

Patients' Perspectives on the Pre-Operative Education Programme

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ABSTRACT

Background. Since the introduction of same day admission for surgery in 1999, the Department of Orthopaedic Surgery, Singapore General Hospital, has implemented a structured pre-operative education programme specifically catered to patients undergoing major orthopaedic surgery. The objectives of the pre-operative programme are to furnish the patients and/or their significant others with what to expect during their stay in the hospital, coupled with skills to cope post-operatively and any psychological preparation required prior to surgery. This study aimed to evaluate the efficacy of the pre-operative education programme.

Methods. A descriptive research design was used to determine the effectiveness of the programme. A short questionnaire was developed to gather relevant data on the efficacy of the programme content, namely healthcare relevant information, skills teaching and psychological support.

Results. One hundred and two patients were recruited for the study. More than 50% of the patients agreed that the healthcare information related to pre-admission and post-operative care was adequately discussed. Fifty-nine percent verbalised that they were able to perform the exercises taught by the physiotherapist post-operatively and 57% experienced a moderate reduction in anxiety after the programme.

Conclusion. This study demonstrated that the structured pre-operative education programme for orthopaedic surgery had positive outcomes in equipping patients with the knowledge and skills to cope with their surgery.

Keywords: patient education, pre-admission clinic, pre-operative teaching, structured pre-operative education

INTRODUCTION

Healthcare reforms in the region, with its emphasis on cost-effective care, have encouraged reductions in the length of stay for surgical procedures. Traditionally, patients who required surgery at the Singapore General Hospital (SGH) were admitted at least one day before the surgery to facilitate nursing and medical assessments, investigations and preparations. However, times have changed and in recent years, most patients are admitted on the day of surgery. Pre-operative nursing and medical assessment and preparation are performed at a typical pre-operative assessment clinic approximately 1 week prior to the scheduled surgery.¹⁻⁶ Stress is a normal reaction for most patients entering a hospital for surgery due to the loss of control of one's life and fear of dreaded events with uncertain outcomes. As documented by many researchers, there is a need for nurses to educate patients prior to hospital admission as pre-operative admission education has

significant elements in ensuring patient satisfaction. Hence, patient education has also shifted from a randomised, convenience approach, to one that is held in conjunction with a designated pre-operative clinic assessment day.

Many studies have shown that pre-operative education enables patients to better understand their operation and after-care, allays their fears and anxieties, and allows them to experience a shorter length of stay.^{1,7-10} Structured pre-operative education programmes are widely advocated.¹¹⁻¹³ However, although the need for patient education prior to surgery is clear, there were no structured guidelines to assist nurses in helping patients in this aspect of care at SGH.

To address this issue, a structured pre-operative education session for delivery at the pre-admission clinic was developed at the Department of Orthopaedic Surgery, SGH. This session aimed to

assist patients in understanding their condition and the forthcoming surgery, subsequent effects of post-operative care in the hospital, and subsequent post-discharge care.

To date, no evaluation of the programme has been performed from the perspective of the patients. Therefore, this study aimed to evaluate how beneficial the department's pre-operative education programme was to patients throughout surgery (pre- to post-operative). More specifically, in line with the objectives of the programme itself, the study examined whether the pre-operative programme was informative in delivering healthcare relevant information, presented sufficient skills to assist a patient throughout the process of surgery, and provided adequate psychological support to allay patients' fears and anxieties.

METHODS

Research Design

Patients' perspectives on the pre-operative programme were gathered to evaluate the programme's efficacy. Given the exploratory nature of the present study and that to date no research appeared to have accessed patients' perspectives, a short questionnaire was developed to gather relevant data. The questionnaire was based on the areas of information taught within the pre-operative programme, as operationalised below.^{2,7,8,14,15}

Operational Definition of Pre-Operative Programme

Healthcare relevant information included a review of expected procedures and events of the surgical day, identification of some of the equipment commonly used following surgery, and the relevant information about post-operative discomfort and its management in the initial period. *Skills training* referred to the appropriate exercises taught by the physiotherapist, and the special precautions patients were required to follow after discharge.

