

Essential Elements of Preoperative Information as Perceived by the Nurses in Surgical Units: Scoping Review

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ABSTRACT

Context: Nurses worked as primary educators in perioperative teaching. The delivery of preoperative teaching may be affected by the nurses' perception of what information should be involved. Their perceptions possibly have a direct effect on their performance regarding the preoperative information. Understanding the nurses' point of view may help the nurses to increase their knowledge of the preoperative information details, to provide better nursing care, and to improve patient outcomes.

Aim: To identify the relevant evidence on the nurses' perceptions regarding the essential elements of preoperative information in addition to the methods of information delivery and the factors that reduce or prevent information delivery.

Methods: A scoping review method was used to allow for the mapping of the relevant evidence and the synthesis of the findings. CINAHL, MEDLINE, and PubMed databases were searched from inception until December 2019. Seven studies met the inclusion criteria with a sample size of 812 nurses involved in the review.

Results: The results indicated that Anaesthesia information (69.55%) and details about operation (62.1%) were most crucial preoperative information as perceived by nurses. Oral explanations were most essential actual and preferred method of information delivery. The top barriers to provide sufficient information were time availability (64.25%), the types of questions (64.17%), and language barriers (61.75%). The review also found that the Preoperative Teaching Questionnaire (PTQ) was the most assessment instrument used to assess nurses' perception regarding the preoperative information.

Conclusion: This scoping review has assessed the nurses' perceptions regarding the essential elements of preoperative information. Understand nurses' view regarding the preoperative information are important to determine the essential elements of preoperative teaching, ensure quality of care and better patient's outcome. However, further studies are needed to assess the nurses' perception regarding essential preoperative information and to examine the different strategies and teaching modalities used to create an effective preoperative teaching program.

Keywords: Nurses' perception, preoperative information, review, surgical units

1. Introduction

The necessity of patient education is extensively recognized in all healthcare sectors. Patients who have sufficient knowledge about their condition are more likely to have better outcomes. They will also be able to perform effective self-management throughout their lives (Guo, 2015). Besides, effective nurse-patient communication is another crucial factor that has a positive impact on patient outcomes. Effective teaching may have a significant positive effect on patient satisfaction, enhanced recovery, reduced hospital stays, and expenditure (Guo, 2015).

The most critical area for nurses to provide adequate information is in the preoperative period when the patients have been prepared for surgical procedures. According to Bernier et al. (2003), preoperative teaching is defined as "an interactive process of providing information and explanations about the surgical processes, the expected patient behaviour, and anticipated sensations, in addition to providing appropriate reassurance and therapeutic listening

for the patients who are about to undergo surgery." Preoperative teaching thus consists of a wide range of information about the operation, anaesthesia, and the delivery of psychosocial support, which may have a positive effect on the patients undergoing surgery.

The advantage of preoperative teaching is frequently shown in nursing research literature. Numerous studies indicate that delivering preoperative information to the patients undergoing surgery has a positive effect on the patient outcomes (DeLano, 2017; Gonçalves et al., 2017; Sayin & Aksoy, 2012). Reduced anxiety, pain, and postoperative complications, in addition to the enhancement of the postoperative patients' recovery, are the most important benefits of preoperative teaching (Deng et al., 2019). According to Lee and Lee (2013), nurses act as crucial educators in preoperative patient care by providing information to the patients, which will help to reduce their anxiety and improve their self-care capability. Nurses have turn out to be progressively responsible for being involved

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in the dynamic process of patient teaching, which meets the patient requirements beneath the concept of holistic care in preoperative nursing practice (Selimen & Andsoy, 2011).

Despite the importance of the information provided to the patients preoperatively, there was a difference between the nurses' perception and their current practice concerning the delivery of preoperative information (Tse & So, 2008; Lee & Lee, 2013). The delivery of preoperative teaching is affected by the healthcare professionals' perceptions of which information should be involved. Their perceptions will potentially have a direct effect on their performance regarding the preoperative information (Mitchell, 2017).

Therefore, it is essential to assess the nurses' perception of the essential elements of preoperative information, the best methods of information delivery, and the potential factors that may reduce or prevent the information delivery itself. The results of this review may help us to understand the nurses' perception of the factors that may affect their preoperative teaching. The results would have an implication value in the healthcare settings by optimizing and improving the strategies used for patient care in the surgical units.

