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WHAT CHARACTERISES 'THE USUAL' PREOPERATIVE EDUCATION IN CLINICAL CONTEXTS?

Abstract

Background/Rationale: Literature on preoperative education is dominated by studies that employ experimental designs to measure the effects of structured programmes on patient outcomes and their cost implications. These experimental designs predominantly compare structured preoperative educational interventions with the usual care that patients receive. However, the notion of what 'the usual' care comprises is largely elusive and unexplored.

Aims: The study aimed to understand how the usual preoperative education is practised in a number of surgical clinical units at one particular hospital in Ireland.

Design/Methods: Twelve experienced surgical nurses were interviewed in depth. A qualitative strategy resembling grounded theory was employed to analyse data, assisted by NUD*IST software.

Findings: Findings indicated that the content and quality of the pre-operative education that patients received depended largely upon the individual nurse caring for the patient. While there was an identifiable generic content of preoperative education that all participants identified as important, this was confined to dealing with physical and technical issues, and also to the transmission of administrative or procedural information. Perspectives on the *process* of delivering preoperative education were very diverse among participants. While the vast majority did not relate to the formal language of discourses of teaching and learning, nor to teaching strategies developed within educational scholarship, nonetheless, their descriptions of how they engaged in their work indicated the application of some elements of educational theory. Participants' accounts also suggested that the use of teaching tools was very inconsistent, depending on their availability and the practices of individual nurses. On the whole, the usual

care as described by participants in our study may be characterised as uneven, variable and mutable.

Conclusion: We conclude by raising some methodological issues relating to the use of the usual care in control groups of experimental studies on preoperative education. In particular, we note that overall improvements in the usual care are likely to be met with more modest results when structured programmes are evaluated.

Key words: Preoperative education; patient teaching; grounded theory; Ireland.

Introduction

Over the past three decades many experimental studies have investigated the effects of structured preoperative education on postoperative patient outcomes such as level of anxiety, satisfaction with service, length of hospital stay and pain control. These structured programmes have considered the methods, timing, and content of educative packages, and there is a general acceptance that structuring preoperative education is beneficial for both patients and organisations in terms of outcomes. Control groups in such studies are generally comprised of patients who receive 'the usual', 'regular' or 'traditional' preoperative education at the study site. However, relatively little appears to be known about the usual way preoperative education is provided. It is often difficult to determine from these experimental studies whether the usual preoperative education is deemed to be standardised, unified, objective, stable, and (potentially at least) uniformly inferior to more structured approaches to preoperative education, or alternatively whether it is considered to be uneven, varying and fluid, and on average, collectively lacking relative to preoperative structured interventions. This article is about the usual preoperative education at a specific research site.

Preoperative education has been the subject of many intervention/outcome studies since the landmark studies of Hayward (1975) and Boore (1978) in which the effect of structured preoperative education on patient outcomes such as pain, anxiety and rate of

recovery were investigated. Attempts to synthesise this knowledge base have occurred through several meta-analyses over the years (Devine & Cook 1986, Hathaway 1986, Devine 1992, McDonnell 1999). Much-cited in the literature on preoperative education is Devine's (1992) meta-analysis in which psychoeducational interventions that affect pain, recovery and psychological well-being among adult surgical patients were evaluated. Devine identified a number of criteria for including studies in the meta-analysis - the proviso that psychoeducational care was given to the experimental group, the need for the treatment and control groups to be from the same setting, and the need for the outcomes measured to include rate of recovery, levels of postoperative pain, and/or degree of psychological distress. Prevalent measures for the three outcomes were developed as follows: (i) the rate of recovery was measured by the length of stay and rate of postoperative complications; (ii) postoperative pain was measured by analgesic use and pain rating scales, and (iii) psychological distress was measured by medication use and stated anxiety levels. The interventions in the studies synthesised were tested against the usual care given to patients. In spite of the variety of the studies analysed, positive effect sizes were reported for each of the outcomes with consistency in the size of the treatment effect. However, little information is given about what the usual care actually comprises, although of course such a concept would not be the same across different contexts. Although more recent studies continue to employ similar research designs in extending this knowledge base (Spalding, 1995; Gammon & Mulholland, 1996; Tooth *et al*, 1997; Lookinland & Pool, 1998), the notion of what constitutes the usual care continues to be nebulous.

