patient role information. The thoracic surgical patients should perform some activities to enhance positive postoperative outcomes such as active cough, deep breathing exercise, walking with chest tube etc. The finding is also consistent with the study by Henderson and Chien<sup>(11)</sup> (It's unclear how this statement is related to the findings, please add the explanation) on information needs of Hong Kong Chinese patients undergoing surgery. They found that all participants rated the needed information at high level. They also mentioned that patients wanted information to understand the surgery and assist the treatment and recovery process. In this present study, this was the first surgical experience for the majority of them and the level of needed information was high which is consistent



with the study by Bernier, Sanares, Owen, and Newhouse<sup>(12)</sup> who found that the pre-operative teaching received and valued in a day surgery setting (this clause does not have a verb, please check the meaning and add). In Bernier et al. study the patients who had first time surgical experience, valued the preoperative teaching most highly. In this situation the surgical nurses need to assess the particular needed information and provide it as required.

In Bangladesh, patients usually stay in the hospital for a long time before operation. Providing preoperative information is very helpful during this awaiting time. Subjects in this study might receive the information during preoperative period as supported by their rating of received information at high level. The longer time spent in the preoperative phase, the higher information patients would receive as a result of elective case<sup>(13)</sup>.

Patients come to this hospital from different areas of the country. Before that they met many doctors. During admission for a surgery patients may realize the importance of information and they may need more information about their disease and the surgical procedures. Even though patients may have received information from their primary doctor about the need

of operation prior to admission, the surgical procedure should have been discussed at the time of admission. In Bangladesh, during preoperative period most patients need to wait for long time for the preparation of operation. They then may receive their needed information during the time. The relatives of the patients also stay with them in the hospital and they discuss with other patients who are already operated and received information about some issues of their interest. They need further clarification of the received information from doctors and nurses. The nurses always clarify the important issue they received from the doctors and other sources. It is the role of surgical nurses to provide the clear picture of their needed information and prepare the patients for operation. During this period patients experience some anxiety about their operation and progress of the disease process. The nurses and doctors provide psychosocial support by listening to their concerns and reassure them with clear explanation of care facilities during the treatment process.

This present study found that subjects received least information related to sensation-discomfort information such as sensation and feeling after receiving general anesthesia ( $M = 2.36$ ,  $SD = .59$ ), feeling of

exciting and anxiety of seeing many medical equipments and unfamiliar environment ( $M = 2.37$ ,  $SD = .62$ ) (Table 3). These items are related to the activities inside the operating theatre. In the study of nurses' perception of preoperative teaching for ambulatory surgical patients, Tse and So<sup>(14)</sup> found that limited teaching aids, tight operation schedules and language barriers affected the delivery of preoperative information to the patients. In the context of Bangladesh, the operation schedule is not too tight and language barrier is reasonable reason but only there is no structured pre-operative information guideline for thoracic surgical patients. The study conducted by Kieley<sup>(15)</sup> on an investigation into the information received by patients undergoing a gastroscopy in a large teaching hospital in Ireland found that patients received most of the standard procedural information and considerably less sensory information. That study identified the need of patients information leaflet.

Even though the patients rated the needed and received information at high level, there was a statistically significant difference of preoperative needed and received information. Among 70 subjects, 64 of them ranked the needed and received information negatively which indicated that

about 91.43 % patients received less information than they needed. This might be due to a lack of structured preoperative patient education.

The interpretation of the study finding should be done cautiously because of small sample size. In addition, this finding may have limited generalizability because the study was conducted at only one specialized hospital in Bangladesh.

## Conclusion

It is very important that thoracic surgical patients had received information less than needed information which reflects insufficient information about their operation during preoperative period. Thoracic surgical patients needed the preoperative information at high level in all dimensions. They received less preoperative information in sensation-discomfort dimension. Thoracic surgical patient desired to understand the whole process of treatment including the advantages and disadvantages of some procedures. Adequate information about operation can enable patients to participate in some activities necessary to promote recovery such as active cough, breathing exercise, and exercise of upper and lower extremities. Structured preoperative education may be helpful to receive their needed



information equally in the entire dimensions of information.

### **Implication and Recommendation**

1. The findings could emphasize the importance of assessing the preoperative information needs and reevaluate the information patient received. Structured preoperative teaching including sensation discomfort would be required.

2. These findings can be used to formulate a checklist to assess the preoperative information needs and evaluate the outcomes of teaching received by surgical patients. It also helps to teach the patients in preoperative period.

3. Further research should be conducted with a larger sample size to ensure the more reliable and valid findings.

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