Understanding the nurses' points of view may also help the nurses to increase their knowledge of the preoperative information details, to provide better nursing care, and to improve the patient outcome. Also, this review aims to determine any gaps in the knowledge of the topic, which can then be used to guide future research. The results of this scoping review may go on to help policymakers to design a structured preoperative teaching program. It would be a summative and sound summary of the presently available literature on this issue.

2.. Aim of the study

This comprehensive review aims to identify the relevant evidence on the nurses' perception regarding the essential elements of preoperative information, the methods or ways of delivery information used by the nurses, and the factors that reduce or prevent information delivery

3. Methodology

A scoping review method was used to map the relevant evidence and synthesis of findings. This scoping review was guided by Arksey and O'Malley's framework (Arksey & O'Malley, 2005), which consists of six stages. The stages of the framework include identifying the research question, identifying the relevant studies, the study selection, charting the data, collecting, summarizing, and reporting the results and consulting with the stakeholders (optional stage) (Levac et al., 2010).

3.1. Identifying the research question

The PICOT question format was used to identify the research question of "What are the nurses' perceptions about the essential elements of preoperative information for patients undergoing surgeries?" PICOT was used to conduct the search process in the chosen databases (see Table 1).

Table (1): PICOT Question

PICOT	CONTENT	PICOT QUESTION
P	Nurses	What are the nurses'
I	Nurses' perception of the delivery of preoperative information	perceptions of the essential elements of preoperative information for the patients
C	Not applicable	undergoing surgery?
O	Determine the essential elements of preoperative information	
T	No time	
Type	Meaning of the PICOT question	

3.2 Search strategies

In the second stage, the databases were searched from inception (i.e. 1990) until December 2019 to identify all articles that focus on determining the essential elements of preoperative information as perceived by the nurses in the surgical units. Various electronic databases were searched, including CINAHL, Medline, and Pub Med. Besides, Google Scholar was searched to investigate the 'grey literature' from nursing or surgical research group websites. The reference lists of the selected studies were investigated manually in order to identify any additional related articles. The search engines used to carry out the searches involved a combination of the key terms using the logic operators (i.e., And, Or, Not, as well as Boolean logic). The terms included "preoperative patients," "surgical patients," "preoperative nurse," "surgical nurse," "nurse perception," and "preoperative information."

3.3. Study selection

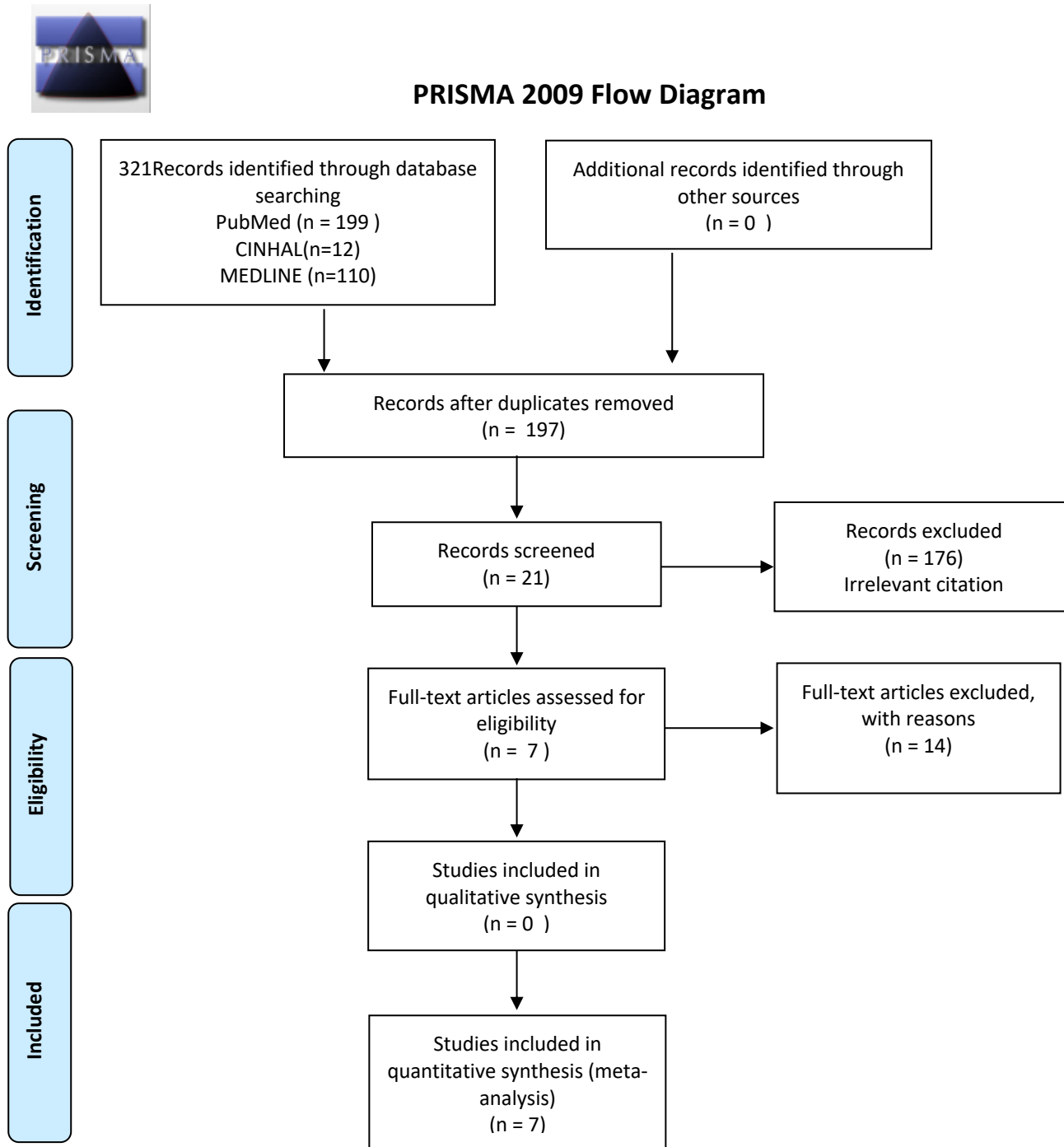
Many articles were identified using the search strategy mentioned above. The *post hoc* inclusion criteria were developed and determined to guide the selection process. The inclusion criteria consisted of all articles available in the English language, articles that focus on an adult population ≥18 years, quantitative articles, articles that studied different aspects of the nurses' perception of the essential elements of the preoperative information provided for the patients, the factors that affect the delivery of preoperative information, and the method used for giving the preoperative information. Articles that focused on a population under 18 years, that investigated the patients' perceptions of the preoperative information and that used qualitative methods were excluded.

