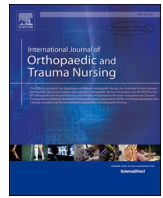




Contents lists available at ScienceDirect

International Journal of Orthopaedic and Trauma Nursing

journal homepage: www.elsevier.com/locate/ijotn

Patient participation in orthopaedic care—a survey on hip surgery patients' preferences for and experiences of engagement in their health and healthcare

Patricia Sköld^{a,*}, Maria Hälleberg-Nyman^{b,c}, Eva Joelsson-Alm^d, Ann Catrine Eldh^{a,e}

^a Faculty of Medicine and Health Sciences, Department of Health, Medicine, and Caring Sciences, Linköping University, SE-581 83 Linköping, Sweden

^b University Health Care Research Centre, Faculty of Medicine and Health, Örebro University, SE-701 82 Örebro, Sweden

^c Department of Orthopaedics, Faculty of Medicine and Health, Örebro University, SE-701 82 Örebro, Sweden

^d Department of Clinical Science and Education, Södersjukhuset, Karolinska Institutet, SE-118 83 Stockholm, Sweden

^e Department of Public Health and Caring Sciences, Uppsala University, Box 564, SE-751 22 Uppsala, Sweden

ARTICLE INFO

Handling Editor: Rebecca Jester

Keywords:

Hip surgery
Nursing
Patient participation
Patient preferences
Patient-centred care

ABSTRACT

Introduction: Quality in health services is increasingly associated with enabling patients to participate in their own health and healthcare by recognising their resources and needs. Despite a growing recognition as to whether such participation is enabled, little is known regarding opportunities for preference-based patient participation in orthopaedic care.

Aims: To investigate preference-based participation for patients in orthopaedic care due to hip surgery.

Methods: Patients across 17 Swedish orthopaedic units who had had hip surgery, due to hip fracture or osteoarthritis, January–April 2021 were invited to complete the validated 4Ps questionnaire. Of 1514 patients, 458 patients returned the questionnaire with reports on their preferences for and experiences of participation. Each of the 4Ps' 12 items were analysed separately using descriptive and comparative statistics.

Results: A complete match in preferences for, and experiences of, participation was achieved with variation between items for 41%–50% of the patients; if almost matches were included, this occurred for 57%–77% of the patients. Less participation than preferred was most common in terms of having had reciprocal communication, opportunities for partaking in planning, and in learning how to manage symptoms/issues. Hip fracture surgery was significantly associated with experiencing lower levels of participation than preferred.

Conclusion: Though standardised care promotes efficient hip surgery care, our study suggests a need for more person-centred opportunities to engage. A discrepancy was noted between patients' resources and preparation for their participation in and beyond the hip surgery process, particularly for self-care activities, calling for better use of nursing resources.

Id: NCT04700969 with the U.S National Institutes of Health Clinical Registry.

1. Introduction

In a healthcare system that demands quality care for a growing population, fast-track and standardised care programs for hip surgery have been broadly introduced to make healthcare more effective (Berg et al., 2020; Jensen, 2023; Larsson et al., 2016; Pollman et al., 2019). Fast-track programs reduce the length of hospital stay, leading to the need for patients to manage their own care (Wainwright and Kehlet, 2019). Previous research emphasises nurses' responsibility to prioritise

giving information, motivating, and teaching patients in order to increase their participation in elective fast-track hip surgery (Hjort Jakobsen et al., 2014; Jansson et al., 2019) and preparing them for self-care after discharge (Specht et al., 2015). Yet, nurses identified challenges providing information in accordance with standardised care programs; rather, nurses suggested it can limit opportunities to ask questions, risks information overload, lacks two-way communication, and may not be representative for patients' needs (Jansson et al., 2019). Even though standardised routines and a strict schedule for hip surgery

* Corresponding author.

E-mail addresses: patricia.skold@regionostergotland.se (P. Sköld), maria.halleberg-nyman@regionorebrolan.se (M. Hälleberg-Nyman), eva.joelsson-alm@ki.se (E. Joelsson-Alm), ann.catrine.eldh@liu.se (A.C. Eldh).

<https://doi.org/10.1016/j.ijotn.2024.101118>

Received 27 March 2024; Received in revised form 27 May 2024; Accepted 5 June 2024

Available online 6 June 2024

1878-1241/© 2024 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

care reinforce safe practices, it can also be an obstacle in the individualisation of care and preference-based opportunities for patients' engagement (Segevall et al., 2021; Unbeck et al., 2023).

The importance and benefits of patient-centred participation have become better understood over the years; patient engagement is known to create cost-effective and more appropriate use of healthcare resources (Berg et al., 2020; Hibbard and Greene, 2013; James, 2013; Jensen, 2023; Larsson et al., 2016). However, both the patients undergoing hip surgery and nurses in orthopaedic care request an enhanced collaboration to enable participation (Jansson et al., 2019; Segevall et al., 2021), indicating a need for standardised—yet individualised—approaches in the treatment and care of this group of patients (Bruun-Olsen et al., 2018; Kennedy et al., 2017; Roberts et al., 2021; Segevall et al., 2021; Unbeck et al., 2023; Winberg et al., 2023).

Patients' opportunities to participate should be based on their preferences (World health organisation, 1994). In accordance with person-centred care (Britten et al., 2020), patients' opportunities to engage should align with their individual preferences, based on their resources and needs (Eldh, 2019). Prior studies on preference-based participation—that is, a match or near match between patients' preferences for and experiences of participation (Eldh, 2019)—show that such conditions occur to varying extents and are potentially dependent on the context of care (Drott et al., 2022; Vestala et al., 2024). However, there is still limited knowledge on the orthopaedic care person-centredness (Jensen, 2023; Olsson et al., 2007), particularly patients' preferences for and experiences of participation in their health and healthcare. To enable person-centred, cost- and resource-effective, high-quality care, it is important to know whether, and for whom, patient participation occurs. The aim of this study was to investigate preference-based participation for patients in orthopaedic care due to hip surgery.

2. Methods

2.1. Design

A quantitative, descriptive multicentre design.

2.2. Setting and sample

This study was part of the Onset PreVENTion of urinary retention in Orthopaedic Nursing and rehabilitation (OPTION) project, representing baseline data collection, with 17 (out of 55 eligible) Swedish orthopaedics departments (Eldh et al., 2021). The orthopaedic units were situated across local, regional, and university hospitals, where each head of unit had agreed to take part in the study.

Each of the 17 orthopaedic units provided a list of patients who had hip surgery between January and April 2021 (N = 1382). The following months, the eligible patients were contacted by regular mail with information about the OPTION trial and asked for their consent to participate in the study.