Shuldham (1999) has raised the issue of a general lack of detail about what usual preoperative education is comprised of, and questions the integrity of the findings from such experiments. Our interest in the usual care was to address gaps in knowledge about how nurses think about this aspect of patient care, and to gain an understanding of how usual preoperative education is practised in everyday clinical settings. Such questions have received little attention to date.

Methodology

Ethical access was gained to a large general teaching hospital in Ireland for the purposes of selecting a sample. The researchers sought registered nurses, with a minimum of 2 years' post-registration experience in a surgical clinical context in Ireland, in order to ensure that participants were sufficiently experienced in their field. Once ethical access was approved, a meeting was arranged with nurse managers of 5 surgical units from where participants were to be recruited, and those nurses who matched the inclusion criteria were identified. These nurses were then invited to participate, and the first 12 to agree voluntarily to take part in the study became participants. Participants gave written informed consent, and were assured that their identities would be protected.

The sample was comprised of 11 females and 1 male. Nine participants had registered as general nurses via the certificate programme and three via a diploma in nursing. Two participants had completed a Bachelor of Science in Nursing, and two had completed Higher Diplomas in speciality areas. The number of years that participants were qualified as general nurses and had worked on surgical units in the acute Irish hospital setting ranged from 3-11 years with an average of 5 years. Five of the participants were at Clinical Nurse Manager 1 level (CNM1). CNM1 grade nurses are fully engaged in patient care and work in shifts with staff nurse grades and it was considered appropriate therefore to include them in the study.

In-depth interviews were conducted by one of the authors [EF] in a quiet location at participants' place of work. Invoking an analytical strategy resembling grounded theory (Glaser & Strauss, 1967; Strauss, 1978; Glaser 1992) data analysis proceeded as follows: Transcribed interviews were uploaded onto QSR NUD*IST Version 4; however incident by incident open coding of the interview transcripts was carried out by hand using a hard-copy. A mixture of *in vivo* codes and the researcher's own conceptual labels were used during open-coding. By using the hard copy of codes and preliminary category formation, emerging categories were entered into QRS NUD*IST as they occurred in each transcript and the relevant data segment coded to that category. Initially, 50 categories were

developed, though the amount of data coded to particular categories varied, and it was apparent that some categories would become sub-themes to other categories, some categories would be split into more than one, while other categories would be deemed irrelevant to the emerging analysis. Subsequent analysis occurred through the process of writing up. For conceptual purposes we focus on four themes in this paper that provide insights into how 'usual' preoperative education is provided at various surgical units at the hospital.

Findings

Accounts about how the usual pre-operative education is practised by participants in the study are presented through the following four themes: 'diverse constructions of and practices in relation to pre-operative education'; 'generic content'; 'process: principles of teaching and learning'; 'process: teaching tools'.

Diverse constructions of and practices in relation to pre-operative education

A strong feature of data was participants' perceptions that the content and quality of the pre-operative education that patients received was contingent upon the individual nurse caring for the patient. In short, the view was held that different nurses had varying views on what exactly patient education encompassed and held different perceptions on its relative importance as an aspect of patient care. The outcome seemed to be a high degree of unevenness, with patients receiving different levels of care.

