Title: QUALITY OF COUNSELING FOR KNEE AND JOINT ARTHROSCOPY PATIENTS IN DAY SURGERY

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ABSTRACT

Background: Counselling for day surgery patients is one of the core components for a

knee or shoulder arthroscopy patient to succeed in self-care.

Aim: This cross-sectional study examined the quality of counselling given to patients

(n=86) during their day surgery, using the Counselling Quality Instrument (CQI).

Methods: The data were analyzed using basic and multivariate statistical methods.

Results: Most respondents were male and aged over 50 years. Almost all knee and

shoulder arthroscopy patients were satisfied with the counselling given on follow-up

and rehabilitation as well as the counselling given relating to wound and pain treatment.

There was a lack of patient-centered and goal-oriented counselling, although interaction

during counselling was good. Counselling was perceived as providing benefit in regard

to a patient's self-care, emotions and knowledge. Respondents aged below 40 years

were more dissatisfied with counselling for day surgery than those aged 40 years and

over.

Conclusion: This study identified a need to train healthcare staff in patient-centered and

goal-oriented counselling. Counselling with people who are aged below 40 years should

take into account of patients' specific concerns counselling.

Keywords: counselling, quality, day surgery, knee and shoulder arthroscopy

#### Introduction

Technology in surgery and anesthesia treatment has developed rapidly and nowadays effective analgesia enables patients to have shorter stays in hospital (Martikainen, 2002, Awad & Chung, 2006, Knier et al. 2014). The use of day surgery is growing and in Finland and constitutes 34% of all surgical interventions (National Institute for Health and Welfare, 2013). Day surgery intervention is usually in the form of arthroscopy of the knee or shoulder (Awad & Chung, 2006). A claimed economic benefit of day surgery is that it is 25–65% cheaper than ward care, with patient recovery also being shorter (Castoro et al., 2007).

The term counselling is synonymous with terms such as patient education, information, advice, teaching or guidance. In this study counselling is seen to be an interactive, two-way communication process between patient and healthcare staff. It happens in a confidential atmosphere and is based on patients need (Kääriäinen 2007, Oikarinen et al. 2014, Kivelä et al., 2014, Kajula et al., 2015). Counselling demands from healthcare staff teaching skills and the ability to gain knowledge about the learning styles of patients (Lipponen et al. 2006, Raitanen et al., 2015). In contrast, patient information or advice-giving means that healthcare staff transfer information and patient has a passive role (Bergh et al., 2015). In day surgery in Finland, the structure and nature of counselling vary from planned counselling to random 'question and answer' counselling sessions.

The content of patient counselling in Finland is governed by legislation recognizing that patients have the right to know about their health, the aims of their treatment, alternative

treatments available, the effects of the treatment on their everyday lives and other issues that concern their care (Act 785/1992). In Finnish day surgery, most patients meet a surgeon and a nurse at their preoperative hospital visit, but some patients do not meet their surgeon or nurse before the operation, instead receiving written information about their surgery by mail. At the preoperative visit, the nurse and surgeon discuss the patient's health condition, medication and previous surgery. They also counsel patients about the forthcoming surgery and resolve patient knowledge deficits of their disease and its treatment. In this study patients received preliminary home care instructions. After day surgery, when the patient is co-operative and recovered from the anesthesia she/he will receive post-surgery home care instructions about wound care, how and when stitches can be removed, analgesia and its side-effects, physical activity, potential complications and instruction about follow-up. All instructions will also be given in written form.

Counselling is a core component in healthcare work in hospitals (Boren et al., 2009, Kääriäinen, 2007, Kääriäinen & Kyngäs, 2010, Kaakinen et al., 2013). The length of hospital stays is falling and, accordingly, there is less time to counsel the patient. In day surgery, patients have to take earlier responsibility for their own care, making counselling even more important (Heikkinen et al., 2007, Rankinen et al., 2007). Good quality counselling on how to care for themselves at home has been found to facilitate patients' recover after day surgery (Kingdon & Newman, 2006, Knier et al., 2015).

There are no generally accepted definitions of the quality of counselling. Kääriäinen (2007) has explained good quality counselling in relation to content, implementation is patient-centered, interactive and goal-oriented, positive benefits to patients and use of

adequate resources (Kääriäinen, 2007, Kääriäinen & Kyngäs, 2010, Kääriäinen et al. 2011, Kaakinen et al., 2013, Kajula et al., 2015).