2.3. Data collection

Along with the study information and consent form were two surveys, one being the Patient Preferences for Patient Participation tool, the 4Ps (Eldh et al., 2015) described below; the other a survey on their experiences of bladder care and bladder issues, reported separately (Winberg et al., 2023). Information, a consent slip, and questionnaires were sent by regular mail, along with a prepaid envelope for responses. The patients were instructed to consider the orthopaedic care episode associated with their hip surgery when completing the 4Ps survey. Patients consenting to the OPTION trial and completing the 4Ps were included in this study. Demographic data such as age, sex, and whether hip surgery was due to hip fracture or osteoarthritis were collected via a supplementary round of data collection, using electronic patient

records.

2.3.1. Questionnaire

The 4Ps is a Swedish tool, developed for adult somatic care (Eldh et al., 2015). It consists of two sections that reiterate the same 12 attributes of participation, all found to conceptually map patient participation; these are presented as single items. Patients respond to each attribute by means of either of four predefined response alternatives for preferences (section 1), and for experiences (section 2), respectively. Details are illustrated in Fig. 1 (Eldh et al., 2015, 2020).

The 4Ps is a single item tool, commended for its construct and potential to capture patient preferences (Jerofke-Owen et al., 2020), and increasingly used across Sweden and Norway (Drott et al., 2022; Hurtig et al., 2023; Kvaal et al., 2023; Lantz et al., 2023; Martinsson et al., 2021; Vestala et al., 2024). Preferences for and experiences of patient participation are analysed separately for each attribute. By paralleling each patient's report of their preferences for and experiences of participation, the level of preference-based participation is determined per item (Eldh et al., 2020).

2.4. Data analysis

Descriptive analyses were conducted based on the indication for surgery (fracture or osteoarthritis), sex, and age. Age was categorised into three groups: ≤ 64 years, 65–79 years, or ≥ 80 years. Demographics for respondents are provided in Table 1. For analyses of the 4Ps, each item was analysed separately, including only responses that comprised both the patient's preferences for and experiences of participation for each single item (with no imputation); see Fig. 2 for details.

The degree of match between patients' preferences and experiences was determined using the following principles, constituting to what extent, for which items, and for whom, preference-based participation was achieved, further illustrated in Fig. 3.

1. The closer the match between the response alternatives for preferred participation and experience of participation, the better, and
2. it is better to experience more participation than preferred, than to experience less participation than preferred (Eldh et al., 2020).

In addition, we identified whether a mismatch represented experiences exceeding the patient's preferences, or vice versa.

Differences between groups were analysed with Chi square tests and were conducted for categorical data. Logistic regression analyses were used to determine associations with sex, age group, and type of procedure for each attribute. The level of uncorrected statistical significance was set at a two-sided p-value of <0.05 ; after Bonferroni correction the significance level was set to p-value of <0.004 . All analyses were conducted in IBM Statistical Package for the Social Sciences (SPSS) Statistics, version 28.0.

3. Results

A complete match in the patients' preferences for and experiences of participation varied for each item: between 41% and 50% of the results represented preference-based patient participation across all items. The item referring to 'explanation of symptoms' (item 6) had the highest degree of preference-based participation (n = 224, 50%). All details of patients' preferences are provided in Appendix Figure A1, and experiences of participation in Appendix figure A2.

When including an almost match, 57%–77% of the patients had total or close to preference-based participation. The item 'managing (prescribed) treatment/procedures' (item 11) indicated the highest number: 77% (n = 345), followed by the items 'partaking in planning' (item 8) which reached 57% (n = 257), and 'learning how to manage symptom/issues' (item 10) which reached 57% (n = 254). The details on the preference-based participation, are available in appendix Figure A3.

Items of the 4Ps	Section 1— Preferences for participation, response alternatives	Section 2— Experiences of participation, response alternatives
1. Being listened to by the healthcare staff	<i>Unimportant Somewhat important Very important Crucial</i>	<i>Not at all To some extent To a large extent Entirely</i>
2. My experiences being recognised		
3. Having reciprocal communication		
4. Having conditions to tell about my symptoms/issues		
5. Having explanations as to my symptoms/issues		
6. Having explanations as for what will be/is done for me		
7. Learning about what is planned for me		
8. Having conditions to take part in planning of my care/treatment		
9. Having conditions to phrase my own goals		
10. Knowing how to manage my symptoms/issues		
11. Having conditions to manage [prescribed] treatment(s)		
12. Having conditions to perform self-care		

Fig. 1. Attributes of patient participation, presented as items 1–12 in the 4Ps, each attribute numbered as they appear in the questionnaire. Response alternatives presented in italics for: preferences for participation (section 1), and experiences of participation (section 2) (Eldh et al., 2015, 2020).

Table 1
Patient demographics and characteristics of study population, divided into groups according to type of surgery.

Variables	All patients (N = 458)	Hip fracture surgery (n = 125) 27.3%	Surgery due to Osteoarthritis (n = 333) 72.7%	P-value
Age, yrs, median (IQR)	74 (67–79)	75 (66–80)	75(67–79)	
Age groups, n (%)				<0.001
≤64 yrs	101 (22.1)	17 (13.6)	84 (25.2)	
65–79 yrs	254 (55.2)	52 (41.6)	202 (60.7)	
≥80 years	103 (22.5)	56 (44.8)	47 (14.1)	
Sex, n (%)				0.122
Female	272 (59.4)	67 (53.6)	205 (61.6)	
Male	186 (40.6)	58 (46.4)	128 (38.4)	

P-value from chi square test represents differences between groups having undergone hip surgery due to fracture or osteoarthritis.

Further, when patients’ preferences did not match their experiences of participation, it was more common for patients to experience less participation than preferred than to experience more. As shown in Fig. 4, this was most common with items: 10, ‘learning to manage my symptoms/issues’ (n = 190, 43%); item 8, ‘partaking in planning’ (n = 181, 40%); and item 3, ‘having had reciprocal communication’ (n = 173, 38%). The one item where patients had the highest degree of mismatch indicating that their experiences exceeded their preferences was item

11: ‘managing prescribed treatment/procedures’ (n = 177, 39%).

No other patient demographic factors other than indication for hip surgery showed significant association with preference-based participation. Across all items, having had hip surgery due to fracture was significantly associated with experiencing a lower level of participation than preferred, even after adjustment for age and sex. After correction with Bonferroni, statistical significance remained for seven items: ‘being listened to by healthcare staff’ (number 1), ‘having explanations as to my symptoms/issues’ (number 5), ‘having explanations as for what will be/is done for me’ (number 6), ‘learning what is planned for me’ (number 7), ‘having conditions to take part in planning of my care/treatment’ (number 8), ‘knowing how to manage my symptoms/issues’ (number 10), and ‘having conditions to manage (prescribed) treatment (s)’ (number 11), as seen in Table 2.