It's pretty much up to the nurse who's looking after them what they're going to tell them, you know. I think it gets done, but not on a formal level. (P#4)

I don't think everybody gives the same information. Some nurses are very clear, I suppose, very relaxing as well to speak to a patient, while others mightn't spend enough time. (P#10)

Participants also believed that the diversity in the quality of patient education was cross-cut by the knowledge and experience of the individual nurse. Many participants believed that the pre-operative education provided by less experienced nurses was inferior to their more experienced counterparts:

I think it is quite unstructured. I think it depends on how long somebody has been working in the ward, how long they're qualified (P#10)

So it very much depends on the nurses and how prepared they feel to launch into things. I think people who aren't there as long, and who aren't as qualified, would rather not get involved in the whole questions and answer thing so they just leave it. You know, if they [patients] don't ask, they're not going to go volunteering information. I think that has a lot to do with it and they [patients] may not necessarily be given the opportunity to ask questions. (P#7)

It's informal at best, . . . and it has a lot to do with experience in general really. Em, and I think if you are a junior nurse working in an acute hospital setting you are relying an awful lot on the senior nursing staff to tell you what to say to the patients. It probably should be more formalised. (P#9)

Generic content

What we denote as 'generic content' was discussed by all participants, and was identifiable within data across the sample with a remarkable degree of consistency. A central aim of preoperative education from participants' perspectives was ensuring that patients knew what to expect during the perioperative period. Participants focused on physical and technical aspects of what patients could expect to happen, for example the presence of drains, catheters, and the use of equipment. However, it was not possible to establish the extent to which nurses advised patients about these in actual practice. Nonetheless, all participants mentioned these, and their importance. For the majority of participants generic information also related to administrative or procedural information

concerning hospital activities such as fasting times, identification tagging, and information relating to visits from other members of the health-care team such as physiotherapists, anaesthetists and phlebotomists.

Obviously, there are certain things that we would tell them anyway, tell everybody. Things like why you have to fast, em that they'll be wearing the hospital gowns, that they'll have identity bands on their wrist and ankle and why we do that, and you know the anaesthetist coming to see them, just to check to make sure that they don't have any problems, allergies, all that that we would do on the pre-op check lists. (P#5)

Structured pre-operative checklists appeared to facilitate the transmission of generic content, although the standard at which this was delivered remains elusive.

Well, people rely an awful lot on the pre-operative check list we have. I think they use that as basically, once they have all the boxes ticked, you know what I mean, that that's their job done. (P#11)

Process: principles of teaching and learning

The views of participants in relation to the process of preoperative education were very diverse. In relation to 'principles of teaching and learning', the vast majority of participants did not relate to the term, nor to the terms 'theories of teaching and learning', nor 'teaching strategies', and did not respond to such questions. Nonetheless, for the vast majority of participants, subsequent descriptions of how they engage in their work indicated the use of elements related to principles of teaching and learning in practice.

I would ask the patient what they know. I would assess them on their own level, see what they know already... I mean you would ask the patient, you know, 'Did you understand what I've told you, have you any questions about what I said', you know, get them to reiterate it to you. (P#6)

If they [nurses] are showing them how to use a spirometer they get them to show them

how they work it and to explain what they understand like why that ball has gone up and what that means, you know. So they get the patient to give feedback so they know they understand it, and then they would still evaluate, em, the patient to see if they know how, when and why they're to do things. (P#3)

However, principles of teaching and learning were not shared consistently across the sample. Several participants had alternate views of the process, where preoperative education was seen as 'telling' the patient specific information, rather than as a collaborative process.

I don't follow any teaching rules or anything. I just tell them what they are meant to know, you know. (P#4)

A lot of us have done teaching and assessing for students, the preceptorship thing. I don't know if people think that really applies to telling patients what they need to know before theatre. (P5)

Five participants discussed the importance of using simple terminology to ensure optimum understanding of information by patients. Many participants described incidents of having heard complex language being used by colleagues and perceived this to be ineffective. Lack of active listening was also identified as an issue in the usual care provided by others. This may indicate that individual practitioners have specific views on how preoperative education should be carried out, and are aware of practices that do not meet with their personal standard of care.