The identified articles were guided and screened using the PRISMA flow diagram (Preferred Reporting Items for Systematic Reviews and Meta-Analysis). PRISMA uses a four-phase flow diagram (see Figure 1). Initially, 321 articles were identified, and 197 articles were included after duplicates were eliminated. Furthermore, 176 articles were removed based on the inclusion and exclusion criteria. The titles, abstracts, and full texts were screened for the 21 remaining articles by the researchers. Following this, 14 articles were eliminated because two articles measured preoperative anxiety only without any educational

intervention. Three articles assessed postoperative pain, five articles assessed the patient's perception only, one article focused on communication, two other articles assessed the nurses' current practice in terms of the preoperative

information provided and one examined all of the medical staff's perceptions and not only that of the nurses without providing separate results for each group. Seven articles were deemed to be proper for inclusion in this review.

Figure (1): PRISMA Flow Diagram



From: Moher et al., (2009). Preferred Reporting Items for Systematic Reviews and Metaanalysis.

3.4. Quality assessment

The seven studies that met the inclusion criteria of the review were independently assessed for their quality using the tool that was developed by Hawker *et al.* (2002). The tool was designed to evaluate several factors, including the abstract and title, introduction and aims, method and data, sampling, data analysis, ethics and bias, findings/results, transferability, implications, and usefulness (Hawker *et al.*, 2002). The total score possible was 36 points, and the score for each factor was 4 points, ranging from 1 (very poor) to 4 (good quality). The quality of each article has been presented in Table 2 in which each article was allocated to one of the subsequent groupings: poor (9-18 points), fair (18-27 points), and good (28-36 points).

3.5. Charting the data

This stage includes extracting all the appropriate data from the literature in order to gather all the relevant important information from the included studies to answer the review question (Coughlan *et al.*, 2016; Levac *et al.*, 2010; Reviews & Dissemination, 2009). This stage is used to record information about the study's characteristics, the methodology, and the findings. It may also help to reduce bias and improve reliability and validity (Coughlan *et al.*, 2016). The extraction contained the variables necessary to answer the research questions of the review (Reviews & Dissemination, 2009). In the current review, all essential information was independently extracted by the author, including publication details, study aims, study characteristics, intervention design, ethical considerations, and the main findings. The thematic framework was used to guide the narrative accounts of the existing research and to collect, summarise, and describe the results.