Psychological support referred to attempts made to alleviate the concerns of patients and significant others, and to provide appropriate assurance. Psychological support also included providing information on the role of family members on the surgical day, and encouraging patients and significant others to ask questions throughout the session.

Participants

A convenience sample of patients was selected from a population of patients undergoing major orthopaedic

surgery at the department of orthopaedic surgery at SGH. Major surgeries included total joint replacement, spinal surgery and the anterior cruciate ligament (ACL) reconstruction. All patients admitted for these surgeries during the period 2 June to 2 July 2002 were recruited.

The gender, age, race, class and social situation of participants was not purposely sampled. The selection criteria were:

1. patients must not have undergone a previous joint replacement or any other surgical procedures which would give them prior knowledge and experience; and
2. patients must not have any language barrier or mental impairment which would seriously limit their ability to learn and perform skills.

Ethical Consent

Approval for the study was obtained from the SGH Ethics Committee and the Nursing Research Committee. Written consent was obtained from the patients.

Instrumentation

The questionnaire consisted of 2 sections, matched to the teaching objectives of the pre-operative education programme (Appendix I). In Section One, the patient's name was used for ease of identification to access records. The patient's demographics were obtained as the research intended to explore, if possible, the impact of age and level of education on the outcomes of the structured programme. Section Two of the questionnaire consisted of 12 items, which evaluated healthcare information, skills training and psychological support. A 6-point Likert Scale was adopted. Each point on the Likert scale was assigned a value of 0–5, with 5 representing the most positive perspective (i.e. fully) towards the pre-operative education programme.

Procedure

On the day of the pre-operative education programme, patients were given the necessary pre-operative information and teaching according to the department's guidelines. The information was given by the pre-operative educators in 3 parts: pre-operative information, post-operative information, and physiotherapist skills teaching. The teaching programme consisted of procedural, sensory and coping information related to pre-operative and post-operative care. A handful of registered nurses had been specifically trained as pre-operative educators for pre-operative education in the orthopaedic department.

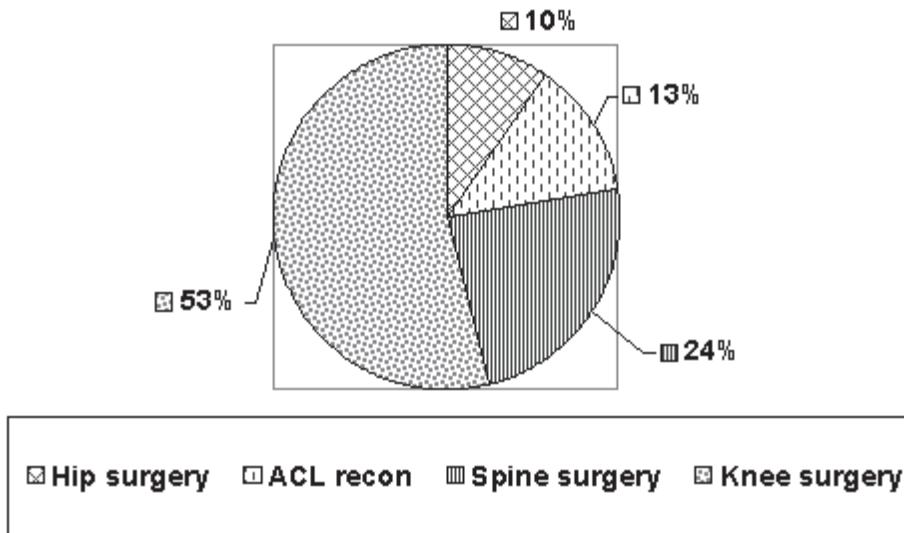


Fig. 1. Types of surgeries performed on subjects.