4. Discussion

The main result show that barely half of the patients undergoing hip surgery experienced preference-based participation. When including an almost match, the numbers improved, but still never exceeded more than three quarters of the patients in total. While participation in terms of ‘managing prescribed treatment/procedures’ was the item where a complete or almost complete match transpired the most, it was also the item where it was most common for patients to experience participation exceeding their preferences. In addition, having undergone hip surgery due to fracture was significantly associated with experiencing lower levels of participation than preferred, even after adjustment for age and

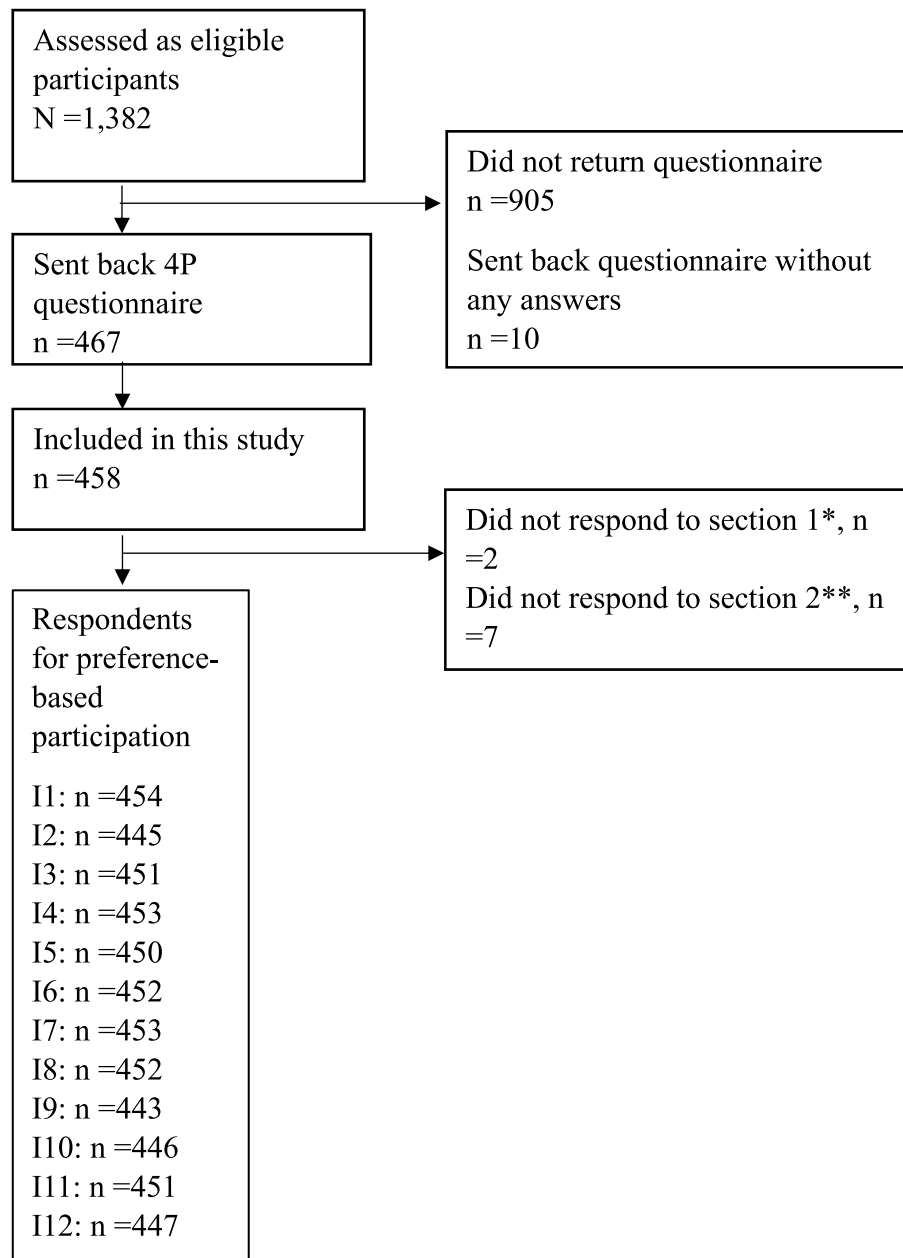


Fig. 2. Flowchart for the inclusion process procedure. Number of respondents who have given responses for both preference and experience is presented per attribute I = Item, I1= Item 1 etc. * = preferences **=experiences.

sex. All in all, this indicates that opportunities for patient participation are not ideal in orthopaedic care, but vary depending on who you are, why you are hospitalised, and in what way and to what extent you favour being engaged.

There are differences and variations in the population of patients depending on the indication for hip surgery. Patients undergoing planned hip surgery tend to be younger, healthier, have shorter hospital stays, less readmission (Le Manach et al., 2015; Metcalfe et al., 2016) and are assessed suitable for major surgery (Metcalfe et al., 2016). In our study, hip fracture surgery was significantly associated with less preference-based participation—indicating a need for a further understanding of patients’ preferences to participate in the orthopaedic context, including their resources and reasons for engaging in the hip surgery trajectory.

Independent of the indication for hip surgery, patients in the orthopaedic setting are increasingly encouraged to partake in managing self-care. Preparing for this is often primarily a nursing

responsibility—with nursing interventions to enhance patient engagement in both prescribed treatment and in promoting recovery (Anderson et al., 2021; Hjort Jakobsen et al., 2014; Jansson et al., 2019; et al., 2015; Wainwright and Kehlet, 2019). This study indicates a discrepancy between preparation for, and management of, self-care for patients undergoing hip surgery, which has also been seen in previous research (Thoen et al., 2023). Less participation than preferred was the most common in terms of having had reciprocal communication, opportunities for partaking in planning, and in learning how to manage my symptoms/issues as a patient. All such issues are important aspects in promoting self-care (Riegel et al., 2012), and confirm prior studies where patients having had elective hip surgery were found to receive significantly lower knowledge than preferred (Klemetti et al., 2015). Self-care education not matching patients’ resources and needs, as shown in our study, limits patients’ potential for engagement (Thoen et al., 2023), but sustain a need for a more person-centred approach when providing information to patients, addressing patients’

Experiences:	Preferences			
	Unimportant	Somewhat important	Very important	Crucial
Not at all	Match			
To some extent	Almost match	Match		
To a large extent		Almost Match	Match	
Entirely			Almost Match	Match

Fig. 3. Matches between response alternatives for experiences (vertical) and preferences (horizontal). While the match or almost match is indicated, the mismatches are indicated by number of steps from optimal, in accord with the above principles.