3.6. Results of the search

In this section, the evidence arising from the literature reviewed has been presented. This section includes the characteristics of the reviewed studies, the measurement tools, and the key results. The last part discusses the themes generated from the literature.

3.7. Characteristics of the reviewed studies

Overall, seven studies met the inclusion criteria. The studies found were published between 1990 and 2016 (see Table 2). The findings show that all of the studies used either a descriptive or cross-sectional design. The study populations collectively consisted of the staff nurses working in surgical units. Three studies were conducted in day surgery units (Brumfield *et al.*, 1996; Mitchell, 2017; Tse & So, 2008). The remaining studies were applied in different surgical units such as general surgery units, orthopaedic units, preoperative holding areas, post-anaesthesia care units, obstetrics and gynaecology, multidiscipline wards and admitting services (Dalayon, 1994; Lee & Lee, 2013; Mordiffi *et al.*, 2003; Yount *et al.*, 1990). The total number of nurses who participated in all of the studies was 812 nurses. The smallest sample size was found in the study conducted by Brumfield *et al.* (1996), with 29 nurses

included in the study. The largest sample size was found in the study by Mordiffi *et al.* (2003), with 167 participants. The studies were mostly conducted in Asia (Singapore, Hong Kong, China, and Kuwait), followed by the US (2 studies) and the UK (one study).

3.8. Measurements used to assess the nurses' perception of the essential elements of preoperative information

There were different measurements used in these studies, as shown in Table 2, to assess the nurses' perception regarding preoperative information. Four studies (Lee & Lee, 2013; Mitchell, 2017; Mordiffi *et al.*, 2003; Tse & So, 2008) used the Preoperative Teaching Questionnaire (PTQ), which consists of 73 items. This tool aims to assess the importance of preoperative information, the adequacy of the information, and the methods used for delivering the information. It aims to measure the patients' understanding of the information communicated by the nurses and to identify the factors related to the patients obtaining inadequate information. In addition to assessing the nurse's satisfaction with the communication.

Another identified tool is the Perception of Preoperative Teaching Questionnaire established by the nursing research committee at Providence Medical Centre. It was created to assess the aspects of preoperative information and the different types of preoperative teaching. The tool was compromised of two parts. The first one involved 73 questions that covered the five aspects of preoperative teaching including situation, sensation, patient role, psychosocial support, skills training. The second part of the tool aimed to evaluate the types of preoperative teaching conducted (Brumfield *et al.*, 1996; Yount *et al.*, 1990). One study assessed the nurse's perception of the preoperative teaching information by using components of the preoperative patient teaching rating scale developed by the researcher involving 17 items, most of the content areas covered procedural and skills training and few items on sensory information. (Dalayon, 1994).

4. Main findings

There was an inconsistency in the methods used for reporting the results across the studies. Therefore, in order to facilitate the comparison of the findings, all of the results were compared using percentages. This comparison was done by converting the results reported into a mean to percentage. In addition, the average result for each item was also calculated. As a result of the current review, five key themes have been identified. The themes were the nurse's perception of the essential elements of preoperative information, the nurses practicing and preferred methods of information delivery, the factors affecting the amount of preoperative information given to the patients thus enabling nurses to evaluate the effect of preoperative teaching, nurse's satisfaction with the amount of preoperative information provided and the optimal time for providing preoperative information. Each one has been discussed in more detail below.

