

Survey of pain curricula for healthcare professionals in Norway

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ABSTRACT

Aim: The objective of the present study is to describe the content of pain curricula and the time designated to pain education for different healthcare professionals in Norway.

Background: Clinicians encounter the challenge of unrelieved pain frequently, and evidence indicates they lack sufficient knowledge and skills to adequately assess and manage pain. Effective pain management is multifactorial and different health professionals must collaborate to meet the patients' needs.

Methods: The Pain Education Survey was sent to 47 program leaders in Norwegian Health Faculties. The questionnaire consists of six close-ended questions concerning how the faculties organize their pain curricula and eight questions regarding the specific content.

Findings: A total of 25 respondents across all healthcare educational institutions in Norway filled in the questionnaire, and the response rate varied between disciplines. Non-mandatory pain education was only reported by physiotherapy and nursing education. The most frequently taught area in all disciplines was non-pharmacological methods. The least taught areas were quality indicators and pain guidelines.

Conclusions: This study describes great differences in how Norwegian healthcare educational institutions organize their pain curricula. It is worrying that only half of the respondents could identify clearly which areas were taught about pain.

KEY WORDS: Norwegian healthcare education, pain curricula, interprofessional, survey

Introduction

The International Association for the Study of Pain (IASP) has declared, "Access to Pain Management is a Fundamental Human Right" (1). However, unrelieved pain is still a major challenge in health care systems globally. Two studies report that Norway had the highest prevalence of pain among European countries, affecting quality of life and social and working life in 30 % of the general population (2, 3). Clinicians encounter this challenge frequently, and evidence indicates they lack sufficient knowledge and skills to adequately assess and manage pain (4). Current research indicates that education across all health care disciplines display a wide array of flaws in a systematic approach to an integrated theory and practice –of clinical pain management and that such education differ among the discipline, in some cases with almost no focused teaching altogether (5-7). Pain education for all health personnel is identified as essential to make the pain treatment more efficient and treated by adequately trained health care professionals (8).

The complex nature and manifestations of pain requires that treatment and rehabilitation programs take place in a highly skilled interdisciplinary setting (4). Effective pain management is multifactorial. Thus, different approaches are needed, and different health professionals must collaborate to meet the patients' needs. A common platform for different disciplines in the understanding of pain such as pain mechanism, pain physiology, pain coping, medications, and attitudes and their implications on the treatment of pain, is also necessary and recommended (9).

To our knowledge, only two studies so far report on pain education programs in different health disciplines. One Canadian study (7) reports that the majority of health science programs were unable to specify designated time for mandatory pain education. The average time per discipline across all years of education varied from 13 to 41 teaching hours. Watt-Watson et al. (2009) compared health science programs with veterinary programs, and found that veterinary programs reported considerably more designated time for mandatory education on pain assessment and management. Another survey from UK (6) reported the average number of teaching hours related to pain for all different health care disciplines to 12 hours. This study reported that physiotherapy students received the highest number of hours of

pain related education in their curricula, also when comparing with veterinary programs.

Given the high prevalence of pain, related disorders and the paucity of knowledge related to the quantity and quality of pain education across several disciplines, the purpose of the present study was to describe how different healthcare professionals organize their pain curricula in Norway.

Methods

Aim

The objective of this study is to describe the content of pain curricula and the time designated to pain education for different healthcare disciplines in Norway.

Sample

47 program leaders in national health faculties were contacted and informed about the purpose of the study. The health faculties included nursing (28), medicine (4), physiotherapy (4), occupational therapy (2), pharmacy (2), and dentistry (2) from universities and university colleges throughout Norway. For comparison, veterinary medicine was also included as recommended in other similar studies (6, 7). When contact was established, the questionnaires were sent by e-mail. The faculties not responding were contacted by telephone several times to enhance the response rate. The contact persons were offered 125 euro to compensate the time spent filling out the questionnaire. Informed consent was implied by completion of the survey.

