

A study of the impact of discharge information for surgical patients

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Aim of the study. To establish whether the routine information surgical patients receive about the management of pain and wound care during their hospitalization is sufficient for them to care for themselves without seeking assistance from a health professional or health care agency.

Background. While there has been considerable evidence suggesting cost benefits of discharge information the health care environment is constantly changing. Contemporary issues such as increased patient participation, extensive use of technology, reduction in health care expenditure, and greater awareness of consumer rights necessitate further inquiry into the appropriateness of discharge information.

Method. One hundred and fifty-eight adult patients discharged within a week of their operation participated in the study. A written questionnaire was distributed within 24 hours prior to discharge and a telephone interview conducted 1 to 2 weeks after discharge. At the time of discharge the majority of patients had received information.

Findings. Those patients who had received information were less likely to access a health facility than those who had not received information. However, the telephone interview, revealed that there was no evidence that patients who believed they were well informed within 24 hours of discharge about the management of their wound, still felt well informed 1 to 2 weeks later.

Conclusion. Nurses need to be aware that patients who leave the hospital with little or no discharge information may not be confident in the management of their health condition and therefore may access a health facility, if even just for reassurance.

Keywords: surgery, patients, wound care, pain relief, analgesics, discharge, patient information, nursing

Background

With the increasing rationalization of health funding and the current trend for 'key hole' surgery, patients are being discharged almost immediately following surgery or soon after they are able to mobilize (McMurray 1996). Consequently health professionals have a much shorter period of

time to inform patients on how to care for themselves after discharge (McMurray 1996). While there has been considerable evidence suggesting cost benefits of discharge information, the changing health care environment brought about through contemporary issues such as patient participation in health care, increased use of technology, reduction in health care expenditure, and consumer rights necessitate inquiry

into whether patients perceive present discharge information as adequate.

One of the key functions of discharge information is to ensure that patients have the necessary knowledge to perform self-care (Leino-Kilpi *et al.* 1993). Extensive research into teaching methods, patients' learning needs, and other influences on the acquisition of knowledge confirms that education can make a positive contribution toward patient health outcomes (Pullar *et al.* 1989, Wyness 1990, Dyree 1992, Opdycke *et al.* 1992). Of particular significance is the observation that appropriate information has implications for surgical patients as unmet home care needs may contribute to poor patient outcomes and re-admission (Mamon *et al.* 1992).

As a result of the reduced exposure to potential learning situations, contemporary surgical patients may be discharged unaware of potential problems that they may encounter (Boyle *et al.* 1992). The effectiveness of discharge information is questionable for a number of reasons. These include: the limited time that the information has to be imparted (Zylinsky 1993); instructions poorly understood in the haste to leave hospital (Johnson 1989); lack of recognition by nurses as to its importance in facilitating effective discharge (Reid 1997); and because it may not be relevant to the patients' particular needs (Galloway *et al.* 1997).

Rather than focus on the 'adequacy' of information that is actually imparted to patients, much research into patient information investigates types of information transfer and educational techniques under structured conditions. Little has been published on the discharge information that patients desire (Galloway *et al.* 1997). Similarly patients' understanding of information or its effectiveness in assisting them to care for themselves at home has been given little consideration (Leino-Kilpi *et al.* 1993). Furthermore, these authors comment that results are neither systematic nor consistent.

While the nursing literature suggests that nurses are aware of the importance of providing appropriate discharge information, there is evidence to suggest that they are not disseminating this information adequately (Bowman *et al.* 1994, McWilliam & Wong 1994, Henderson & Phillips 1996). Audits which are generally concerned with the reality of practice have identified that information imparted to patients postsurgery is frequently insufficient or unclear, and is often delivered too late or in a hurried manner (Smith *et al.* 1997).

The appropriateness of information given to patients that facilitates self-care in the postacute phase has not been extensively researched. If nurses are to attend effectively to this aspect of care they need to include patients' progress after discharge in their research. As appropriate information may

contribute significantly to the reduction in the use of services postdischarge, then it is pertinent that information provided to patients about discharge care be evaluated (Latter *et al.* 1992). While meta-analytic studies have demonstrated the cost-effectiveness of information provided to patients (Devine & Cook 1986), patients' needs require to be assessed constantly for their relevance and suitability in our rapidly changing health care system. Management of wound care and pain relief have been acknowledged as concerns of surgical patients after discharge (Leyder & Pieper 1986, Daniels *et al.* 1989, Bubela *et al.* 1990, Boyle *et al.* 1992, Henderson & Phillips 1996, Galloway *et al.* 1997). The following study therefore sought to assess the suitability of the information provided to patients about management of wound care and pain to satisfactorily meet their needs on their return home.