Em, I think simple language is a huge thing, people go in and they talk in their language, like 'you're going down for your thyroidectomy', they might not know that, or have never even heard the word before, instead of telling them you know 'they are going to remove a part of your thyroid gland, which is up here' [points to throat], and it does this and this. Em, a simplified language, be able to listen, I mean somebody might have huge concerns, but they are so engrossed in telling them stuff that they don't listen to what their actual concerns are. (P#1)

Process: teaching tools

The vast majority of participants did not refer to the use of any aids, or teaching tools when discussing how preoperative education was carried out. Specific questioning in relation to potential teaching tools used in practice revealed participants' views on current tools, or lack thereof in use, and resources in terms of teaching tools that participants perceived would be desirable.

Several participants felt that the preoperative checklist was inappropriately relied on as a teaching tool. The preoperative checklist features a list of items to be checked off, such as length of time fasting, allergy status, presence of jewellery, accompanying blood test results and X-rays, and whether a pre-medication has been administered. As such its aim is to ensure safety and efficiency in transferring patients to theatre.

Em, I think it's probably seen, not seen but it can be treated as kind of, you know, you go in and you fill out the pre-op checklist that we use, and you know that might be it, you know, that might be the extent of the education as such, unless the patient themselves asks a question, you know. (P#5)

Several others, however, viewed the preoperative checklist as a positive contributor to preoperative education.

A checklist is a good, you know, obviously its there to safeguard against mistakes, or making sure jewellery, all that time of thing is out, but its also a good kind of educational tool as well. (P#6)

Half of the participants believed that teaching tools were not used to educate preoperatively; rather, verbal skills alone were relied upon.

No. Teaching tools . . . we wouldn't really have any to be honest with you. Verbal communication, that's it. (P#3)

It's not a formal thing here. There's nothing written to give them. (P#4)

The use of written information to facilitate education was discussed by half of the participants. Literature appears to be available for specific surgeries, for example hysterectomy, and participants with access to such literature had different views about its use. One participant felt all patients received booklets preoperatively if they were available for that surgery, while another participant used the booklet based on individual assessment of the patient in terms of cognition. One respondent was aware of specific preoperative written material, but was unaware of how often it was given to patients; this was related to time constraints. Available literature did not appear to be offered to patients based on their preference for learning and information.

...if I felt that a patient wasn't really grasping, or needed more information or was very nervous, I'd give them the booklet, maybe that they could kind of look it over later on when they had a minute or it was quiet, and it might go in a bit better, you know. (P#10)

We have patient information leaflets, which we don't always give out because you don't always have time to do that either. I haven't read one in a while, is that terrible? We have one specific to colorectal and hepatobiliary surgery here, how many people actually get to see them I wouldn't be able to tell you. (P#12)

Several participants viewed the written material available as specific to the postoperative period, and though patients might receive such material preoperatively, that was not necessarily the case.

Most of the literature is for after surgery, they might get it before their surgery, a hysterectomy or stuff like that, there's nothing standardised that we have anyway. (P#9)

There isn't actually a general booklet; we have some postoperative education advice sheets, for going home. Preoperatively there isn't anything. (P#11)

The use of diagrams as an aid to teaching was described by several participants. Where diagrams were available these were either used as a matter of course, or based on the participant's perception of the patient's understanding of information. A minority of respondents described drawing diagrams themselves to facilitate understanding of verbal explanations.

Say if it was for a trans-urethral resection of the prostate I might bring in a diagram that we have in the office, I find that very helpful, you know men that are in their sixties usually don't even know where their prostate is and I'd bring that in and explain exactly what is going to happen during the surgery. (P#10)

I've often drawn or attempted to draw a bone for somebody and that, and tell them, you know where they're putting the pins and that kind of thing, or shown them their X-rays, shown them exactly where they've broken the bone. (P#5)

Access for patients to diagrams and written materials appears to be dependent on the individual nurse in terms of whether he or she is aware of the materials, and subsequently whether they are put into use.