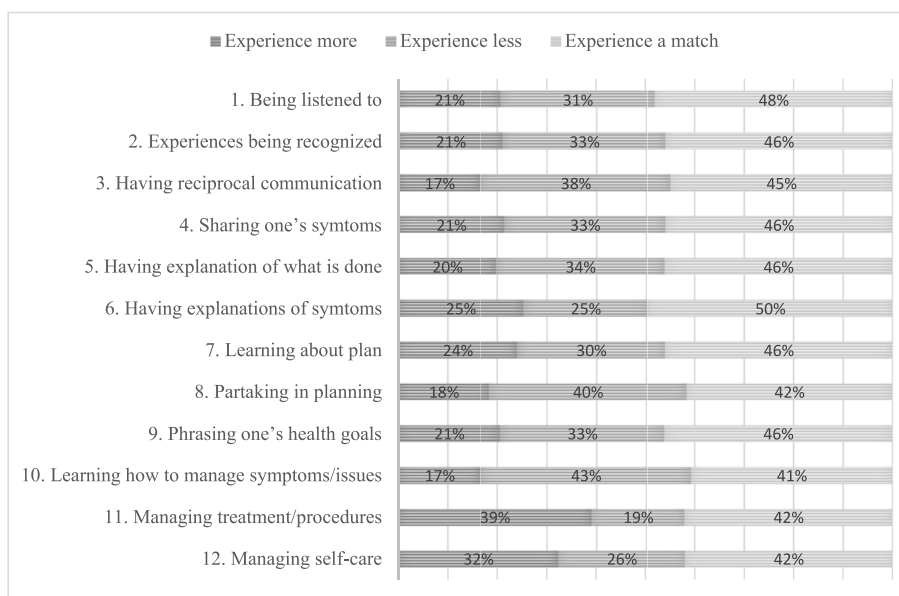


Fig. 4. Match for preference-based participation in percentage. Distribution of experienced less, more, or preferred participation per attribute.

information needs and capabilities (Kennedy et al., 2017).

Healthcare professionals need time and opportunities to be able to provide adequate, individualised information and education for patients (Andersson et al., 2021). In fast-track programs, nurses may inherit team tasks such as pain management and mobilisation, presumably leading to an increased nursing workload (Jansson et al., 2019; Specht et al., 2015). A lack of nursing support is known to reduce patients' opportunities to engage when undergoing hip surgery (Andersson et al., 2021; Segevall et al., 2021) but to sustain safe and person-centred care, the nurse-patient dyad needs to be appropriate (Simonetti et al., 2022). While opportunities for preference-based participation could be incorporated in, for example, fast-track routines for hip surgery, it requires individual and flexible collaboration and exchange of information between nurses and patients (Jansson et al., 2019; Thoen et al., 2023).

4.1. Strength and limitations

Multi-centre studies enable representation, but also place high demands on the coordination of data collection (Roller et al., 2021). This study was comprised of 17 out of 55 orthopaedic departments in Sweden. To facilitate a comprehensive data collection for the full trial (Eldh et al., 2021), orthopaedic units across mid- and south Sweden were invited. The selected regions represent the populations and healthcare

services at country level, including university, regional, and local hospitals. All data were collected and reported by the same PhD students on the OPTION team, ensuring a corresponding conduct in recruitment, and data registrations of the 4Ps. This is considered to strengthen the generalisability of the study (Roller et al., 2021). Yet, the differences in sample sizes between groups (depending on the indication for surgery) is noted, with patients undergoing hip surgery due to fracture being less represented. While this may have impacted the significantly lesser match between patients' preferences for and experiences of participation, we suggest future studies focus on the opportunities for the often older and/or frailer group of patients with hip fracture (Ferris et al., 2022; Williamson et al., 2017) to participate with respect to their resources and needs. While patients' preferences and experiences are individual, and associated with their healthcare interactions (Eldh, 2019), at group level, these will provide a more general understanding of whether the everyday conduct of staff enables person-centred opportunities for patients to engage in health and healthcare.

The risk for recall bias due to a variation in patients' response time is noted. While we have found that more recent healthcare contact(s) may influence one's experience of participation (Luhr et al., 2018), people tend to remember what has been important to them (Ricoeur, 2004). Thus, we assume that experiences from the hospital stay (due to orthopaedic surgery) were recalled correctly. Further, there is the

Table 2
Multivariable analysis of factors associated with each attribute of preference-based participation for patients having had hip surgery.

Explanatory variable	1. Being listened to	2. Experiences being recognised	3. Having reciprocal communication	4. Sharing one's symptoms	5. Having explanation of what is done	6. Having explanations of symptoms	7. Learning about plans	8. Partaking in planning	9. Phrasing personal goals	10. Learning how to manage symptoms/issues	11. Managing treatment/procedures	12. Managing self-care
Sex												
Female	p = 0.839 1.05 (0.69-1.59)	p = 0.725 1.03 (0.68-1.57)	p = 0.024 1.60 (1.06-2.38)	p = 0.328 1.23. (0.81-1.87)	p = 0.110 1.41(0.93-2.13)	p = 0.468 0.85 (0.54-1.33)	p = 0.616 0.90 (0.58-1.38)	p = 0.378 1.20 (0.80-1.79)	p = 0.705 1.08 (0.71-1.65)	p = 0.665 0.92 (0.62-1.37)	p = 0.688 0.90 (0.55-1.49)	p = 0.648 0.90 (0.58-1.41)
Male												
Age groups												
≥80 yrs	p = 0.436 1.04 (0.56-1.95)	p = 0.637 1.12 (0.60-2.09)	p = 0.919 0.95 (0.52-1.76)	p = 0.051 1.09 (0.59-2.00)	p = 0.466 0.90 (0.49-1.67)	p = 0.260 0.80 (0.41-1.57)	p = 0.453 0.95 (0.49-1.81)	p = 0.839 0.96 (0.52-1.77)	p = 0.080 1.33 (0.72-2.46)	p = 0.386 1.36 (0.74-2.51)	p = 0.311 1.72 (0.80-3.71)	p = 0.147 1.63 (0.83-3.17)
65-79 yrs	p = 0.436 0.78 (0.46-1.31)	p = 0.637 0.88 (0.52-1.47)	p = 0.919 0.91 (0.55-1.48)	p = 0.051 0.63 (0.38-1.04)	p = 0.466 0.74 (0.43-1.23)	p = 0.260 0.63 (0.36-1.11)	p = 0.453 0.74 (0.43-1.27)	p = 0.839 0.87 (0.53-1.43)	p = 0.080 0.75 (0.45-1.25)	p = 0.386 0.95 (0.58-1.56)	p = 0.311 1.16 (0.59-2.30)	p = 0.147 0.95 (0.54-1.70)
≤64 yrs	p = 0.001** Ref	p = 0.025* Ref	p = 0.023* Ref	p = 0.018* Ref	p < 0.001** Ref	p < 0.001** Ref	p < 0.001** Ref	p < 0.001** Ref	p = 0.034* Ref	p < 0.001** Ref	p = 0.002** Ref	p = 0.022* Ref
Indication to surgery												
Osteoarthritis	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Fracture	1.70 (1.07-2.71)	1.70 (1.07-2.71)	1.69 (1.07-2.67)	1.75 (1.10-2.79)	2.19 (1.38-3.47)	3.15 (1.93-5.15)	3.46 (2.16-5.56)	2.35 (1.50-3.70)	1.66 (1.04-2.65)	2.30 (1.46-3.63)	2.31 (1.34-3.95)	1.78 (1.09-2.92)

Data are presented in odds ratios with 95% confidence interval.