Appropriate counselling takes account of patients' knowledge about their needs (Burden, 2007, Heikkinen et al., 2007, Farber, 2010, Fredericks et al., 2010, Oikarinen et al., 2014) and their requirement for knowledge about their disease and its treatment (Laerum et al., 2006, Fagermoen & Hamilton, 2006, Kaakinen et al., 2012a, Kivelä et al., 2014). In day surgery, patients also need counselling on the use of analgesics and pain assessment (Rhodes et al., 2006, Stomberg et al., 2008) counselling as well as on rehabilitation, such as knee extension and flexion, and in how to use mobility aids (such as crutches) and for how long (Pieper et al., 2006, Gilmartin, 2007, Heikkinen et al., 2007.) Patients also want to know about the possible complications (Gilmartin & Wright, 2008), nutrition (Rhodes et al., 2006, Fredericks et al., 2010) and what health changes are normal or not after surgery (Fagermoen & Hamilton, 2006). Having an opportunity to meet with healthcare staff after day surgery is important to patients (Rhodes et al., 2006, Gilmartin, 2007, Stomberg et al., 2008, Knier et al., 2015). Day surgery leads to emotional stress, such as anxiety and fear, counselling meaning that emotional counselling is also necessary (Hagberth, 2008, Stomberg et al., 2008, Gardiner et al., 2009). Prior to discharge, the content of counselling should include information about nausea, fatigue and possible urinary problems (Susilahti et al., 2004).

Counselling is a goal-oriented dialogue between a patient, healthcare staff and the patient's family members, based around a patient's needs and their daily activities (Lundh et al., 2006, Cooper et al., 2009, Kaakinen et al., 2013, Kivelä et al., 2014, Knier et al., 2015). To achieve the counselling goals, the appropriate counselling

methods should be used. Oral counselling is mostly common (Nagelkerk et al., 2006, Gilmartin, 2007, Stomberg, 2008, Tse & So, 2008) in conjunction with written materials (Kyngäs et al., 2004, Lipponen et al., 2006, Kääriäinen et al. 2011). Technology is rarely used during counselling (Gladfelter, 2006).

Patient-centered counselling means that patients' previous knowledge is taken into account (Stomberg et al., 2008) and it is based on their individual counselling needs (Kaakinen et al., 2012a, Raitanen et al., 2015). Patient-centered counselling also takes account patients' previous knowledge of their disease and its treatment as well as their lifestyle and emotions. (Kääriäinen 2007, Kääriäinen & Kyngäs, 2010, Kaakinen et al., 2012a, Raitanen et al., 2015). After day surgery, patients may be confused due to the anesthesia and it is important to support any family members with counselling (Burden, 2007, Gilmartin, 2007). Interactive counselling allows the patient to ask questions and receive feedback in a positive atmosphere (Lipponen et al., 2006, Kääriäinen, 2007, Kaakinen et al., 2012). The main goal of counselling is promoting the patient's ability to self-care.

Counselling has benefits for patients, such as adding to their quality of life and reducing complications (Fredericks et al., 2010, Raitanen et al., 2015). Adequate counselling relating to the disease, its treatment and recovery at home can help patients to assess and act on changes in their well-being and recovery (Fagermoen & Hamilton, 2006, Gilmartin, 2007, Ortoleva, 2010).

Ensuring good quality counselling requires adequate resources including adequate skills and knowledge in healthcare staff (Burden, 2007, Kääriäinen & Kyngäs, 2010, Mitchell,

2010, Raitanen et al., 2015). The time given to counselling should be sufficient and the facilities adequate (Arranzin et al., 2005, Kääriäinen, 2007, Ernesäter et al., 2009, Nikula et al., 2014, Raitanen et al., 2015). If the time given to counselling is too brief, it is a challenge for staff to motivate the patient towards self-care (Burden, 2007, Knottenbelt et al., 2007, Flanagan, 2009, Kivelä et al., 2014). Adequate counselling about treatment before the surgery and in relation to home care afterwards is important for day surgery patients (Stomberg et al., 2008, Flanagan, 2009, Knier et al., 2015). Counselling after surgery it also acts as a refresher for information given beforehand (Rhodes et al., 2006) and is especially important if the patient is confused after treatment, for example, following anesthesia (Rohan et al., 2005).

The purpose of this study was to describe the quality of counselling for knee and shoulder arthroscopy patients attending day surgery at the hospital. The research questions were; 1) What quality of counselling is given to knee and shoulder arthroscopy patients during day surgery? 2) How are background variables for day surgery patients connected to the information quality, implementation, benefits, materials and methods of counselling?