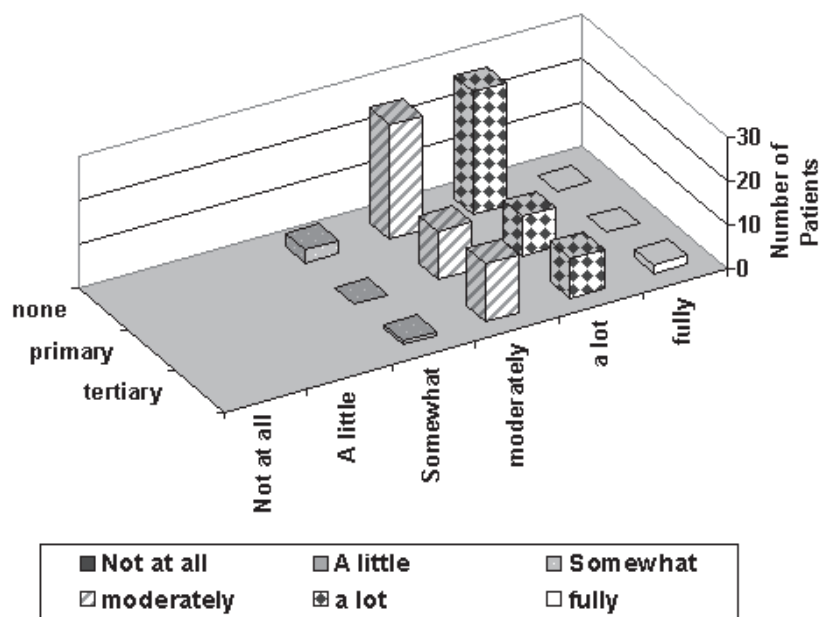


Fig. 2. Satisfaction level and level of education of subjects.

In addition, patient education booklets on joint surgery, spine surgery and ACL reconstruction were given after the class to supplement and reinforce teaching. In total, the pre-operative education programme lasted approximately 30 to 45 minutes. This was followed by a question-and-answer session.

At the end of the programme, patients were informed by the principal investigator (PI) about the study and consent forms were distributed. The consent forms were to be collected on the day of admission and the study carried out anytime during the patients' stay in the hospital. During data collection, the PI initially

introduced herself to the participants and engaged in a brief general discussion. The participants were then given a verbal explanation of the study a second time, which indicated the purpose of the research and what was expected of him/her. Following this, the PI administered the questionnaire.

Descriptive statistics were utilised to analyse the data according to the sections of the questionnaire. Frequencies and percentages were presented for each item in the questionnaire, and crosstabulations were included where possible. Qualitative data were also analysed.

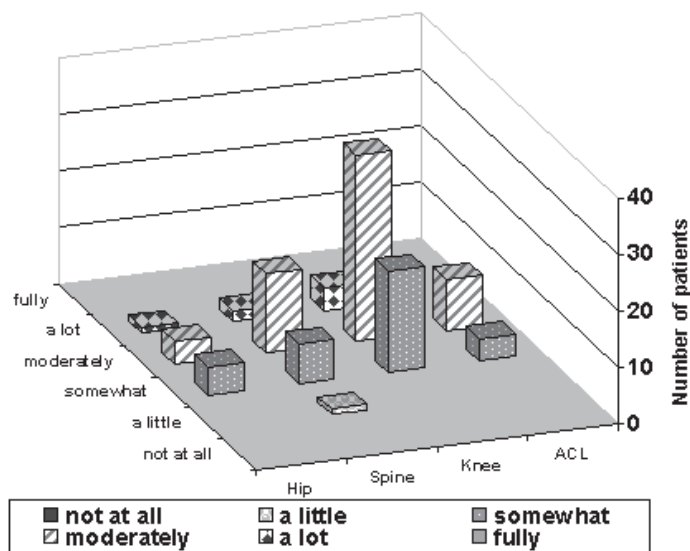


Fig. 3. Tolerance level for exercises for specific surgery type.

RESULTS

Of the 144 patients admitted for total joint replacement, spinal surgery and ACL reconstruction during the study period, 102 were recruited for the study. Of the 42 patients who were not recruited, 9 had total joint replacement or other forms of surgical procedures previously, 7 chose to withdraw from the study at the time of the survey, while 26 did not turn up for the pre-operative education programme. The mean age range of the 102 patients was between 51 to 70 years and 60% of 102 patients recruited had nil education level. The 2 most commonly performed surgeries were knee replacement and spine surgery (Fig. 1).

