Barriers in pain treatment in the emergency and surgical department

Josephine Zachodnik, Jakob Hessel Andersen & Anja Geisler

ABSTRACT

INTRODUCTION: Post-operative pain is associated with poor patient satisfaction and severe complications. It is often underreported and poorly managed. The aim of this study was to investigate which factors influence and prevent optimal pain treatment according to healthcare providers.

METHODS: We conducted an electronic questionnaire survey, which was distributed by e-mail to 364 doctors, nurses, dentists and social and healthcare assistants employed at the emergency and surgical departments of Zealand University Hospital, Koege, Denmark. The 15-item-questionnaire investigated which factors influenced pain treatment.

RESULTS: A total of 124 of 364 (34%) healthcare providers completed the questionnaire. The four primary factors influencing pain treatment were sufficient time, interdisciplinary cooperation, patient involvement and staff education. The two primary barriers preventing optimal pain treatment were a high level of activity at the ward (40%) and a lack of knowledge (33%).

CONCLUSIONS: Time, staff education, interdisciplinary cooperation and patient involvement were the primary factors influencing pain treatment. Insufficient time and limited knowledge on the part of the healthcare providers were the greatest barriers preventing good pain treatment in everyday practice.

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Post-operative pain is often accompanied by fatigue, nausea and vomiting, leading to impaired pulmonary function, delayed convalescence and occasionally chronic pain [1, 2]. There is an association between patient satisfaction and self-reported pain on a numerical rating scale [3, 4]. Therefore, patient satisfaction and pain management should be cornerstones for healthcare providers.

Despite heightened awareness of pain management, little or no improvement of post-operative pain was detected in an American patient survey conducted twice at a two-decade interval [5]. This raises the question: Which barriers prevent efficient pain treatment? A Danish observational study on pain management from Rigshospitalet highlighted several issues. The authors reported lack of registered pain data, procedure-specific guidelines and non-opioid pain treatment in clinical practice [6]. Furthermore, lack of knowledge may also prevent optimal pain treatment [7, 8].

Healthcare providers play a central role in patients' pain treatment. Accordingly, identifying obstacles they need to overcome to improve pain treatment is important. The aim of this study was to investigate which factors influence and prevent optimal pain management according to healthcare providers.

METHODS

This questionnaire study was conducted at Zealand University Hospital, Koege, Denmark. No person-sensitive data from respondents or patients were recorded. Therefore, approval by the Scientific Ethics Committee and the Danish Data Protection Agency was not required. This manuscript adheres to the CHEck list for Reporting Results of Internet E-Surveys (CHERRIES) [9]. The participants were informed about the expected time consumption of the survey, the identity of the investigators and the purpose of the study. The questionnaire was developed specifically for the study, as no suitable pre-existing questionnaire was found. The electronic questionnaire was made using Survey-Xact (Rambøll A/S, Aarhus, Denmark). Fifteen doctors and nurses with different levels of education and competences tested and validated the questions. The questionnaire was distributed on 8 November 2017. A reminder was sent to non-respondents after 15 November 2017. Responses received after 15 December 2017 were excluded. We planned to include all surgical departments and the emergency department. The Department of Orthopaedic Surgery declined to participate.

The electronic questionnaire was sent by e-mail to 364 doctors, nurses, dentists and social and healthcare assistants employed at the Department of Abdominal Surgery; the Department of Oto-rhino-pharyngeal Surgery; the Department of Oral and Maxillofacial surgery; and the Emergency Department. The survey was voluntary and available only when a link had been provided. No incentives were offered. Ongoing responses were saved by the system, and respondents could edit their answers before final submission. The survey re-

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Department of Anaesthesiology, Zealand University Hospital, Koege, Denmark

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sults were accessible only to the investigators. The questionnaire consisted 15 items and could be submitted only upon completion of all questions.

The questionnaire consisted of statements to which participants indicated their agreement on a Likert scale (Not at all, Low degree, Somewhat or Highly) or a 0-10 scale (0 = no knowledge, 10 = highest possible level of knowledge). Questions were answered by ticking boxes with predefined answers or by entering free text.

Data were managed using Microsoft Excel Version 2013.

Trial registration: not relevant.