The study

Aim

The aim of this study was to ascertain:

- Whether surgical patients received information about pain relief and wound care during their hospitalization.
- Whether patients believed this information to be sufficient at the time of discharge.
- Whether patients believed this information to be sufficient 1–2 weeks after discharge.
- Whether patients needed to access a health facility because of problems with pain or wound healing.

Method

Sample

Two hundred and seven surgical patients in an Australian hospital were eligible to participate however, 15 refused, 24 were discharged prior to being seen by the researcher, and 10 who completed the first part of the study were excluded as they were unable to be contacted 1 to 2 weeks after discharge. Patients for the study were selected from three general surgical wards. Participants were hospitalized for an acute or elective abdominal or colorectal surgical procedure for a minimum of 24 hours to a maximum of 7 days. (7 days was the maximum length of stay because patients staying longer than this generally had complications regarding wound or pain management and therefore had different learning opportunities and were therefore not appropriate for inclusion.) While it can be argued that 7 days is a longer time in which information can be imparted, this range was chosen because patients staying for up to 7 days required an increased recovery time during which their cognitive state

generally did not provide further opportunities for educational communication. Similar to the shorter staying patients, these patients did not communicate about their discharge until just before they departed the hospital. Accordingly, there was still very little suitable time for them to receive information. The final sample was 158. All 158 participated at discharge and 2 weeks later.

Inclusion criteria

Eligible participants were all of the patients admitted to a major tertiary referral hospital over a 4-month period for the above surgical procedures and who complied with the following criteria, the ability to communicate in English (both verbal and written), the ability to look after themselves at home after discharge, and contactable by phone 1 to 2 weeks after discharge. The telephone number was provided to the researcher by the participant before leaving hospital. The first attempt to contact participants was made on the first working day 1 week after their discharge from hospital. Further attempts to contact the participant continued for 1 week, that is, until 2 weeks after discharge. If the participant was unable to be contacted during this time they were discarded from the study.

Ethical issues

The study was explained to patients prior to discharge. Patients willing to participate were given an information sheet about the study and signed a consent form. The hospital ethics committee granted ethical approval for the study.

Discharge information

The nature of the delivery of the information varied slightly because of two different admission procedures. A substantial number of participants (39%) were admitted via the hospital's preadmission clinic. These patients were seen by both a doctor and a nurse and were given verbal and written information about their surgical procedure and postdischarge instructions including management of pain and wound care. The other 61% were admitted through the outpatient department. While the doctor generally sees routine patients as an outpatient prior to their hospital admission regarding their surgery, only brief postdischarge information is given verbally during the course of the consultation. No written information is provided. The policy of each ward is that nurses instruct all patients verbally on discharge to take paracetamol if they are experiencing pain. Regarding wound care all patients are advised by the nursing staff to shower over the wound, ensuring that the wound is kept dry with a waterproof covering, or dried afterwards and left open to the air if there is no covering (Lewis *et al.* 1996).

Data collection

The instrument

The questions were formulated from a pilot study conducted over a 5-month period in 1996 on 22 short stay patients undergoing similar surgical procedures (Henderson & Phillips 1996). Patients stated that they readily understood the questions in the pilot study. Therefore the questions asked of patients in the questionnaire were similar to the pilot study. Although both the questionnaire and the interview schedule were not formally piloted, they were reviewed by a committee of experts who assessed the questions for their clarity, comprehensiveness and ease of completion (Crockett 1990). From this review the wording of both the data collection instruments were altered from 'did you feel this information was adequate for your needs?' to 'did you feel this information was sufficient for you to care for yourself at home?'

The self-report questionnaire asked the patients to provide some demographic details. It then asked patients to tick a box YES or NO for the following questions:

- Did you receive information about wound care prior to your discharge?
- Did you feel this information was sufficient for you to care for yourself at home?
- Did you receive information about pain relief prior to your discharge?
- Did you feel this information was sufficient for you to care for yourself at home?

Procedure

Each morning during the 4 months that the study was conducted the clinical nurse consultant of each of the participating wards identified patients who were due for discharge and met the criteria for inclusion in the study. The researchers were informed and the patients approached. Consent was obtained by those patients willing to participate. The study comprised two stages. The first stage necessitated that patients complete the self-report questionnaire within 24 hours of discharge. This questionnaire was given to patients contained in an envelope, which they were asked to read and complete on their return home. This approach was used so as not to influence the questions patients may ask prior to their discharge from hospital. A reply paid envelope was provided in an attempt to maximize the return rate.

The second stage was the telephone interview 1 to 2 weeks after discharge (Boyle *et al.* 1992). Once telephone communication was established, patients were asked again if they were willing to participate. The telephone interview was designed to determine if patients had sought further information about the management of their pain and wound care.