Healthcare Relevant Information

Almost 50% of the 102 patients recruited agreed that healthcare information related to pre-admission procedure and plan of care post-operatively was adequately provided at the pre-operative education programme. Sixty-four percent felt that they had been moderately informed about their pre-operative procedure before admission. Sixty percent reported that the nurses had provided sufficient discussion about the discomfort they might experience after the operation. Some of the verbatim comments from patients which summarised the general perspective included:

1. I was told to relax as much as possible.
2. I was reinforced (sic) to make use of the pain controlled analgesia (PCA) pump whenever I feel (sic) the pain is (sic) coming.

3. The nurse at the room instructed me to do deep breathing exercise when I turn myself in bed.
4. My dad was assured that there will (sic) be initial discomfort after the operation but we know we just need to press the bell for the nurse and they will know what to do for him.

The study also explored the relationship between level of education and plan of care discussed. The analysis showed that patients with no education benefited the most (“moderately” to “a lot”) from the pre-operative programme because this group of patients was able to discuss in depth their plan of care during and after surgery with the nurse. Approximately 57 patients who had been recruited indicated better understanding and good time spent on discussion (Fig. 2).

Skills Training

Majority of the patients had favorable responses to the exercises taught by the physiotherapist post-operatively and agreed that these exercises helped in their recovery. The 55 patients who underwent knee replacement during the study period verbalised that they were able to perform the exercises a lot better. Hip and ACL patients were unable to perform the exercises as well as those who underwent spine and knee surgery (Fig. 3).

Some of the verbatim quotes describing the benefits of physiotherapy in recovery are as follows:

1. With the exercises taught, I know I’m going home earlier...

2. I will be able to return to normal activity and I will get my life back.
3. This therapy allows me to walk again...I can go back to shopping...my hobby...

Psychological Support

All patients were given some form of psychological assurance and of the 102 patients, 58 (57%) verbalised that they experienced moderate anxiety about their surgery. Examples of patients' anxiety are exemplified in the following direct quotes:

1. I'm not sure what the doctor says about my spine but I am told to turn up for the surgery.
2. ...the pain, how successful is (sic) the operation and what are the complication (sic)? Nobody tells me anything.
3. Will I be able to walk again?
4. Will the operation be successful and how long do I need to stay here?

After the pre-operative programme, however, there was no substantial lessening of patients' anxiety. Only 48% of the patients recruited perceived that their fears and anxiety somewhat lessened after the programme, while 47% felt that they were able to discuss their fears/concerns with the nurse.

Other Information

Of the 102 patients who attended the pre-operative education programme, 78 received an educational booklet to substantiate the teaching. It was not clear why the remaining 24 patients did not receive the educational booklets. Of the 78 patients, approximately 52% found the booklet useful and beneficial as a supplement to the programme, while 6% did not because they neither read English nor had anyone at home to read it to them.

Patients were asked to rate the overall effectiveness of the pre-operative programme on a scale ranging from 1–5, with 1 being poor and 5 being excellent. Fifty-five percent of patients rated the pre-operative programme as a 4, 39% rated it as a 3, while 6% scored it as a 5. None of the patients scored the programme below 3, thus providing support for its efficacy.¹⁴

DISCUSSION

The process of pre-operative education is based on an assessment of learning needs and is individualised to account for different needs and styles.^{6,11,16,17} The

programme based its assessment of learning needs on the following criteria:

1. Patient's age
2. Health status
3. Approach to learning
4. Readiness to learn
5. Physical, cognitive, financial, language and emotional barriers to learning
6. Current knowledge and skill for self care
7. Religious and cultural beliefs systems
8. Family and community relationship

The programme also encouraged patient and/or family members to be responsible for their health and for participating in self-care to achieve optimal well being. This study aimed to explore patients' perspectives pertaining to the effectiveness of the pre-operative education programme. Overall, most of the patients surveyed reported that the pre-operative education programme was informative and helpful. The study achieved its objectives of providing comprehensive pre-operative education, particularly in the area of discussion on pre- and post-operative care, for patients undergoing major orthopaedic surgery.