* Statistical significance according to p < 0.05.

** Statistical significance after Bonferroni correction p < 0.004.

potential that study participants were not completely representative of the hip surgery population in general (with less patients in surgery due to a fracture completing the 4Ps), and suggest the findings are interpreted with care.

4.2. Clinical implications

The results of this study indicate room for improvements when it comes to preference-based participation for patients in hip surgery care. Person-centred care is a suggested strategy for a more individualised surgical care trajectory and should be seen as a clinical goal (Roberts et al., 2021). We suggest identifying patient preferences and therefore their resources and abilities, to engage, and tailoring information and training in self-care activities in recognition to meet their needs.

5. Conclusions

The result of this study emphasises a discrepancy between hip surgery patients' resources and preparation for participating in their health and healthcare issues, particularly for self-care activities. Alongside attempts to make healthcare more effective by streamlining care processes, it is important to also incorporate person-centred opportunities for patients' engagement when in orthopaedic nursing care.

Funding

This study is a part of the larger OPTION study, which was supported by FORTE [grant ID: STYA- 2020/0002] and Region Örebro, Sweden: the funding bodies have not been involved in the framing of the study or in the analysis/reporting of results.

Ethical statement

Data for this study were collected as part of OPTION, which has an approved ethics reviews: ID 2020-06140, plus 2021-01710/2021-03755 and 2021-05341-02, and the study was performed according to ethical principles of the Declarations of Helsinki (World Medical Association, 2013). All patients received written information and gave written consent to participate.

OPTION was registered as an experimental study (trial) with the American National Institutes of Health Clinical Trials Registry (ID: NCT04700969, January 8, 2021).

CRediT authorship contribution statement

Patricia Sköld: Writing – review & editing, Writing – original draft, Formal analysis. **Maria Hälleberg-Nyman:** Writing – review & editing, Supervision, Funding acquisition, Formal analysis, Conceptualization. **Eva Joelsson-Alm:** Writing – review & editing, Supervision, Methodology, Funding acquisition, Formal analysis, Conceptualization. **Ann Catrine Eldh:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Funding acquisition, Formal analysis, Conceptualization.

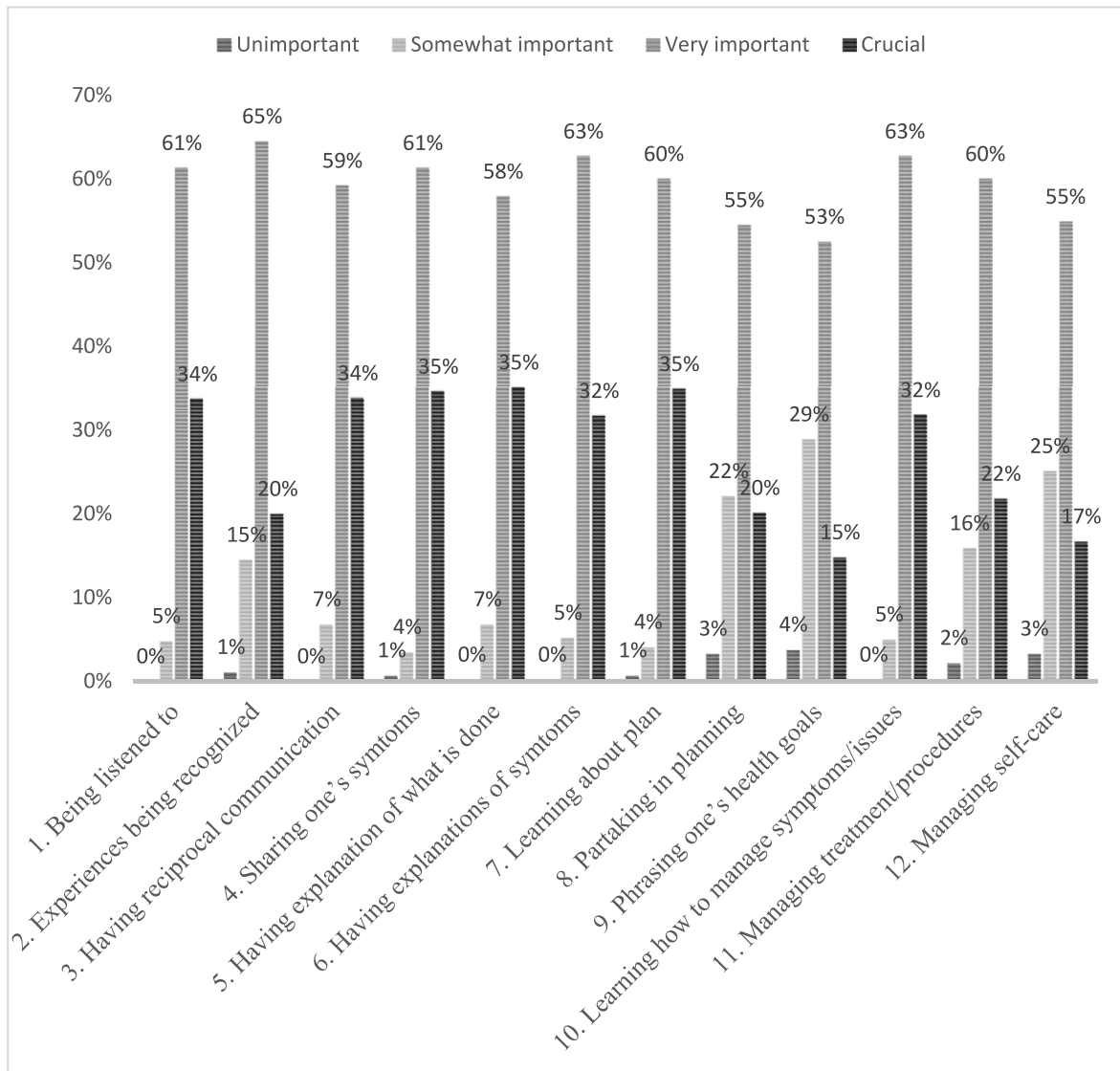
Declaration of competing interest

The authors declare no known competing financial interest or personal relationship that could have influenced the work reported in this paper. The 4Ps is protected by copyright but may be available for free after discussion with the last author.