Of particular interest was whether participants needed to utilize a health service because of insufficient information. Patients were therefore asked whether the standard information that they received, about wound care and pain management, if indeed they had received any, was adequate for their needs. Patients were asked whether they had accessed a health facility and what was the reason for this visit. Depending on the response by the participant the telephone interview ranged from 2 to 15 minutes.

Data analysis

The responses to the self-report questionnaire and the telephone interview were collated using Access DataBase Version 2.0. Demographic information was obtained about the age, sex, type of surgical procedure and length of stay of the participants. Descriptive statistics were used to summarize the information collected:

The analysis of data involved comparing the frequencies or proportion of patients who did and did not receive information, who did and did not perceive it as sufficient to care for themselves at home and also those who did and did not access a health care facility. The data was nonparametric therefore chi-squared analysis was used. Comparison of the frequencies was used to determine whether:

- There was any significant difference as to patients' perceptions about the adequacy of information at the time of discharge as compared with 1 to 2 weeks after discharge;
- There was any significant difference in the number of patients needing to access a health facility who received information about wound care and pain management as compared with those who did not receive information about wound care and pain management.

Results

Participants

One hundred and fifty-eight adult surgical patients participated in the study. The average age of patients was 48 years (range 14–85 years).

Response rate

Sixty-five percent (65%) of the participants ($n = 103$) completed the questionnaire after returning home and it was returned to the hospital within 1 week of discharge. The remaining patients (35%; $n = 55$) who did not return the questionnaire provided verbal responses to the questions when contacted by the researcher at the second stage of data collection. While it was a concern whether patients could

remember effectively about whether receiving information on discharge, a *t*-test showed there was no significant difference ($P < 0.05$) between the 65% who returned the questionnaire and the 35% who provided verbal responses after discharge. The difference between the two groups was not significant with respect both to the perception of the adequacy of information 1 to 2 weeks after discharge, and also in relation to their need to access a health facility.

Patients who received information

Wound care

Seventy-three percent ($n = 116$) of patients indicated that they received the standard information prior to discharge about their wound care. Most (91%; $n = 105$) stated at the time of discharge that the information given was sufficient for their needs. When patients were asked 1 to 2 weeks after discharge if the information they received in hospital was sufficient, only 78% ($n = 90$) agreed. Chi-square analysis revealed that although most patients felt well informed about wound care on the day of discharge they did not feel sufficiently informed 1 to 2 weeks after discharge ($P < 0.05$). A small number of patients (9%; $n = 11$) indicated that the information they received on wound care prior to discharge was insufficient.

Pain management

Sixty-six percent ($n = 105$) of patients indicated that they were given the standard information about pain relief prior to discharge. Ninety-one percent ($n = 90$) of these patients indicated that at the time of discharge they believed the information given was sufficient for their needs. One to 2 weeks after discharge, 74 of these 90 patients (83%) still felt the information was sufficient. Chi-square analysis revealed that the patients who believed the discharge information on pain management to be sufficient were still likely to believe it to be sufficient 1 to 2 weeks after discharge ($P < 0.01$). Sixteen patients (9%) indicated that the information they were given prior to discharge about pain relief was not sufficient. Patients who did not feel that the information on pain management was sufficient were more likely to access a facility than those patients who did ($P < 0.001$).

Accessing a health facility

Nineteen patients who received discharge information about the management of pain relief and wound care still needed to attend a health facility because of a problem or concern that they had encountered after discharge from hospital. Ten of these patients experienced problems with

their wound such as, wound ooze, breakdown, infection or pain. Seven of these patients experienced pain associated with their surgical procedure that required further management, for example, advice regarding the taking of analgesics. However, statistical analysis showed that patients who received information on wound care and pain management were less likely to access a health facility after discharge ($P < 0.01$).

Patients who did not receive information

Wound care

Twenty-seven percent ($n = 42$) of patients reported that they did not receive the standard information when in hospital about wound care. Over half 57% ($n = 24$) of the patients who did not receive information on wound care indicated that they desired such information at the time of discharge. Fifteen of these 24 patients (63%) accessed a health facility after discharge because of a wound related problem that they did not know how to care for. These problems included wound ooze and weeping associated with the normal healing process and/or infection of the wound site. Other problems included bleeding and discomfort with dressings.

Pain management

Thirty-four percent of all patients who participated in the study indicated that they did not receive the standard information on how to manage their pain at home. Over half, 53% ($n = 28$) of these patients indicated that at the time of discharge they felt they needed more information on pain management. Twelve of the 28 patients (43%) accessed a health facility after discharge, specifically experiencing concerns about pain relief.

Accessing a health facility

Statistical analysis revealed that patients who did not receive information about the management of pain relief and wound care were more likely to access a health facility than those patients who did receive information ($P < 0.01$).