If the nurse initiates it there are diagrams in the back office, books are in the office, you have loads of books, so if the nurse knows about it and initiates it, they [patients] would have perfect access to it. (P#8)

The majority of participants, both those that currently had access to some written material for patient education and those that did not, felt that there was a role for specific written material for preoperative education. The benefit to the patient of visualising material as well as hearing it was highlighted, and it was recognised that the amount of verbal information provided might not be easily remembered by the patient.

What we could do with, actually, is a leaflet on the complications of bed rest. It would be good for patients to have a read over it themselves, visually as well as being talked through it. (P#3)

I think it could be done a lot better to be honest with you, I mean I know from working up there that there could be a lot more teaching tools and such involved. I mean you can say so much to them, but they probably have ten things going around in their head, you have to wonder how much of the information that you give, well if they retain it, or how much they understand. I mean we don't have any pre-written up you know leaflets that we could give patients about like thyroidectomy and things like that. (P#1)

Discussion

Data from this study suggest that the usual preoperative education in the clinical contexts that participants in the study worked was characterised by a great deal of diversity, fluidity and instability. The type of educational input most dominant among participants in our study has been termed 'procedural information', the content of which corresponds to the domain 'health-care relevant information' described by Devine (1992:130). In our study setting, 'information' rather than 'education' appears to be what patients predominantly received in preparation for surgery, and this is essentially determined by the nurse, and what she or he deems important to impart. However, McDonnell (1999) concluded from her meta-analysis of eighteen studies that information alone does not impact significantly on measures of recovery and anxiety, indicating that it is the *process* rather than *content* alone that has positive effects. This is supported by Schwartz-Barott *et al* (1994), Mitchell (1994), Devine (1992) and Cheung *et al* (1993) among others, who call for designated time for patient education (Devine (1992) suggests that at least an hour per patient is required), tailoring to individual needs, patient-led interactions, and the use of strategies grounded in theory, for example cognitive coping strategies.

Explorations of the process through which information was imparted revealed a general lack of structure and consistency in terms of designated time, space, or theoretical foundation. For the most part, participants did not draw on discourses of teaching and learning developed within education scholarship when describing their preoperative education practices, and they sometimes appeared disconcerted when these were raised by the interviewer. Though the relationship between knowing what to expect and anxiety

reduction was highlighted by all participants, strategies available to manage this were generally not described, despite probing on the part of the interviewer. Examples of such strategies in the literature are theories of stress, coping, and interventions to facilitate coping (Lazarus & Folkman 1984), which have formed the theoretical basis for several preoperative education/postoperative outcome studies (Gammon & Mulholland 1996, Cheung *et al* 2003). Though anxiety and cognitive appraisal strategies may have been utilised in practice in the study setting, this was not evident as a formal process. The informality of the practices described by participants appeared to have led to an unevenness in the content and process of education across the sample. Inconsistency in the educational content received by patients was also a key finding highlighted by Breemhaar *et al* (1996) and van Weert *et al* (2003), and this was not found to be related to differences in patients' informational needs.

Despite a lack of connection to theoretical principles, however, implicit within many participants' descriptions was evidence of assessing prior knowledge and subsequent understanding of educational input, and providing time for questions. The issue of using jargon by colleagues was problematic for a minority of participants. This suggests that principles of teaching and learning may be applied, albeit in an ad-hoc fashion, and in a way that is dependent on the individual practitioner and is not linked to theoretical concepts. Alternatively, several participants viewed the process as simply telling the patient what they need to know, according to the nurses' perspective. This is described by Turner *et al* (1999) as an over-reliance on information exchange, and perhaps contributes to a patient experience of "given-information" rather than "experienced information" as described by Malkin (2000). The concept of nurses deciding unilaterally on the educational content was a recurrent theme emerging from many, though not all, participants' descriptions throughout the course of the study.