#### **Design**

This was a cross-sectional study. Data were collected at a university hospital using a questionnaire. A convenience sample (N=150) of adult patients was approached. The inclusion criteria were; 1) adults (over 18 years of age), 2) knee or shoulder arthroscopy, 3) day surgery treatment, 4) Finnish speaking and 5) able to complete the questionnaire. Patients were asked if they were willing to participate and, if they were, they were given

an informed consent form to complete. The questionnaire was given to the patient before discharge by a department secretary or nurse, to ensure that the patients had received pre- and post-operative counselling. The questionnaire could be completed in the hospital before discharge or later at home and posted to the researcher.

#### Instrument

Data were collected using the Counselling Quality Instrument (CQI), which has been developed to determine the quality of patient counselling (© Kääriäinen 2009). The CQI consists of five dimensions: background questions (10 items); "content of counselling" (15 items); "implementation of counselling" (27 items); "benefit of counselling" (13 items) and "resources of counselling" (11 items). The responses for all four areas were measured using a 5-point Likert scale, ranging from one (strong disagreement) to five (strong agreement) (Kääriäinen, 2007). The validity and reliability of the CQI are considered to be good. Cronbach's alpha values (0.6-0.9) indicated high internal consistency for the instrument (Kääriäinen, 2007, Kääriäinen & Kyngäs, 2010, Kaakinen et al., 2013). The CQI was modified to fit the context of this study by a group of nurses (n=3) who were expert in day surgery and two patients. In total, 86 questionnaires were returned to the researcher (response rate of 57 %). The researcher sent an email reminder to the remaining participants, with a further five questionnaires sent following the reminder.

#### **Ethical considerations**

Approval for the study was obtained from the Nursing Director of the hospital. According to the Medical Research Act (488/1999) and its amendments (295/2004), a study like this does not require any statement of opinion by an ethical committee in Finland. Information about the study was available for the participating day surgery units. Participants received information about the study before they agreed to participate and if they agreed, they received a letter attached to the questionnaire. The letter included information about the aims of the study, anonymity, voluntary participation, and the contact information of the researcher. Participants gave informed consent and received a questionnaire identified by an ID number, so that the researcher could send a reminder about the questionnaire if it was not returned. The study conformed with the principles outlined in the Declaration of Helsinki.

## Data analysis

PASW 18 for Windows statistic software was used to carry out the data analyses. Descriptive statistics were used and missing values were not replaced. Sum variables were formulated based on the previous theory of CQI (Kääriäinen, 2007). Sum variables were categorized into three categories based on means, histograms and boxplots. The values 1.00–1.49 represented poor counselling, 1.5–2.49=2 satisfactory counselling, and 2.50–3.00=3 good counselling. In this study the Cronbach's alpha values varied from 0.73–0.93 (Table 1).

Three sum variables were identified relating to the *content* of counselling: counselling about wound and pain treatment, counselling on follow-up and rehabilitation and counselling about recovery and the effects on daily life. Three sum variables were

identified for the *implementation* of counselling: patient-centered counselling, interaction during counselling and goal-oriented counselling. One sum variable identified the *benefit* of counselling and was named the *impact* of counselling. The sum variable included items on, for example, the impact on functional capacity, impact on well-being and impact on knowledge. One sum variable was identified for *resources* in counselling.

Differences in the mean scores between the background and sum variables were tested using the Mann-Whitney U-test and Kruskall-Walls test. Sample means were analyzed using the t-test and variance analysis. The Kruskal-Wallis test's statistically significant results were also specified with pairwise comparisons with Tukey correction. Only statistically significant (p<0.05) results are presented (Polit & Beck, 2008.)

### Results

The majority of respondents (56%) were male, with a mean age of 49 years. Most respondents (81%) were married or lived with someone and they came to the hospital mostly for knee arthroscopy (55%). Over half of respondents (64%) had a vocational education. Of the respondents, 17% sought information about the surgery beforehand, for example via the Internet. The demographic characteristics of the participants are shown in Table 2. Respondents' education had a negative correlation with respondents' experience of previous surgery (r=-0.27, p=0.013) and education had a negative correlation with respondents' gender (r=-0.22, p=0.05).

### **Content of counselling**

The content of counselling focused on counselling about the wound and pain, counselling on the follow-up and rehabilitation and counselling about recovery and the effects on daily life. The majority of respondents (90%) received good counselling on follow-up and rehabilitation and counselling wound and pain treatment (90%). There was a positive correlation between counselling on wound and pain treatment and counselling on recovery and the effects on daily life (r=0.392, p<0.000).