Most patients reported that adequate information was provided to them and that they were informed about their procedure and post-operative plan of care. This is very important since another research study had demonstrated that a patient's first perception of surgical experience began with the pre-operative process.³ The findings of this current study also supported a study by Lin *et al* which found that pre-operative teaching promoted positive outcomes.² In the present study, the high positive endorsement of the programme would add further support to the assertion of Lin *et al*.²

Of particular interest was the finding that level of education contributed to the amount of discussion about post-operative care. Contrary to what was anticipated, patients with higher levels of education did not raise questions, nor did they engage in discussions at the pre-operative education programme compared to those patients with lower levels of education. It might be that patients with tertiary level education had already accessed relevant information prior to the programme. Alternatively, it might be as suggested by Malkin, that patients did not wish to know

because it complicated matters.⁵ Certainly, this is an area worthy of further investigations if service delivery is to be maximised.

One area of the programme requiring further development relates to reduction of patients' anxiety levels. The beneficial effects of psychological interventions with post-operative patients have been well developed and documented in much of the nursing literature over the years. Patients in this study reported moderate anxiety prior to and following the programme. This is at odds with the findings of Meeker *et al* that 88% of their patients experienced reductions in anxiety following a similar programme.¹² The present study did not, however, teach anxiety reduction techniques, such as coping strategies, relaxation and hypnosis, as cited in Meeker *et al* and the finding is therefore not surprising.¹²

An important finding was that 6% of patients could not read the educational booklet because English was not their first language. Thus, this group was excluded from an important resource. Finally, the overall rating of the programme demonstrated its success in achieving its aims of providing patients with knowledge of the forthcoming surgery and subsequent care post-operatively and towards discharge.

RECOMMENDATIONS

From the results of the study, the structured pre-operative nursing assessment and patient education has been shown to be vital elements in providing an effective pre-admission education programme for quality care, which was in conjunction with Messer who reported that patients were often influenced by the perceptions of care they received.³ Hence, it was suggested that the structured pre-operative education programme be extended to all surgical units at SGH.

Moreover, the introduction of educational booklets to substantiate learning has shown to benefit patients in their preparation for the surgery. Although a minority of the patients did not find them useful because they were only available in English, it is still preferable to keep the books as a source of additional reading. Hence, it is recommended that the institution consider producing the books in different languages to serve the majority of patients. Such assistive materials can only be effective if they meet the specific needs of the target population.³

The results of this study showed that psychological support was inadequate because the patients verbalised moderate reduction in anxiety after the programme. Although it was not clear if the patients required this

aspect of care, psychological support would need to be emphasised. Patients could benefit more if coping skills were taught and discussed in depth at each session.¹²

LIMITATIONS

It was acknowledged that the present study used a small sample and information was gathered using a set of questionnaires. The questionnaire which was developed here should be subjected to statistical analyses to determine its reliability and validity. Given that this was not undertaken in this study, the present findings were somewhat limited and must therefore be interpreted with a degree of caution. As no other departments in the hospital have such a pre-operative education programme as such, the study was not able to create enough power to the sample to study the effects of the efficacy programme. Moreover, the study was not randomised or blinded to control for any confounding factors. Also, as the PI was also the interviewer, it was possible that bias could have been introduced during interview and data collection, although every effort was made by the PI to remain objective.

CONCLUSION

Future studies should attempt to recruit a larger sample, possibly from more hospitals in a variety of socioeconomic status areas. They should also seek to determine differences between experiences of male and female patients and then attempt to modify the pre-operative programme to meet any gender-based needs. It must be acknowledged, however, that questionnaires might not collect the appropriate type of data in this context, and that patients might wish to discuss their pre- and post-operative experiences in a face-to-face non-threatening situation. Thus, semi-structured interviews should be included in future research. This approach not only allows patients to discuss openly their concerns about the pre-operative programme and their surgery, but also the researcher to probe into issues of concern which, hitherto, questionnaires do not allow. Finally, future studies could explore the adequacy and confidence levels of the nurses carrying out such pre-operative programme.