TABLE 1

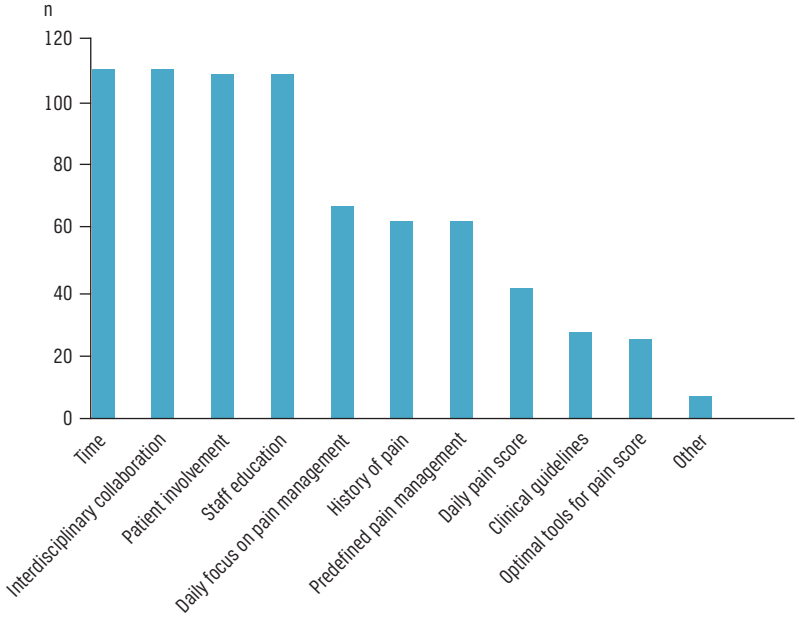
Demographics (N = 124; age, mean (± SD): 42 (± 11) years).

	n (%)
Respondents	
Doctors	44 (35)
Nurses	69 (55)
Dentists	4 (3)
Social and health assistants	7 (7)
Male/female	33/91
Years of employment	
0-3	27 (21)
4-7	22 (18)
8-10	12 (10)
〉10	63 (51)

SD = standard deviation.

FIGURE 1

Significant factors in the provision of sufficient pain management.



RESULTS

Of the 364 distributed questionnaires, 124 were completed, yielding a response rate of 34% (**Table 1**). A total of 15 questionnaires were invalid.

The four primary factors influencing sufficient pain treatment were time, interdisciplinary cooperation, patient involvement and staff education (**Figure 1**). The two most common barriers identified that prevented the healthcare professionals from providing sufficient pain treatment was a high level of activity at the ward (40%) and a lack of knowledge (33%) (**Figure 2**). The majority (79%) found that the pain treatment was "somewhat" efficient at their department.

The mean self-reported knowledge on pain treatment was rated six on a 0-10 scale. There was general agreement that the level of knowledge left room for improvement. There was a multitude of different approaches to establishing knowledge about pain treatment. Most respondents found pain treatment to be a team responsibility (85%) and that the patients should be highly involved (80%) (**Table 2**).

DISCUSSION

The questionnaire revealed that sufficient time, staff education, interdisciplinary cooperation and patient involvement were the key factors listed by the respondents for establishing efficient pain treatment.

In everyday practice, a high level of activity at the ward and a lack of staff knowledge were the primary barriers.

Time

Limited time was also recognised as a key factor in a large British survey including 180 nurses [10] who reported workload and a lack of staff as the reasons for sub-optimal pain management, thus supporting our findings. Lack of adequate time during rounds may prevent individual assessment of the nature and degree of pain experienced by the patients.

A large Danish survey revealed that only few data on pain score were available in the patient charts at the surgical departments [4]. To ensure that attention is given to the issue, pain has been proposed as the fifth vital sign [11]. Once pain is adequately recognised and assessed, it is – naturally – easier to treat. Time is also identified as an important factor from the patients' perspective. Patient satisfaction increased when nurses had the time to address patients' pain and had a short response time to complaints of pain [12].

The high level of activity at the wards will likely prove difficult to solve in the near future.

Staff education

A questionnaire study including 386 American physicians revealed a lack of knowledge, especially about

the risk of psychological dependency from opioids [13]. The authors reported that physicians' attitudes directly inhibited the pain treatment by interfering with the appropriate prescribing of pain-relieving medications. When assessing pain, nurses rely to a large extent on their own judgement of patients' non-verbal behaviour, which has been shown to systematically underestimate patient-perceived pain [8, 10].