Differences between the age groups were found for counselling on follow-up and rehabilitation (p=0.01) and also counselling on recovery and the effects on daily life (p=0.03). Respondents aged below 40 years were less satisfied with the counselling on the follow-up and rehabilitation (p=0.01) than those aged over 40 years. They also reported being less satisfied counselling on recover and the effects of daily life (p=0.037) than those aged over 40 years. There were differences according to the types of anesthesia used and satisfaction with counselling about recovery and the effects on daily life (p=0.006). Those participants who had a local anesthetic were more satisfied with the counselling on recovery and the effects on daily life than those who had full anesthesia (p=0.008).

### **Implementation of counselling**

Implementation of counselling focused on patient-centered counselling, interaction during counselling and goal-oriented counselling. Almost all participants reported that their own interaction during counselling was encouraged (93%). A little over a third of respondents (35%) had not received patient-centered counselling. A fifth (20%) of respondents reported that their counselling had not been goal-oriented. Counselling had

been given both orally and through the receipt of written information for the vast majority of respondents (92%).

Patient-centered counselling (r=0.542, p<0.000) and goal-oriented counselling (r=0.380, p<0.000) had a positive correlation with counselling on recovery and the effects on daily life. A correlation was also found between patient-centered counselling and goal-oriented counselling (r=0.444, p<0.000).

There were differences relating to age in the satisfaction with goal-oriented counselling (p=0.04). Respondents aged below 40 years reported being less satisfied with goal-orientation than those aged over 40 years (p=0.03).

# **Benefits of counselling**

Most respondents were satisfied with the perceived benefits of counselling (91%). The benefits of counselling included items such as the benefits to health, self-care, emotions and knowledge held by family members. The benefits of counselling had a positive correlation with counselling on follow-up and rehabilitation (r=0.544, p<0.000).

There were differences between respondents with respect to age and the perceived benefits of counselling (p<0.000). Respondents aged below 40 years were less satisfied with the benefits of counselling than those aged over 40 years (p<0.000) and 60 (p<0.001) years. Those who were divorced and married/living together were more satisfied with the benefits of counselling than single respondents (p=0.032).

## **Counselling resources**

Counselling resources included counselling time, staff skills and knowledge, staff attitude to counselling and counselling materials. Counselling resources showed a positive correlation with interaction during counselling (r=0.618, p<0.000).

Those respondents who had previous experience of surgical intervention were less satisfied with the counselling resources than those who had not experienced previous surgical treatment (p=0.03). There was a difference between gender and counselling resources. Those who were married/co-habited reported more often that they had been given good counselling resources during counselling than single respondents (p=0.007).

#### **Discussion**

The aim of the study was describe the quality of counselling for knee and shoulder arthroscopy patients having day surgery in hospital. The findings of this study support those of an earlier study (Heino, 2005, Fagermoen & Hamilton, 2006, Gilmartin, 2007) which showed that good quality counselling was focused on oral counselling, with written materials to support it. It is also known that patients are not so well oriented to counselling after anesthesia (Stomberg et al., 2008). Frederics et al.'s (2010) findings support the use of diverse methods to ensure benefits from patient counselling.

Most patients in this study had not sought out counselling materials beforehand, as seen previously by Leino-Kilpi et al., (2009). Most patients seeking counselling information found it on the Internet. It is known that patients should seek information from several online sources, while the validity of any information found is difficult to establish

(Drake, 2009.) The skill of staff in using technology during the counselling session may motivate patients to be more active in the counselling.

Most patients in this study were satisfied with the content of counselling, for example, with counselling about wound and pain treatment. According to Burden (2007), the patient should receive counselling on wound care and the symptoms of wound infection. The aim of counselling is to ensure that patients know how to act in problematic situation (Heino, 2005, Gilmartin, 2007). According to Heino (2005), there has been insufficient counselling about wound infection. A post-surgery patient typically has some pain and, therefore, counselling about the regular use of analgesics is part of their recovery (Stomberg et al., 2008). Glenda & Jorgensen (2007) argue that with good quality counselling it is even possible to reduce the post-operative pain experienced by the patient.

Patients reported, in this study, that counselling on recovery and follow-up was adequate, which supports the earlier results of Stomberg (2008). Differences were found according to age in how adequate counselling was for the recovery and follow-up. According to Heino (2005) and Stomberg et al. (2008), patients received counselling about complications and what they should do if complications occurred. Therefore, before being discharged, the patient should know the guidelines on follow-up (Awad & Chung, 2006, Knier et al., 2015). In this study, patients aged less than 40 years reported counselling to be less sufficient than older respondents. Younger patients may have overestimated the possibility of returning to work and taking responsibility for their families' daily activities (Gilmartin, 2007, Flanagan & Jones, 2009).

