



Patient Education

Thinking outside the black box: The importance of context in understanding the impact of a preoperative education nursing intervention among Chinese cardiac patients



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ABSTRACT

Objective: In a randomized controlled trial of a preoperative education intervention conducted for Chinese cardiac patients, we observed a greater effect on symptoms of anxiety and depression than that reported with regard to similar interventions in western care settings. The objective of this qualitative study was to help explain the findings of the trial by exploring Chinese patients' experience of seeking and receiving information before cardiac surgery.

Methods: Semi-structured interviews were conducted with a purposive sample of 20 trial participants before discharge (ten from the preoperative education group; ten from the usual care control group). Data were analyzed using a thematic analysis approach.

Results: A total of five themes were generated: the role of reputation and hierarchy; gaining strength from knowledge; information as a low priority; being kept in the dark; and learning through peer support.

Conclusion: In health care systems where service users are given relatively little information, interventions designed to inform patients about their treatment are likely to have a much greater impact on their psychological health.

Practice implications: Providers of services for patients undergoing cardiac surgery in China should be encouraged to incorporate information giving into routine practice, tailored according to individual need.

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1. Introduction

Patients awaiting cardiac surgery may experience high levels of anxiety and significant symptoms of depression due to fears, worries, and uncertainties about surgery [1,2]. These can exacerbate symptoms of existing cardiovascular disease, adversely affect physiological parameters before and during anesthesia, and can result in prolonged recovery [3,4]. Preoperative education has been used to improve patients' experiences by providing health care relevant information, coping skills, and psychosocial support before surgery [5,6].

However, in China, a country with a rapidly growing economy and a healthcare sector where increasingly sophisticated technologic advances are being made, healthcare delivery is not characterized by a culture that prioritizes the provision of health-related information and education for patients. Despite a substantial increase in the availability of information about patients' illness and treatment in many western countries, the provision of such information in Chinese hospitals is often poor, with minimal interaction between healthcare providers and patients [7]. There are no guidelines from Chinese national health organizations relating to the preoperative information needs of patients and limited written or visual education materials available to support health care providers in the delivery of preoperative information.

Although there is evidence to support the use of preoperative education interventions in reducing anxiety and enhancing postoperative outcomes for mixed groups of surgical patients in

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general [8,9], less is known about their effectiveness for patients undergoing cardiac surgery. Evidence in the field of cardiac preoperative education remains inconclusive and has tended to be based on weak trial design [10]. Furthermore, most studies were undertaken in western countries. Evidence generated from these studies should not be directly transferred to a Chinese context without a more critical and context specific examination as cultural factors may influence patients' responses to such interventions [11].

In 2009 we conducted a randomized controlled trial of a preoperative education intervention designed for Chinese cardiac surgery patients and aimed at reducing their anxiety and improving postoperative recovery [12]. A total of 153 adult patients undergoing elective cardiac surgery between December 2009 and May 2010 at two public hospitals in Luoyang, China were recruited to the trial and randomly allocated to usual care or a preoperative education intervention. Those eligible for the trial included all adult patients undergoing any type of elective cardiac surgery who could speak, read, and write in Chinese. Elective surgery included coronary artery bypass grafting, valve surgery, congenital and other open heart surgery, although heart transplants were not performed at the two study hospitals. Emergency admissions were excluded from the study, as were those patients who had undergone previous cardiac surgery.

The intervention was based upon an information leaflet, 'Your Heart Surgery', accompanied by a 15-min verbal explanation. Based on a review of international literature, the leaflet was designed by PG to address the needs of Chinese cardiac preoperative patients. The contents of the leaflet included information related to preoperative tests and preparation; the stay in the Intensive Care Unit (ICU) after surgery; returning to the cardiac surgical ward and recovery at home. A draft version was reviewed, and the final version approved, by 10 representatives of Chinese cardiac surgery patients and five clinical experts. The intervention was delivered by PG (a Chinese national and cardiac nurse by background).

Participants who received the intervention experienced a greater reduction in anxiety and depression, less pain interference with sleep, and a reduced number of hours spent in the ICU compared with those who did not [12]. The trial is the first rigorous evaluation to assess the effect of preoperative education among cardiac surgery patients in China, suggesting that a relatively simple intervention can have a greater impact on psychological health among Chinese cardiac patients than patients from health systems where there is a tradition of extensive and routine provision of preoperative information.

Randomized controlled trials are sometimes considered to take a "black box" approach to experimentation [13,14] whereby the trial is designed to measure the impact of a particular intervention rather than explain the mechanisms through which the intervention has its hypothesized effect. It has been argued, therefore, that randomized controlled trials alone are limited in serving the purposes of health services research, where it is important to understand the relationship between cause and effect [14]. There is increasing recognition of the value of process evaluations using qualitative methods alongside trials of complex interventions, which address a broader set of questions and can enhance the scientific and policy value of randomized controlled trials. This methodology was used in a trial [15] comparing a nurse-led support and education program with standard care for patients awaiting coronary artery bypass surgery whereby qualitative interviews were conducted with patients and staff to explore experiences of the intervention and trial participation [16].

To our knowledge, there are no published qualitative studies addressing the experiences of Chinese patients undergoing cardiac surgery. The study reported here, therefore, aimed to explore

participants' experiences of participating in the trial; to explain why the educational intervention had a larger impact among this Chinese population compared to western populations receiving similar interventions and to understand the social context within which preoperative information is sought and delivered among Chinese cardiac surgery patients.

2. Methods

This qualitative evaluation took place in the cardiac surgical wards of two public hospitals in Luoyang, China. At each hospital, approximately 300 cardiac surgical procedures are performed each year. Ethical approval for this study was granted by the First Affiliated Hospital of Henan University of Science and Technology Teaching and Research Ethics Committee and the Luoyang Central Hospital Research Ethics Committee.

2.1. Participant selection

All trial participants consented to be interviewed as part of the qualitative evaluation. A purposive sample of 20 trial participants (ten allocated to the preoperative education group and ten allocated to the usual care group) were approached before discharge from hospital and invited to take part in a face-to-face interview, enabling collection of data from patients at a point when their experiences were still fresh in their minds. A purposive sampling approach was utilized to ensure that interviewees were invited not only from both arms of the trial but also to include men and women, those receiving different types of cardiac surgery, and people from different age groups [17].

2.2. Interview

PG carried out the interviews in a quiet area, either in the patient's room or an office on the cardiac surgical ward. All participants were given the opportunity to invite family members or friends to accompany them, although only two did so, and did not add any comments. There was no time limit for interviews, with most lasting between 40 and 60 min. A semi-structured interview schedule was developed based on a literature review of surgical patients' information needs, their perception of the provision of information and the effect of individualized information [16,18].

During each interview, participants were asked to share their feelings concerning their illness, their surgery, and the preoperative education intervention. They were also invited to comment on their information needs, the way in which preoperative information was delivered and how this aspect of their care could be improved. With the participant's written consent, interviews were digitally recorded and transcribed verbatim.

2.3. Data analysis

The transcribed data were managed and then coded in QSR NVivo 8 while still in Mandarin. A thematic analysis approach was used to analyze the data, described as a well-established and flexible way of interpreting rich, qualitative data [19]. Transcribing and analyzing the data of early interviews occurred over the same time period as later interviews were being conducted. This had the advantage of giving direction to the later interviews, with PG becoming immersed in the data from an early stage.

All interviews were conducted in Mandarin, with seven transcripts translated from Mandarin to English in full by PG. These translated transcripts were independently reviewed by AA and LE, with the authors agreeing on the interpretation of meaning of participants' experience and the emerging themes. The

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