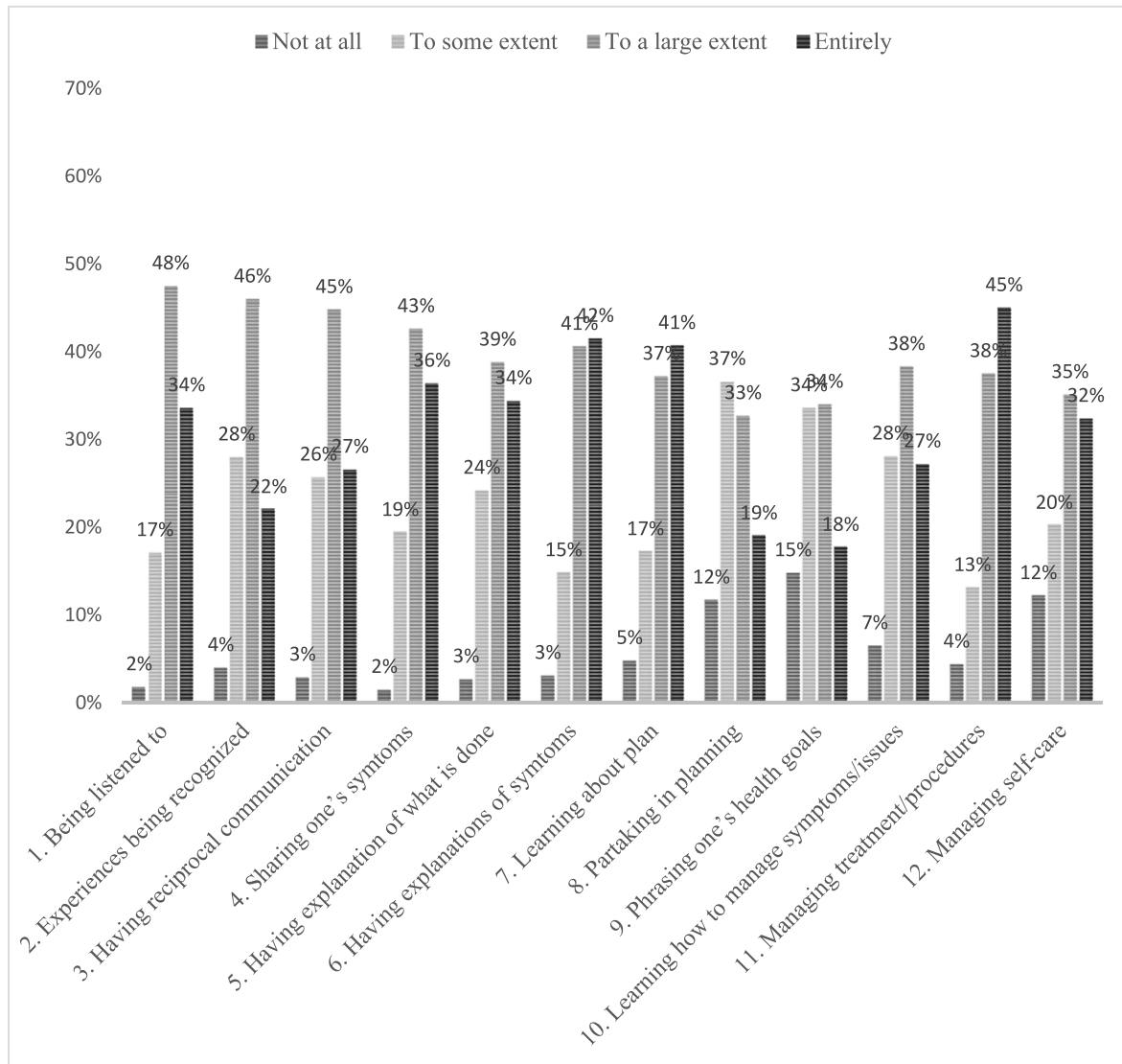
Acknowledgements

The authors are grateful to PhD students M. Winberg and E. Fjordkvist, who collected and helped register the 4Ps data.

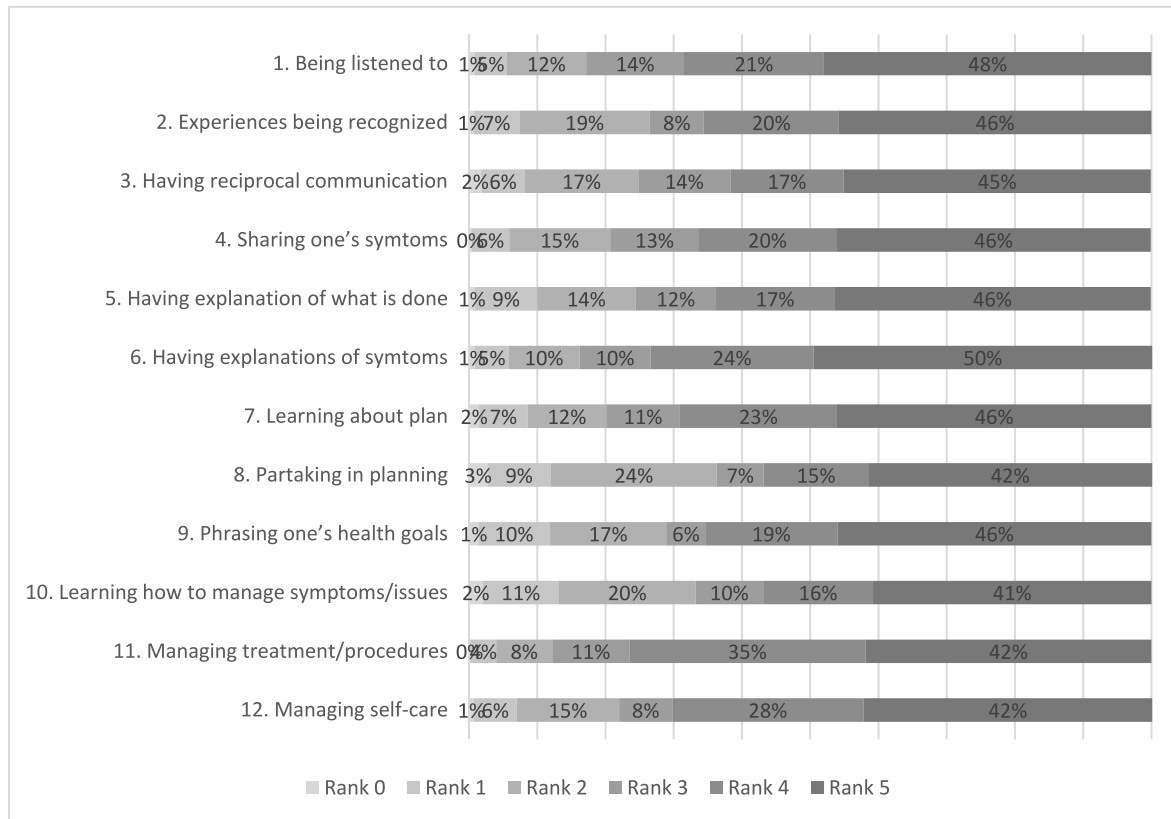
Appendix



Appendix Fig. A1. Preferences of participation per attribute. Distribution between answer options based on respective attributes. Answer alternatives are seen in the lower half of the figure and the percentage distribution between the various alternatives based on the respective attribute.