There was a lack of patient-centered counselling. According to Kääriäinen (2007) and Kaakinen et al. (2013), patient-centered counselling should take into account the patient when planning counselling and goal-setting. It is known that counselling can benefit the patient if it is based on patients' individual needs (Knottenbelt et al., 2007, Fredericks et al., 2010). In patient-centered counselling, a patient's family members are usually included in the counselling (Heino, 2005, Kääriäinen, 2007). In day surgery, it is important that counselling takes place when family members are in accompaniment. It is also important to ensure the patient has understood the content of counselling (Stomberg et al., 2008). Based on a previous study, patient-centered counselling had an the effect on patients' attitudes and it included social support (Kääriäinen 2007, Kaakinen et al., 2013, Raitanen et al., 2015). Therefore patient-centered counselling demands adequate interaction skills and to understand the patient's perspective of everyday life.

In this study, interaction during counselling was perceived as adequate. This means healthcare staff had sufficient interaction skills and they had time to discuss matters with the patient. An earlier study has reported that healthcare staff have not been interested in patient needs and that this has inhibited the patient from asking questions (Gilmartinin, 2007).

According to the current study, counselling has positive benefits for the patient's daily life, is in keeping with earlier studies (Gilmartin, 2007, Glindvad & Jorgensen, 2007, Kaakinen et al., 2013, Knier et al., 2015). Respondents aged below 40 years were less

satisfied with the benefits of counselling than older respondents. Respondents aged below 40 may doubt their recovery and feel insecure about their post-surgery discharge.

Counselling resources were felt to be good in this study, although there were differences of opinion in those who were single and those who had had a previous surgical intervention. Those people who lived alone may have experienced a lack of emotional support or no allocated time to discuss issues with healthcare staff before discharge.

# **Study Limitations**

The instrument used in this study has previously indicated high internal consistency. In most studies where this instrument has been used, the Cronbach's alpha values have been high (Kääriäinen, 2007, Kääriäinen & Kyngäs, 2010, Kääriäinen et al., 2012, Kaakinen et al., 2013). In this study, the Cronbach's alpha values were 0.73–0.93. However, in this study, the sum variables were constructed based on an earlier study (Kääriäinen, 2007), due to the small sample size. The instrument was modified to focus on the day surgery patient group, while three surgical nurses and two patients assessed the content validity of the instrument.

The questionnaire was distributed before discharge by the ward secretary and the patients received information about the study from the researcher. The aim of the study was that every knee and shoulder arthroscopy patient would receive a questionnaire if they were willing to participate.

One limitation of this study is the small sample size, despite a reminder being sent. The response rate was 57% questionnaires fully completed. After reminders, only five further questionnaires were returned. This may indicate that those who intended to answer had already completed it at the hospital. On the other hand, the response rate may have been higher if the researcher had motivated the participants more before their discharge. The instrument's large number of items may have reduced the willingness to participate. The results of this study cannot be generalized, although they do suggest that training of those responsible for counselling day surgery patients should be a priority.

### Conclusion

The quality of counselling for knee and shoulder arthroscopy patients in day surgery was quite good. The counselling on follow-up and rehabilitation was adequate. Wound and pain counselling was perceived to be adequate by patients. Healthcare staff should receive training in patient-centered and goal-oriented counselling. In this study, counselling was perceived as beneficial to patients' healthy lifestyle and well-being. In particular, the needs of people aged below 40 years should be taken into account in day surgery counselling.

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Table 1. Sumvariables, amount of items and Cronbachin alfa.

Sumvariables	Items	Cronbachin alfa
Content of counselling		
Counselling of wound and pain	4	.73
Counselling of follow-up and rehabilitation	7	.78
Counselling of the recovery and the effects on	3	.86
daily life		
Implementation of counselling		
Patient-centered counselling	8	.85
Interaction during counselling	15	.92
Goal-oriented counselling	4	.81
Benefit of counselling		
Impact of counselling	12	.93
Counselling resources	8	.90

**Table 2. Background information of respondents** 

	f	%
Gender (n=86)		
female	38	44
male	48	56
Age (n=86)		
18–39	18	21
40-59	50	58
60–80	18	21
Marital status (n=85)		
Single	10	12
Marriage /live together	70	81
Divorced	5	6
Education (n=84)		
Elementary education	16	19
Vocational education	55	64
University education	13	15
Surgery treatment (n=76)		
Shoulder arthroscopy	29	34
Knee arthroscopy	47	55
Previous experience of surgery treatment		
Yes	54	63
No	32	37
Search information before surgery (n=86)		
Yes	15	17

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