Table (2): Characteristics of reviewed studies

Author	Sample size and setting	Country of study	Study design	Measurement tool	Quality assessment grading score
Mordiffi et al., (2003)	N=167 Nurses adult surgical, orthopedic, obstetrics and gynecology and multidiscipline wards	Singapore	A descriptive, cross-sectional study	Preoperative Teaching Questionnaire (PTQ) It involves 73 items addressing 11 questions to cover five dimensions: (Dimension 1): The importance of preoperative information (n=32 items) (Dimension 2): The adequacy of the information delivered by the nurses (n=5 items) (Dimension 3): The methods used for providing information (n=11 items) (Dimension 4): The factors influencing the nurses' delivery of preoperative teaching (n=23 items) (Dimension 5): The nurses' satisfaction with the amount of preoperative information given (n=2)	34 Good
Tse & So, (2008)	N=91 Nurses From ambulatory surgical unit	China	Descriptive cross-sectional design	PTQ	31 Good
Lee & Lee, (2013)	N=100 Nurses Surgical wards	Hong Kong	Descriptive cross-sectional	PTQ	33 Good
Mitchell, 2017	N=137 Nurses Ambulatory surgical unit	UK	Descriptive cross-sectional design	Modified (PTQ) was used. It involves 50 items with five subscales. These are: Operation information (5 items) Preoperative preparation (7 items) Postoperative expectations (4 items) Information about anaesthesia (4 items) Information delivery (30 items) including: The adequacy of the information delivered by the nurses (n=5 items) The factors influencing the nurses' delivery of preoperative teaching (n=23 items) The nurses' satisfaction with the amount of preoperative information given (n=2)	35 Good
Yount et al., (1990)	N=159 Nurses From surgical wards	US	Descriptive cross-sectional design	The author developed the questionnaire. It involves 73 items to cover the five aspects of preoperative information (situation, sensation, patient role, psychosocial support, and skills training) The second part of the tool aimed to evaluate the types of preoperative teaching conducted	24 Fair
Dalayon, 1994	N=129 nurses From surgical wards	Kuwait	Descriptive exploratory study	A questionnaire on preoperative patient teaching and a rating scale was used and developed by the researcher, which involved 17 items. Most of the content areas covered procedural and skills training and few items on sensory information.	29 Good
Brumfield et al., (1996)	N=29 Nurses Ambulatory surgical unit	Southeastern United State	Descriptive study	The Perceptions of Preoperative Teaching questionnaire was used. It was divided into two parts: The first part consists of n=71 items addressing five dimensions of preoperative teaching: Measure psychosocial support (11 items) Measure situational information (27 items). Measure patient role information (11 items) Measure sensation discomfort information (13 items). Measure skills training (9 items). The second part consists of 7 items covering the different types of teaching methods.	32 Good

4.1. The nurses' perception regarding the essential elements of preoperative information

The seven studies involved in this review showed that the nurses working in surgical units have different perceptions about which preoperative information is deemed essential to provide for patients (Brumfield et al., 1996; Dalayon, 1994; Lee & Lee, 2013; Mitchell, 2017; Mordiffi et al., 2003; Tse & So, 2008; Yount et al., 1990) (see Table 3). The three highest types of preoperative information as perceived by the nurses was anaesthesia information at 69.55% followed by details about the operation 62.1%, and postoperative expectations 56.12% (Lee & Lee, 2013; Mitchell, 2017; Mordiffi et al., 2003; Tse & So, 2008).

Among the most essential elements of preoperative information, Dalayon in 1994 found that 99% of the nurses believe that instructing the patients about early ambulation is the most important information in the preoperative preparation stage. About 96.33% of them reported that deep breathing and coughing exercises are an essential part of the preoperative information. The majority of nurses 95.33% believe that checking the patient's fasting time is one of the most important preoperative items of information that should be provided for the patients (Dalayon, 1994). The examination of another two studies shows a different type of information related to psychosocial information, skill training, situational information, patient role and sensation/discomfort. The results revealed 85.2% of information was related to psychosocial information, 81.7% for patient role, 79.3% for skill training ((Brumfield et al., 1996; Yount et al., 1990).

Across the four studies that used the Preoperative Teaching Questionnaire PTQ (Mordiffi et al., 2003; Tse & So, 2008; Lee & Lee, 2013; Mitchell, 2017), anaesthesia information was ranked as the essential preoperative information that should be given to the patients 69.55% followed by details about the operation 62.1%, and the postoperative expectation 56.12% (see Table 4).

4.2. Practicing and preferred methods of information delivery

The practicing and preferred methods used for preoperative information delivery have been presented in Table 5. Four studies out of seven included in this review assessed the practicing and preferred ways of delivering the preoperative information for patients (Dalayon, 1994; Lee & Lee, 2013; Mordiffi et al., 2003; Tse & So, 2008). The findings showed that the top three ways as perceived by the nurses were oral explanations 86.33% followed by a face-to-face oral explanation with pictures 73.96%, and pamphlets 60.1%. The internet was the least preferred way of information provision as perceived by the nurses 23.79%.

The review also indicates that the actually practiced ways of information delivery were mostly based on oral explanations 99.3%. Other common ways used by the nurses include pamphlets 42.53% and oral explanations with pictures 33.7% (Dalayon, 1994; Lee & Lee, 2013; Mordiffi et al., 2003; Tse & So, 2008). One study investigated the demonstration as a method of information delivery

(Dalayon, 1994), and they found that demonstrations and videotapes were among the most preferred ways according to the nurses 92.5% followed by internet 70%. Pamphlets were found to be among the least preferable way of information delivery by nurses (42.5%).