Patients' need for information

Although patients reported that they were desirous of information during their hospital stay, most of them also commented during the telephone interview after discharge that they did not always ask for it. Patients stated their reluctance to ask questions as a result of lack of health professionals' time, an unfamiliar environment, a lack of continuity in staff, and thinking they may have already been told. Many such patients stated that they were fortunate

not to have difficulties after discharge as result of their limited knowledge.

Discussion

It was evident from the findings of this study that information pertaining to wound care and pain management are important to the well-being of patients after discharge. The majority of patients in this study (58%) were given information on both the management of pain and wound care and did not experience a problem after discharge. However, many of the patients in this study who did not receive information on management of pain and wound care experienced problems and/or concerns after discharge that required them to make a nonroutine visit to a health facility.

More patients received information about the management of their wound care rather than pain. One possible explanation for this finding could be that the wound is visible and therefore it is an obvious reminder to the nurses and patient. If pain is being relieved adequately then it may not be a concern for the patient. Patients who received information on pain relief generally felt that it was sufficient. Patients who indicated that the information they were given before discharge was sufficient generally felt well informed 1 to 2 weeks after discharge. The problems patients experienced after discharge because of pain were attributed to a lack of receiving discharge information rather than insufficiency of the information given. In particular, many of these patients were concerned about the severity and the duration of pain they were experiencing. Patients needed reassurance that pain was a normal part of the operative procedure and to maintain analgesic use. These findings, which reveal a reluctance by health professionals to address patients' pain adequately are consistent with the literature (Ferrell *et al.* 1993, McGuire 1994, Clark *et al.* 1996, McCaffery & Ferrell 1997).

In contrast to the information on pain relief, there is evidence that the information on the management of wound care was insufficient. Patients who felt well informed on wound care just after discharge from hospital did not necessarily feel well informed 1 to 2 weeks after discharge. Most of these patients had concerns about whether the healing process was normal or abnormal. One patient was concerned that his steri-strips were damp and had not fallen off, after being instructed that they would fall off in a couple of days. Out of this concern the patient visited a health facility for advice. Although this may not have been viewed as a problem for the health professional it was viewed as a problem for the patient. Patients did not actually know what information they needed until they had been at home for some time. Boyle *et al.* (1992) suggest that if information given to the patients

is sufficient, then they should not need to access a health facility if everything is progressing normally. Leoni-Kilpi *et al.* (1993) emphasize the benefits of a postdischarge follow-up phone call to cater for unexpected or unforeseen questions. From the study it became apparent that a significant number of patients would benefit from further information about what to expect from the healing process. However, how this is to be accomplished was beyond the scope of the present research.

Study limitations

Because of the reliance on the patient for the self report the information collected is based largely on patients' perceptions. It needs to be acknowledged that while patients' perceptions are useful for a study of this nature it does not necessarily reflect if information was, or was not given, because patients may have received information but not understood it. However, using a longitudinal approach strengthens the value of the findings of the study. Telephone interviews have been found to be an effective strategy for the identification of patient concerns (Boyle *et al.* 1992, Waterman *et al.* 1999, Pidd *et al.* 2000) and therefore were an effective means in this study of assessing whether patients were in need of further information. Another difficulty was identifying a measure of possible 'inadequacy' of information. While it can be argued that a nonroutine visit to a health facility may not be a justifiable test for 'adequacy' of information, it is a commonly used measure in cost-effectiveness studies and therefore was deemed appropriate for this study.

Conclusion

This study highlights the continued importance of nurses providing discharge advice even though more information about surgical procedures is readily available to the lay population, and surgery is becoming less invasive. Nurses need to be aware that patients who leave the hospital with little or no discharge information are more likely to develop concerns or problems that require them to access a health facility. Nurses can make a significant contribution through the provision of discharge information to patients prior to their discharge home. In particular, this study has identified through follow-up phone calls that there are frequently problems that are often perceived to be minor by the health professional but are of considerable concern to the patient. Even though the information is seemingly routine it has been demonstrated that addressing these relatively 'simple' concerns can impact on patients' health during the recovery phase and the utilization of health services. These findings

emphasize the importance of the nurse's role in assessing patients' situations appropriately and providing explicit and relevant discharge information. Nurses are strategically placed to better assess patients' needs through the implementation of follow-up telephone calls after discharge as part of everyday practice. A nurse who has been a part of the team caring for a patient would be the most appropriate person to attend to these follow-up phone calls as they have the background knowledge regarding the patient's admission to hospital. Through this initiative nurses could reassure and provide patients with information specific to their needs. Nurses would also become more knowledgeable about patients' health after discharge from hospital.

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