Data collection

The Pain Education Survey (PES) was adapted from previous research (7, 10, 11). PES consists of two parts: The first part has six close-ended questions concerning how the faculties organize their pain curricula. The second part consists of eight questions regarding the specific content of the pain curricula. The pain-related content areas included 1) pain neurophysiology and mechanisms, 2) etiology and prevalence, 3) pain-related misbeliefs and barriers to effective pain management, 4) pain assessment and measurement, 5) analgesics and management of adverse effects, 6) non-pharmacological pain management strategies, 7) the multidimensional nature of pain experience and

related implication for effective pain management, and 8) monitoring, quality and pain policy and guidelines. The original questionnaire developed in Toronto, showed good validity and reliability (7). It was translated and adapted into Norwegian education standards. The translation is done according to international standard with back and forward translation (12).

The main investigator (ML) conducted a pilot test of the Norwegian PES with one program leader. No ambiguities or difficulties were reported. The developer of the original Canadian questionnaire (Watt-Watson) gave approval of the final version.

Analysis

Data were analysed using SPSS Version 19.0 for Windows software (SPSS INC, Chicago, IL). Descriptive and summary statistics were used to determine the structure of pain education, as well as the proportion of total hours dedicated to teach various pain-related content areas. All calculations used actual values. Adjustments were not used for missing data.

Results

Twenty-five questionnaires were returned (53%), and the response rate varied between disciplines (Table I). Response rates were highest from physiotherapy, nursing and veterinary medicine including 25 respondents across all healthcare educational institutions. The total length of education programs varied from three (nursing, physical therapy, and occupational therapy) to six years (i.e., medicine). No data of non-responders are available.

Structure of pain curricula

13 of the respondents had a separate course in pain. 14 programs reported mandatory pain education, 6 respondents reported the program as non-mandatory, and 7 reported a mix. Physiotherapy and nursing education reported non-mandatory pain education. No respondents reported interdisciplinary pain education.

Content of pain education

The median hours of pain teaching by content within each discipline is outlined in Table 2+3. The most frequently taught area in all disciplines was non-pharmacological methods. The less frequently taught areas were quality indicators and pain guidelines. Most respondents addressed their pain curricula in eight categories as requested in the questionnaire. The total pain program varied from 2 hours (i.e., psychology) to 454 (i.e., physiotherapy). Within the allotted hours, the proportion focused on each content category varied by discipline. The most variance in hours of pain education was reported within physiotherapy. They reported a median of 45 (27-454) hours of pain education; the nurses reported 11 hours (7-38). Most disciplines addressed all eight pain content areas, except physical therapy (i.e., quality indicators/guidelines) and psychologist only addressing assessment/measurement and the multidimensional nature of pain.

For the veterinary programs, pain content areas focused on neurophysiology (4 hours) and analgesics/adverse effect (28 hours). Occupational therapists (n=2) did not report any specific content and reported that pain was integrated in other parts of their program.

Strategies

Twelve of the respondents reported they would use generic pain curricula resources if available to support learning and 11 reported no (Table 3). A majority (n = 9) favoured patient case studies. Respondents from a variety of disciplines (i.e., nursing, physical therapy, occupational therapy, and pharmacy) identified case studies. Modules were only identified as a helpful strategy by one nursing school.

Discussion

This survey describes huge differences in how Norwegian health care educational programs organize their pain curricula. Twelve respondents had a separate course in pain. The other 12 respondents stated

that pain content was integrated in other parts of their total curricula. This made it difficult to delineate the actual hours of pain content in the 8 explicit pain categories addressed by this survey.

Total hours of pain education varied from 45 hours (median value) in physiotherapy to 2 hours in psychology. Compared to the recent Canadian and British surveys upon which this project is based on, Norwegian health care education is more oriented to a bio-psychosocial model of pain across all disciplines including medicine (6, 7). Norwegian physiotherapy education has higher average pain related hours in their curricula than the comparing Canadian and British surveys. Norwegian nursing education is comparable with pain curricula offered to Canadian and British bachelor programs in nursing. Non-pharmacological treatment was reported as the pain content area with highest priority across all disciplines except for veterinary medicine not having this content area in their curriculum.

It is disturbing that allotted time for some pain categories which international evidence recommend as essential was minimal. Examples are pain assessment and quality indicators and guidelines. In 2010, IASP stated, "There are major deficits in knowledge of health care professionals regarding the mechanisms and management of pain" (1). The importance of proper pain assessment is underlined as a right of all people in pain. Unrelieved chronic pain is one of the most common reasons for long-term sick leave and disability in Norway (13), and research show that a high number of patients develop persistent pain after routine surgery (14).