It pays off to educate staff and patients about pain. An American survey found that educating nurses in pain behaviour, side effects and interventions relating to pain improved nursing knowledge. The education programme was part of an algorithm that also comprised patient education. The combined algorithm produced an increase in patient satisfaction [14]. Introducing such an algorithm can be very complex and often time consuming.

A systematic review investigated the effectiveness of online pain resources for health professionals. The results show that the participants who received E-learning had a significantly greater knowledge and better skills than those receiving training as usual [15]. E-learning may be more feasible to implement than other types of training and can be performed whenever convenient.

Patient involvement

Eighty percent of the respondents in this survey stated that patients should be highly involved in their own pain treatment. Pain after surgery is the main concern for patients when interviewed prior to surgery [5]. Hence, a randomised controlled trial revealed that patient education was associated with lower anxiety levels preoperatively and a more rapid decline in pain after surgery [16]. A large survey from 51 clinical centres in 17 countries showed that increasing patient involvement produced a higher level of patient satisfaction [17].

By educating patients in pain treatment, they are empowered to become actively involved in their own treatment which, in turn, improves patient satisfaction and outcomes [4, 14].

Interdisciplinary cooperation

Eighty-five percent of the respondents in our survey found pain treatment to be a team responsibility. Interdisciplinary cooperation is a key element in the fast-track surgery concept. Ideally, anaesthesiologist, surgeons, nurses and physiotherapists should be involved in pain treatment [1, 6].

Acute pain services often take a multidisciplinary approach. Several trials have shown that implementing an acute pain service leads to improved pain treatment [18]. An acute pain service may handle complex pain patients, supervise epidural pain treatments, develop

FIGURE 2

Barriers to sufficient pain management.

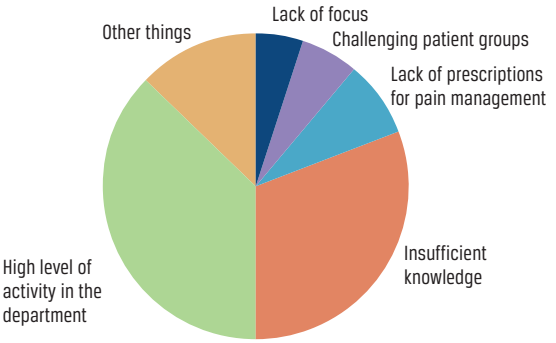


TABLE 2

Questions and answers about pain treatment.

	n (%)
How do you establish your knowledge on pain treatment?	
Colleagues	99 (80)
Own experience	91 (73)
Clinical guidelines	86 (69)
Courses	64 (52)
Scientific manuscripts	51 (41)
Journals	45 (36)
Media	27 (22)
Usual practice	8 (6)
Other	8 (6)
To which extent do you agree that there is a need for improved knowledge on pain and pain treatment in your department?	
Not at all	3 (3)
In low degree	9 (7)
Somewhat	73 (59)
Highly	39 (31)
Who do you think is responsible for the pain treatment?	
Multidisciplinary team	105 (85)
Doctor	54 (44)
Nurse	24 (19)
Patient	18 (15)
Anaesthetist	11 (9)
To which extent should the patient be involved in the pain treatment?	
Not at all	0
In low degree	1 (1)
Somewhat	24 (19)
Highly	99 (80)
To which extent do you think the pain treatment at your department is efficient?	
Not at all	0
In low degree	3 (2)
Somewhat	98 (79)
Highly	22 (18)
No answer	1 (1)

procedure-specific pain treatment for post-operative pain, and be responsible for teaching and training the healthcare providers in evidence-based pain management [18].

Strengths and limitations

Our study has several limitations. The response rate was only 34%, which is less than satisfactory. Looking at the respondents, we found that one third answered regardless of their profession, which makes the validity for doctors and nurses stronger than for social and healthcare assistants and dentists.

The low response rate may increase the risk of non-response bias. For instance, the busiest employees may have been too busy to respond, thereby causing an underestimation of the importance of sufficient time.

The questionnaire was performed in a single hospital in Denmark, which may limit the external validity of our results.

CONCLUSIONS

In this survey, healthcare providers indicated that sufficient time, staff education, interdisciplinary cooperation and patient involvement were the primary factors influencing pain treatment. A high level of activity at the ward and limited staff knowledge were acknowledged as the primary barriers preventing good pain treatment in everyday practice.

CORRESPONDENCE: *Josephine Zachodnik*.
E-mail: jzc@regionsjaelland.dk

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