4.3. Factors affecting the amount of preoperative information given, enabling the nurses to evaluate effective preoperative teaching

In the current review, only four studies examined the factors that affect the amount of preoperative information given and how it enables the nurses to evaluate the patients' understanding (Lee & Lee, 2013; Mitchell, 2017; Mordiffi et al., 2003; Tse & So, 2008). The results proposed that language barriers 61.75%, time availability 64.25%, and the types of questions that were asked by patients 64.17% were the crucial factors that may have a direct effect on the amount of preoperative information giving as perceived by the nurses. Besides, more than half of the nurses 62.2% also believed that giving preoperative information to the patients is the doctor's responsibility. The other factors that influence providing complete information to the patients include tight operation schedules 41.02% and higher expectations of the patient's knowledge and understanding 59.12%.

Furthermore, the results also indicate that various factors may help the nurses in the evaluation of the effective preoperative teaching including the following: using simple language, being asked questions by the patients and observing the body language of the patients and their facial expression to appraise the patients' knowledge during the provision of information (see Table 6).

4.4. Nurse's satisfaction with the amount of preoperative information provided

Four of the studies examined the nurse's satisfaction with the amount of preoperative information provided to the patients and the nurse's perception of the delivery of all information that the patients need (Lee & Lee, 2013; Mitchell, 2017; Mordiffi et al., 2003; Tse & So, 2008). The results showed that more than 60% of nurses are satisfied with the amount of information given to patients preoperatively. Also, 44% of the nurses believed that they provide their patients with all of the needed preoperative information.

4.5. The optimal time for providing Preoperative information

Two of the reviewed studies found that the majority of nurses working in surgical units suggested that providing surgical patients with preoperative information at the time of admission is the optimal time for providing perioperative information (Brumfield et al., 1996; Yount et al., 1990). Yount et al. (1990) reported that 96% of the nurses indicated that all preoperative information should be given following admission, and not after the patient goes to surgery.

Another study undertaken by Brumfield et al. (1996) showed that the 95.6% of the nurses showed that the patients should be educated about the operation details, what would

be expected of them and the importance of expressing their concerns and worries before they are admitted to the ambulatory surgery unit. In addition, 68.5% of the nurses

showed that information given about the preoperative preparations and new skills to prevent complications should be provided after admission.

Table 3: Nurses' perception regarding the elements of preoperative information.

Types of preoperative information	Mordiff et al., (2003)	Tse & So, (2008)	lee & lee, (2013)	Mitchell, (2017)	Yount, et al. (1990)	Dalayon (1994)*	Brumfie et al., (1996)	Average
Preoperative preparation	26.9%	32%	69.8%	84.7%				53.71%
Postoperative expectations	35.3%	35.2%	70.8%	83.2%				56.12%
Anaesthesia information	49.1%	62.4%	78.4%	88.3%				69.55%
Details about the operation	37.1%	41.3%	72.2%	97.8%				62.1%
OR environment	26.3%	22%	56.4%	62.8%				41.87%
Checking fasting time						95.33%		
Information about early ambulation						99%		
Deep breathing and coughing exercises						96.33%		
Care of any wounds						93.33%		
Turning and getting out and back to bed						85.33%		
Psychosocial					84%		86.4%	85.2%
Skills training					83.8%		74.8%	79.3%
Situational information					76%		79.4%	77.7%
Patient role					75.4%		88%	81.7%
Sensation/discomfort					65.4%		69%	67.2%

*Note: no average score has been calculated when the result was reported by only one study.

Table (4): Essential elements of preoperative information as perceived by the nurses.

Essential elements of preoperative information as perceived by the nurses.	Average
Anesthesia information ^(1,2,3,4)	69.55%
Details about the operation ^(1,2,3,4)	62.1%
Postoperative expectations ^(1,2,3,4)	56.12%
Information about early ambulation ⁽⁵⁾	99%
Deep breathing and coughing exercises ⁽⁵⁾	96.33%
Checking fasting time ⁽⁵⁾	95.33%
Psychosocial ^(6,7)	85.2%
Patient role ^(6,7)	81.7%
Skills training ^(6,7)	79.3%

*(1) Mordiffi et al., 2003; (2) Tse & So, 2008; (3) Lee & Lee, 2013; (4) Mitchell, 2017; (5) Dalayon, 1994; (6) Yount et al., 1990; (7) Brumfield et al., 1996.