In exploring the process through which preoperative education occurs, the use of media for teaching, or teaching tools, was raised. Frequently the preoperative checklist was utilised as an *aide memoire* to provide information, although it is not designed as a teaching aid. Several participants viewed this as helpful, while others felt it was

inappropriate. As indicated, half of the participants felt that preoperative education was a verbal event. Written information has been the main teaching tool, or one of several tools used in a plethora of studies carried out, and old and recent analyses support its use (Devine 1992, Hodgkinson *et al* 2000). It has been found that patients remember only 50% of what they are told within five minutes (Ley 1988). Despite such evidence, there was limited availability of written information for nurses to employ in their educative practices. Where available, participants used it inconsistently; either such materials were used all the time, some of the time, or participants were unaware of the degree to which they were utilised, or indeed participants from the same units had different views on the availability and utilisation of patient literature. This finding is again indicative of an inconsistency in the content and methods of preoperative education as described by Breemhaar *et al* (1996), Turner *et al* (1999), and Lee & Lee (2000). Although there were exceptions to this, written information appeared to be generally used if it was felt that a patient was not grasping a verbal explanation. This is evidence of assessment of understanding; however it is from a nurse-led perspective, as available materials were not necessarily offered to patients, who could avail of them depending on their learning style and preferences. It appears that utilisation of teaching tools is not only dependent on their availability, but also on the individual nurse. That access to information was found to be inconsistent across patients supports existing literature (Breemhar *et al* 1996, Turner *et al* 1999, Lee & Lee 2000).

For the particular study site in question, our data suggest that the usual preoperative education is characterised by a modest level of generic content centred on 'information-giving', and otherwise is far from being a stable, consistent or standardised concept. Based on participants' accounts, some nurses were providing high quality preoperative education, while others were not. At a broader level, the usual education in different clinical realms will be mediated by local practices, structural constraints and subject to historical shifts. It continues, to a large extent, to be elusive in clinical settings beyond our study, problematising its continued use in experimental research studies as a catch-all for routine pre-operative education. However, while we are not claiming that the usual preoperative education as described by nurses in our study is representative of the usual

preoperative education in other clinical realms, existing and future research that identifies consistent and similar characteristics across settings provides empirical strength to what usual pre-operative education comprises.

Ironically, any improvement in the usual standard of preoperative education through educational, management, structural or other endeavours will be met by more modest improvements when formal structured programmes are compared with the usual preoperative education. Indeed, perhaps nurses should look forward to the day in which such experimental studies yield no benefits at all, indicating a consistently comparable standard between regular preoperative education and more formal, structured programmes. After almost thirty years of knowledge generation through research on various styles of structured programmes that, ideally, nurses should be critiquing and applying to practice, one might expect (and hope) that regular pre-operative education has improved. Continued gaps between regular and structured preoperative education may of course reflect the fact that structured programmes are also shifting and improving, and not necessarily that nursing practices have remained stagnant. Comparisons between the usual pre-operative education over time also need to bear in mind the transition in thinking about people as health care consumers rather than 'patients', and how the shifting worldviews of patients themselves over time may influence the conduct and outcome of preoperative education.

Part of the difficulty with the use of experimental designs on measuring the impact of preoperative structured programmes on postoperative outcomes is that the control used, that is, the usual preoperative education, is impossible to control. Since the notion of a control group usually suggests non-intervention, this becomes problematic when applied to preoperative education since some nurses in the control group may be providing excellent preoperative education. This problem with the application of scientific principles to studies of human actions is not new, nor confined to nursing studies but rather has long been recognised within social science research (see Weber (1978 [1929])). Nor do the methodological issues that we highlight in this paper mean that experimental studies comparing formally structured preoperative education with regular preoperative

education mean that such research designs should be halted. Rather, we are merely problematising these as aspects for discussion that our data have thrown up. Arguably, as long as structured programmes continue to yield better outcomes than the usual preoperative education then efforts to harness their characteristics and implement them in practice should continue.

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