Overall, the response rate was low. Reasons for not participating was difficulties with understanding how PES was constructed and disagreement on how the Pain-related areas were categorized. Physiotherapy and nursing had the highest response rate among the invited health faculties. These disciplines were the only reporting non-mandatory pain education. This may be explained by different attitudes regarding students' responsibilities and rights in Norwegian University Colleges compared to Norwegian Universities being responsible for educating future psychologists, physicians and veterinarians. Another explanation is that some University Colleges have as policy that only lectures with content not available in written material as textbooks and published papers should be mandatory.

It is interesting to observe that physiotherapy reported most variance in hours of pain education (27-454). Compared to nursing (7-38) this difference may be explained by how respondents define pain content in their curricula. The physiotherapy faculty with 454 hours in their total pain curricula, reported 400 hours designated as non-pharmacological. Higher awareness of pain as an integrated symptom in all areas of physiotherapy is one possible explanation. Most patients treated with physiotherapy have pain as one of their main problems. Another possibility is that some disciplines like nursing and psychology only reported the actual lectures given about pain and pain management.

Watt-Watson et al. (2009) found that veterinary medicine reported considerable more focus on pain assessment and management in their curricula. In Norway, the Veterinary faculty reports considerable more hours allotted to analgesics and adverse effects compared to all health-care faculties caring for people. In addition, their pain curriculum is mandatory.

The current survey found no organized interprofessional pain education in any of the participating Norwegian Universities or University Colleges. WHO has developed the following definition: "Interprofessional education occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes" (15) pp. 7. They emphasize interprofessional education as "a necessary step in preparing a collaborative practice-ready health workforce that is better prepared to respond to local health needs" (pp. 7). One achievement is to show "a willingness to update, renew and revise existing curricula" (pp.7). The importance of developing interprofessional pain curricula has been emphasized by IASP as effective pain management require collaboration between health care disciplines (9). An interprofessional initiative from Canadian pain researchers at the University of Toronto (4, 5), resulted in a 20 hours interprofessional curriculum for six health sci-

Table I. Response rate according to discipline

Faculty or department	Site responses, n=25	Invited sites, n=47	Response rate %
Nursing	14	24	54
Physical therapy	4	4	100
Medicine	2	4	50
Occupational therapy	2	4	50
Pharmacy	1	3	33
Psychology	1	4	25
Veterinary	1	1	100
Dentistry	0	3	0

Table II. Hours of pain education according to discipline*

Discipline	N Site responses	Hours of pain education (median)	Min-max
Nursing	14	11	7-38
Physical therapy	4	45	27-454
Medicine**	1	31	
Pharmacy	1	8	
Psychology	1	2	
Veterinary	1	32	

* Occupational therapy did not respond

** Only one medical faculty responded to this part of the questionnaire

Table III. Hours and learning strategies of pain education by content and discipline

	Nursing (n=14)	Physiotherapy (n=4)	Medicine (n=1)	Pharmacy (n=1)	Psychology (n=1)
	Median (min-max)	Median (min-max)	Median (min-max)	Median (min-max)	Median (min-max)
Neurophysiology	2 (1-6)	11 (6-14)	5	1	
Etiology/prevalence	1 (1-2)	4 (2-6)	6	1	
Misbeliefs/barriers, challenges	1 (1-4)	7 (2-20)	2	1	
Assessment/measurement	1 (1-12)	3 (2-4)	2	1	1
Analgesics/adverse effect	2 (1-5)	3 (3-3)	7	1	
Non-pharmacological	3 (1-12)	14 (5-400)	7	1	
Multidimensional nature of pain	1 (1-6)	10 (5-10)	2	1	1
QI policy/guidelines	1 (1-2)	0	1	1	
Total hours	11 (7-38)	45 (27-454)	31	8	2
Learning strategies**					
Separate pain module	5	1	1	1	1
Case study/clinic	7	2	2		
Integrated	9	3			

* The numbers may vary because not all respondents responded to all questions

** The numbers vary because the respondent could come up with several alternatives

ence faculties and departments. The goal was to improve pain knowledge and understanding of interprofessional pain assessment and management. The program builds on the idea that health care professionals need to learn with, from and about each other to ensure effective pain management for all people in pain. This is the first step to ensure a better understanding of each health discipline's contribution to manage more complex pain problems as for example the development of persistent/chronic pain.