Table (5): Average percentages for practicing and the preferred methods of information delivery.

Nurses' preferred methods of information delivery	Mordiffi et al., (2003)	Tse & So, (2008)	Lee & Lee, (2013)	Dalayon, (1994)	Average
Oral explanation	76%	91.1%	91.9%	-	86.33%
Oral explanation with pictures	73%	72.2%	76.7%	-	73.96%
Pamphlets	52%	69.2%	76.7%	42.5%	60.1%
Videotapes	21%	63.33%	36.1%	92.5%	53.23%
Internet	8%	6.66%	10.5%	70%	23.79%
Demonstration	-	-	-	92.5%*	-
Nurses' methods of information delivery					
Oral explanation	96%	100%	98.9%	-	99.3%
Oral explanation with pictures	12%	46.33%	36.1%	-	33.7%
Pamphlets	16%	43.33%	61.6%	-	42.53%
Videotapes	2%	29%	4.7%	-	12.9%
Internet	1%	3.33%	-	-	2.16%

*Note: no average score has been calculated when the result was reported by only one study.

Table (6): Factors affecting the amount of preoperative information given and enable nurse to evaluate effective preoperative teaching.

Factors	Mitcell (2017)	Mordiffi et al. (2003)	Tes & So, (2018)	Lee & Lee, (2013)	Average*
Factors affecting the amount of preoperative information given					
Language barriers	32.9%	63%	79%	72.1%	61.75%
Time availability	37.3%	52%	81.7%	86%	64.25%
Patients' body language	40.9%	52%	-	-	46.45%
Patients' questions	42.3%	43%	-	-	42.65%
Type of questions that the patients asked	43.8%	70%	74%	70.9%	64.17%
Patients exposed to the same surgery	45.2%	-	-	-	-
Factors leading to reduced preoperative information					
Limit the time used up by each patient	9.5%	52%	-	-	35.5%
The expectation that the patient will clarify if they are in doubt	76.6%	58%	42.6%	59.3%	59.12%
Patients not asking questions	5.1%	24%	-	-	14.55
Patients preferred not wanting to identify everything	17.5%	12%	-	-	14.75
Patients understanding is limited	27%	26%	-	-	26.5
Increased patient anxiety about the surgery or procedure	45.3%	21%	-	-	33.15
Patients may refuse the procedure or surgery if they know everything	14.5%	6%	-	-	10.25%
Personal knowledge of the question posed is restricted	45.3%	-	-	-	-
Nurses believe that it is the doctor's responsibility	49.6%	76.6%	56.3%	66.3%	62.2%
Tight operation schedule	14.6%	30%	52.1%	67.4%	41.02%
Factors enabling nurses to evaluate effective preoperative teaching					
simple language patients can understand	80.53%	89.5%	-	63%	89.1%
Patients' body language and facial expression	69.83%	77.9%	-	52%	79.6%
Patients questioned if they have understood	74.8%	87.2%	-	52%	94.2%
Patients continuously asked to repeat the information provided	-	-	-	-	43.7%

*Note: no average score has been calculated when the result was reported by only one study.

5. Discussion

This scoping review investigated the relevant evidence on the nurses' perceptions regarding the essential elements of preoperative information in addition to the methods of information delivery and the factors that reduce or prevent information delivery. In order to answer the review question, "What are the nurses' perceptions about the essential elements of preoperative information for patients undergoing surgeries?" seven studies were included in the current review (Brumfield et al., 1996; Dalayon, 1994; Lee & Lee, 2013; Mitchell, 2017; Mordiffi et al., 2003; Tse & So, 2008; Yount et al., 1990). This review investigated the nurses' perception of the provision of different types of preoperative information. Among the preoperative information aspects, the perception of the nurses on providing such information was centred on anaesthesia information, details about the operation, postoperative expectations, information about early ambulation, checking in fasting, psychosocial aspects, and the patient's role.

The anaesthesia information was rated by the nurses as an essential element of preoperative information. This finding might be because insufficient information about anaesthesia can increase the patients' fear and anxiety that may lead to refusing certain types of anaesthesia (Erden & Tütüncü, 2014). The patients need to be well prepared to understand the management plan after surgery. Therefore, the delivery of relevant information enables patients to be more knowledgeable about their operations. This information leads to engaging with the patients in their self-management, improving the patient's co-operation, and encouraging their adherence to the treatment as well as

postoperative nursing care. In addition to decreasing the pain and stress related to surgery.