Appendix Fig. A2. Experiences of participation per attribute. Distribution between answer options based on respective attributes. Answer alternatives are seen in the lower half of the figure and the percentage distribution between the various alternatives based on the respective attribute.



Appendix Fig. A3. Match for preference-based participation in percentage. Distribution of matches according to rank 0–5, where rank 5 represents a perfect match and rank 4 represents an almost match between preferences for and experiences of participation per attribute, ranked 0–5.

References

Andersson, Å., Vilhelmsson, M., Fomichov, V., Lindhoff Larsson, A., Björnsson, B., Sandström, P., Drott, J., 2021. Patient involvement in surgical care—healthcare personnel views and behaviour regarding patient involvement. *Scand. J. Caring Sci.* 35 (1), 96–103. <https://doi.org/10.1111/scs.12823>.

Berg, U., W-Dal, A., Rolfson, O., Naucleur, E., Sundberg, M., Nilsson, A., 2020. Influence of fast-track programs on patient-reported outcomes in total hip and knee replacement (THR/TKR) at Swedish hospitals 2011–2015: an observational study including 51,169 THR and 8,393 TKR operations. *Acta Orthop.* 91 (3), 306–312. <https://doi.org/10.1080/17453674.2020.1733375>.

Britten, N., Ekman, I., Naldemirci, Ö., Javinger, M., Hedman, H., Wolf, A., 2020. Learning from Gothenburg model of patient centred healthcare. *BMJ* 370, m2738. <https://doi.org/10.1136/bmj.m2738>.

Bruun-Olsen, V., Bergland, A., Heiberg, K.E., 2018. "I struggle to count my blessings": a recovery after hip fracture from the patients' perspective. *BMC Geriatr.* 18, 10.1186/s12877-018-0716-4.

Drott, J., Fomichov, V., Nordén, M., Lindhoff Larsson, A., Sandström, P., Björnsson, B., Eldh, A.C., 2022. Patient preferences and experiences of participation in surgical cancer care. *Worldviews Evidence-Based Nurs.* 19 (5), 405–414. <https://doi.org/10.1111/wvn.12589>.

Eldh, A.C., Holmfur, M., Luhr, K., Wenemark, M., 2020. Assessing and reporting patient participation by means of patient preferences and experiences. *BMC Health Serv. Res.* 20 (1), 1–8. <https://doi.org/10.1186/s12913-020-05574-y>.

Eldh, A.C., 2019. Facilitating patient participation by embracing patients' preferences—a discussion. *J. Eval. Clin. Pract.* 25 (6), 1070–1073. <https://doi.org/10.1111/jep.13126>.

Eldh, A.C., Luhr, K., Ehrnfors, M., 2015. The development and initial validation of a clinical tool for patients' preferences on patient participation—the 4Ps. *Health Expect.* 18 (6), 2522–2535. <https://doi.org/10.1111/hex.12221>.

Eldh, A.C., Joëlsson-Alm, Wretenberg, P., Hälleberg-Nyman, M., 2021. Onset Prevention of Urinary Retention in Orthopaedic Nursing and Rehabilitation, OPTION—a study protocol a randomized trial by a multi-professional facilitator team and their first-line managers' implementation strategy. *Implement Sci.* 16, 1–9. <https://doi.org/10.1186/s13012-021-01135-x>.

Ferris, H., Brent, L., Sorensen, J., 2022. Cost of hospitalisation for hip fracture—findings from the Irish hip fracture database. *Osteoporosis Int.* 33, 1057–1065. <https://doi.org/10.1007/s00198-021-06294-7>.

Hibbard, J.H., Greene, J., 2013. What the evidence shows about patient activation: better health outcomes and care experiences; fewer data on costs. *Health Aff.* 32, 207–214. <https://doi.org/10.1377/hlthaff.2012.1061>.

Hjort Jakobsen, D., Rud, K., Kehlet, H., Egerod, I., 2014. Standardising fast-track surgical nursing care in Denmark. *Br. J. Nurs.* 23, 471–476. <https://doi.org/10.12968/bjon.2014.23.9.471>.

Hurtig, C., Bendtsen, M., Årestedt, L., Uhlin, F., Eldh, A.C., 2023. Patient participation in end-stage kidney disease care: variation over time and effects of staff-directed interventions—a quasi-experimental study. *BMC Nephrol.* 24, 265. <https://doi.org/10.1186/s12882-023-03313-z>.

James, J., 2013. Patient engagement. *Health affairs Health policy briefs* 1–6. <https://doi.org/10.1377/hpb20130214.898775>.

Jansson, M.M., Harjumaa, M., Puhto, A.-P., Pikkarainen, M., 2019. Healthcare professionals' perceived problems in fast-track hip and knee arthroplasty: results of a qualitative interview study. *J. Orthop. Surg. Res.* 14 <https://doi.org/10.1186/s13018-019-1334-3>.

Jensen, C.M., 2023. Person centred practice in orthopaedic and trauma care. *Int J Orthop Trauma Nurs* 51, 1–2. <https://doi.org/10.1016/j.ijotn.2023.101053>.

Jerofoke-Owen, T., Garnier-Villareal, M., Fial, A., Tobiano, G., 2020. Systematic review of psychometric properties of instruments measuring patient preferences for engagement in health care. *J. Adv. Nurs.* 76, 1988–2004. <https://doi.org/10.1111/jan.14402>.

Kennedy, D., Wainwright, A., Pereira, L., Robarts, S., Dickson, P., Christian, J., Webster, F., 2017. A qualitative study of patient education needs for hip and knee replacement. *BMC Musculoskel. Disord.* 18, 413. <https://doi.org/10.1186/s12891-017-1769-9>.

Klemetti, S., Leino-Kilpi, H., Cabrera, E., Copanitsanou, P., Ingadottir, B., Istomina, N., Katajisto, J., Papastavrou, E., Unosson, M., Valkeapää, K., 2015. Difference between received and expected knowledge of patients undergoing knee or hip replacement in seven European countries. *Clin. Nurs. Res.* 24 (6), 624–643. <https://doi.org/10.1177/1054773814549992>.