In conclusion, the present research has demonstrated that the newly developed pre-operative education programme at SGH has good outcomes for patients and is worthy of further development and evaluation. It is hoped that the findings from the study will generate further factors that might be necessary for the programme to be both effective and efficient.

REFERENCES

1. Clinch CA. Nurses achieve quality with pre-assessment clinics. *J Clin Nurs* 1997; 6:147-51.
2. Lin P, Lin L, Lin J. Comparing the effectiveness of different educational programs for patients with total knee arthroplasty. *Ortho Nurs* 1997; 16:43-9.
3. Messer B. Total joint replacement preadmission programs. *Ortho Nurs* 1998; Suppl:31-3.
4. Posel N. Preoperative teaching in the preadmission clinic. *J Nurs Staff Dev* 1998; 14:52-6.
5. Malkin KF. Patients' perceptions of a pre-admission clinic. *J Nurs Man* 2000; 8:107-13.
6. Sutcliffe A, Potter A. Multidisciplinary pre-admission clinics for orthopaedic patients. *Nurs Stand* 2002; 16:39-42.
7. Spalding NJ. A comparative study of the effectiveness of a preoperative education programme for total hip replacement patients. *Br J Occ Ther* 1995; 58:526-31.
8. Droogan J, Dickson R. Pre-operative patient instruction: is it effective? *Nurs Stand* 1996; 10:32-3.
9. Gammon J, Mulholland CW. Effect of preparatory information prior to elective total hip replacement on psychological coping outcomes. *J Adv Nurs* 1996; 24:303-8.
10. Lookinland S, Pool M. Study on effect of methods of preoperative education in women. *AORN J* 1998; 67:203-6.
11. Wong J, Wong S. A randomized controlled trial of a new approach to preoperative teaching and patient compliance. *Int J Nurs Stud* 1985; 22:105-15.
12. Meeker BJ, Rodriguez LS, Johnson JM. A comprehensive analysis of preoperative patient education. *Today's OR Nurs* 1992; 14:11-8.
13. Meeker BJ. Preoperative patient education: evaluating postoperative patient outcomes. *Patient Edu Couns* 1994; 23:41-7.
14. Devine EC. Effects of psychoeducational care for adult surgical patients: a meta-analysis of 191 studies. *Patient Edu Couns* 1992; 19:129-42.
15. Pellino T, Tluczek A, Collins M, Trimbom S, Norwick H, Engelke ZK, et al. Increasing self-efficacy through empowerment: preoperative education for orthopaedic patients. *Ortho Nurs* 1998; 17:48-51, 54-9.
16. Dunbar CN. Hospital extra. Developing a teaching program. *Am J of Nurs* 1998; 98:16B.
17. Hansen M, Fisher JC. Patient teaching. Patient-centered teaching from theory to practice. *Am J Nurs* 1998; 98:56-8,60.

APPENDIX I

Semi-Structured Questionnaire

Section 1

Demographic Information

Affix Patient Label Here

1. Ward No: _____ 2. Surgery: _____ 3. DOS: _____
 4. DOI: _____ 5. Age: _____ 6. Educational level: _____

Section 2

Relevant Health Information

1. How well were you informed about your pre-admission procedures prior to admission?
 not at all a little somewhat moderately a lot fully
2. After the pre-operative program, how much did you understand about the operation and the plan of care post operatively?
 not at all a little somewhat moderately a lot fully
3. How much were you able to discuss with the nurse your plan of care during and after your operation?
 not at all a little somewhat moderately a lot fully
4. How much did the nurse discuss with you the discomfort that you may experience after the operation, for example, pain, nausea/vomiting, urine retention, etc.?
 not at all a little somewhat moderately a lot fully
5. How did you manage to handle this discomfort?