In this review, the main top three preferred methods for information delivery, as perceived by the nurses, were the oral explanation, face-to-face oral explanation with pictures, and pamphlets. According to Arnold and Boggs (2019), an oral explanation is a natural, short, and appropriate method for the staff to use to provide health information to the patients in their daily clinical practice. These findings are in agreement with the study published in China by Deng et al. (2019), which reported that oral explanations are the most chosen method of information delivery for patients and clinicians because it is a flexible method.

Nevertheless, it saves the nurses' time, especially with a tight operation schedule. Inadequate resources in wards may also influence the nurse's ability when it comes to using alternative methods of information delivery (Lee & Lee, 2013). Arnold and Boggs (2019) emphasized that oral explanations are ranked as being the most practical and flexible method to provide information according to these obstacles. It seems that the methods used to provide preoperative patients with education are based on old fashion methods of education. With new advances in technology, several methods can thus be suggested.

Deng et al. (2019) proposed that using technology for information delivery, such as mobile applications and video may be of great benefit for both patients and medical staff. These creative methods will save time and improve the patients understanding of the information to make them well-prepared for the day surgery. However, these alternative

methods of education are more likely to be appropriate for the planned surgery. The issue related to the conduction of these new methods is related to the assessment of patients' understanding and how to answer their questions and concerns. The combination of using a variety of education methods may lead to gaining better patient outcomes. Future studies need to assess the impact of the application of these new methods of education for preoperative patients.

The review found that 44 % of nurses believed that they provide patients with sufficient information that the patients need to know. Accordingly, a high number of nurses believed that they did not inform the patients of all of the required preoperative information due to numerous factors. In this review, the results show that language barriers, time availability, and the types of questions that the patients asked were vital factors that may affect the amount of preoperative information providing as perceived by the nurses. *Che et al. (2016)* emphasized that the time availability of the nurses and the language barriers were common factors affecting the delivery of the patients' teaching.

Besides, some of the nurses believed that giving information to surgical patients is the doctor's responsibility. *Livne et al. (2017)* found that the nurses believed that teaching the patients was not the nurse's responsibility. This misconception about the nurse's role in preoperative education may lead to low quality of care. Therefore, increasing the nurse's perception regarding their crucial role in patient education may lead to the effective implementation of preoperative teaching. Moreover, the tight operation schedules and the high expectations that the patients already have about the surgical procedure or operation are the main factors that influence giving complete information to the patients.

In this review, the nurses believe that three main factors may help nurses in the evaluation of the patients' understanding when they are providing information. These factors include using simple language, asking the patients questions that could reflect their level of understanding, and observing the patient's body language. In addition to observing their facial expression in order to assess the patients' understanding during the provision of information.

Two studies indicated the most appropriate time for delivering information to the patients (*Brumfield et al., 1996; Yount et al., 1990*). In these studies, preoperative information is recommended to be provided at the time of admission or shortly following admission. This period is considered to be an optimal time, as perceived by the nurses (*Brumfield et al., 1996; Yount et al., 1990*). *Kruzik (2009)* shows that preoperative teaching has been confirmed to be valuable when it is delivered before any surgery.

According to *Koutoukidis and Stainton (2016)*, preoperative teaching should occur at admission in order to allow the patient to ask questions and to ensure that the information is assimilated. This importance is because if a patient is undergoing different laboratory and diagnostic procedures, and they have been administered preoperative medications, then these factors may influence their understanding. The patient at the time of admission can thus concentrate better on the teachings. Consequently, nurses

should keep in mind that preoperative teaching had better be delivered at the time of admission to allow the patients to ask questions about the operation and to get direct feedback. This practice leads to a more positive surgical experience.

6. Conclusion

The scoping review indicates that information about anaesthesia was the essential preoperative information that should be provided for surgical patients. Besides, oral and face-to-face oral explanations were the main methods of information delivery. The review highlighted that those language barriers are an essential factor inhibiting the nurses from providing sufficient preoperative information.

7. Recommendation

However, to improve the quality of the preoperative information delivery and to improve the quality of the care provided to the patient, the content and methods used about preoperative information should be revised by designing and implementing a structured preoperative teaching program. Further studies are needed to assess the nurses' perception regarding essential preoperative information and to examine the different strategies and teaching modalities used to create an effective preoperative teaching program.

8. References

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