Kvaal, L., Bergland, A., Eldh, A.C., 2023. Preference-based patient participation in intermediate care: translation, validation and piloting of the 4Ps in Norway. *Health* 27 (1), e13899. <https://doi.org/10.1111/hex.13899>.

Lantz, A.-C.H., Gunningberg, L., Erikson, G., Eldh, A.C., Wenemark, M., Pöder, U., 2023. Evaluation of patient participation in relation to the implementation of a person-centred nursing shift handover. *Worldviews Evidence-Based Nurs.* 20 (4), 330–338. <https://doi.org/10.1111/wvn.12666>.

Larsson, G., Strömberg, R.U., Rogmark, C., Nilsson, A., 2016. Prehospital fast track care for patients with hip fracture: impact on time to surgery, hospital stay, post-

- operative complications and mortality a randomised, controlled trial. *Injury* 47 (4), 881–886. <https://doi.org/10.1016/j.injury.2016.01.043>.
- Le Manach, Y., Collins, C.G., Bhandari, M., 2015. Outcomes after hip fracture surgery compared with elective total hip replacement. *JAMA* 314 (11), 1159–1166. <https://doi.org/10.1001/jama.2015.10842>.
- Luhr, K., Eldh, A.C., Nilsson, U., Holmefur, M., 2018. Patient Preferences for Patient Participation – psychometric evaluation of the 4Ps tool in patients with chronic heart or lung disorders. *Nord. J. Nurs. Res.* 38 (2), 68–76. <https://doi.org/10.1177/205715851771315>.
- Martinsson, C., Uhlin, F., Wenemark, M., Eldh, A.C., 2021. Preference-based patient participation for most, if not all: a cross-sectional study of patient participation amongst persons with end-stage kidney disease. *Health Expect.* 24 (5), 1833–1841. <https://doi.org/10.1111/hex.13323>.
- Metcalfe, Perry, D.C., Costa, M.L., 2016. Hip fracture surgery vs elective total hip replacement. *JAMA* 315 (9), 941–942. <https://doi.org/10.1001/jama.2015.17852>.
- Olsson, L.E., Karlsson, J., Ekman, I., 2007. Effects of nursing interventions within an integrated care pathway for patients with hip fracture. *J. Adv. Nurs.* 58 (2), 116–125. <https://doi.org/10.1111/j.1365-2648.2007.04209.x>.
- Pollman, C.T., Røtterud, J.H., Gjertsen, J.-E., Dahl, F.A., Lenvik, O., Årøen, A., 2019. Fast track hip fracture and mortality—an observational study of 2230 patients. *BMC Musculoskelet Discord* 20, 1–10. [10.1186/s12891-019-2637-6](https://doi.org/10.1186/s12891-019-2637-6).
- Ricoeur, P., 2004. *Memory, History, Forgetting*. The University of Chicago Press.
- Riegel, B., Jaarsma, T., Strömberg, A., 2012. A middle-range theory of self-care of chronic illness. *ANS Adv Nurs Sci* 35 (3), 194–204. <https://doi.org/10.1097/ANS.0b013e318261b1ba>.
- Roberts, G.P., Levy, N., Lobo, D.N., 2021. Patient-centric goal-oriented perioperative care. *Br. J. Anaesth.* 126 (3), 559–564. <https://doi.org/10.1016/j.bja.2020.12.004>.
- Roller, L., Yarmus, L.B., Lentz, R.J., 2021. Joining forces: how to coordinate large, multicenter randomized trials. *Clin. Chest Med.* 42 (4), 767–776. <https://doi.org/10.1016/j.ccm.2021.08.011>.
- Segevall, C., Björkman Randström, K., Söderberg, S., 2021. Meanings of participation in care for older people after hip fracture surgery and nurses working in an orthopedic ward. *Int. J. Qual. Stud. Health Well-Being* 16 (1), 35–42. <https://doi.org/10.1080/17482631.2021.1970302>.
- Simonetti, M., Cerón, C., Galiano, A., Lake, E.T., Aiken, L.H., 2022. Hospital work environment, nurse staffing and missed care in Chile: a cross-sectional observational study. *J. Clin. Nurs.* 31 (17–18), 2518–2529. [10.1111/jocn.16068](https://doi.org/10.1111/jocn.16068).
- Specht, K., Kjaersgaard-Andersen, P., Pedersen, B.D., 2015. Patient experience in fast-track hip and knee arthroplasty- a qualitative study. *J. Clin. Nurs.* 25 (5–6), 836–845. <https://doi.org/10.1111/jocn.13121>.
- Thoen, C.W., Sæle, M., Bjarkøy Strandberg, R., Eide, P.H., Kinn, L., 2023. Patients' experiences of day surgery and recovery: a meta-ethnography. *Nurs open* 11 (1), e2055. <https://doi.org/10.1002/nop2.2055>.
- Unbeck, M., Lidgren, F., Tabbakh, E., Nymark, C., 2023. The patients experience of participation when admitted for elective surgical procedures: an interview study. *Int. J. Qual. Stud. Health Well-Being* 18 (1), 1–11. <https://doi.org/10.1080/17482631.2022.2163958>.
- Vestala, H., Bendtsen, M., Midlöv, P., Kjellgren, K., Eldh, A.C., 2024. Effects of an interactive web-based support system via mobile phone on preference-based patient participation in patients living with hypertension—a randomized controlled trial primary care. *Scand. J. Prim. Health Care* 42 (1), 1–9. <https://doi.org/10.1080/02813432.2023.2301567>.
- Wainwright, T.W., Kehlet, H., 2019. Fast-track hip and knee arthroplasty – have we reached the goal? *Acta Orthop.* 90 (1), 3–5. <https://doi.org/10.1080/17453674.2018.1550708>.
- Williamson, S., Landeiro, F., McConnell, T., Fulford-Smith, L., Javaid, M.K., Judge, A., Leal, J., 2017. Costs of fragility hip fractures globally: a systematic review and meta-regression analysis. *Osteoporos. Int.* 28, 2791–2800. <https://doi.org/10.1007/s00198-017-4153-6>.
- Winberg, M., Hälleberg Nyman, M., Fjordkvist, E., Joëlsson-Alm, E., Eldh, A.C., 2023. Patients' experiences of urinary retention and bladder care. *Int. J. Orthop. Trauma Nurs.* 50. <https://doi.org/10.1016/j.ijotn.2023.101034>.
- World health organisation, 1994. *A Declaration on the Promotion of Patients' Rights in Europe*. World health organisation. Microsoft Word – Patients' Rights European Declaration .doc (achcew.org). (Accessed 26 April 2024).
- World Medical Association, 2013. World medical association declaration of Helsinki: ethical principles for medical research involving human subjects. *JAMA* 310, 2191–2194. <https://doi.org/10.1001/jama.2013.281053>.