Recently Norwegian health politicians put an interpellation to the Minister of Health regarding the policy of pain management in gene-

ral (16). National guidelines to ensure patients with pain better quality of life and better education programs among healthcare providers were two prioritized areas in the discussion. One possibility is to explore how we can implement IASP's recommended pain curricula in Norwegian health care education programs within each profession and enhance interprofessional education and collaboration as recommended by WHO.

There are several limitations in the present study. The low response rate makes it impossible to draw any general conclusions about how health care professionals pain curricula is build up by Norwegian

health faculties. One possible answer is that we did not find the most knowledgeable contact persons filling in the questionnaire from each institution. It is interesting that Norwegian faculties of Dentistry chose not to participate in the present survey. Replication of previous studies (7), and categorizing pain content to the recommended eight categories, may not suit Norwegian curricula and all health educations invited as participants, e.g. occupational therapy. Some respondents stated they had difficulties attributing hours to some of the eight categories, and several described overlap between categories. Further, the study gives no insights into the effectiveness of the curricula described by the respondents. However, this problem is best answered by surveys describing healthcare professionals' competency about pain after they have completed their education and started working in the clinic. Maybe patients' ratings of pain relief are a better evaluator of effectiveness.

Conclusion

This is the first Norwegian pain education survey including six different healthcare professions. It is worrying that pain education is either not a priority or that only half of the respondents could identify which areas they taught about pain. There is a need of more knowledge about how Norwegian pain curricula are developed. We also wonder why it was so difficult to reach participants responsible for Norwegian pain education. Hopefully, this study can be a starting point in order to improve pain education in Norwegian Health Science Education in general, and enhance initiatives towards interprofessional pain education as recommended by IASP. Further, our intention is to raise national awareness about the need of a more interprofessional basic understanding of pain assessment and treatment encouraging a more collaborative practice towards patients with pain problems.

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References

1. IASP. Declaration of Montreal at IASP World Congress. IASP press 2010.
2. Rustøen T, Wahl AK, Hanestad BR, Lerdal A, Paul S, Miaskowski C. Gender differences in chronic pain – findings from a population-based study of Norwegian adults. *Pain Manag Nurs*, 2004; 5:105-17.
3. Breivik H, Collett B, Ventafrédia V, Cohen R, Gallacher D. Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment. *Eur J Pain* 2006; 10:287-333.
4. Watt-Watson J, Hunter J, Pennefather P, Librach L, Raman-Wilms L, Schreiber M, Laxd L, Stinson J, Daoe T, Gordon A, Mock D, Salter M. An integrated undergraduate pain curriculum, based on IASP curricula, for six Health Science Faculties. *Pain* 2004; 110:140-48.
5. Hunter J, Watt-Watson J, McGillion M, Raman-Wilms L, Cockburn L, Lax L, Stinson J, Cameron A, Thuan Dao T, Pennefather P, Schreiber M, Librach L, Kavanagh T, Gordon A, Cullen N, Mock D, Salter M. An inter-faculty pain curriculum: lessons learned from six years experience. *Pain* 2008; 140: 74-86.
6. Briggs EV, Carr E, Whittaker MS. Survey of undergraduate pain curricula for healthcare professionals in the United Kingdom. *Eur J Pain* 2011; 15: 789-95.
7. Watt-Watson J, McGillion M, Hunter J, Choiniere M, Clark AJ, Dewar A, Johnston C, Lynch M, Morley-Forster P, Moulin D, Thie N, von Baeyer CL, Webber K. A survey of prelicensure pain curricula in health science faculties in Canadian universities. *Pain Res Manage* 2009; 14: 439-44.
8. Sessle B. Incoming President's Address: Looking Back, Looking Ahead. Seattle:IASP press; 2003
9. IASP. IASP Interprofessional Pain Curriculum Outline. 2012; <http://www.iasp-pain.org/Content/NavigationMenu/GeneralResourceLinks/Curricula/Interprofessional>. 3/19/2013.
10. Graffam S. Pain content in the curriculum—a survey. *Nurs Edu* 1990; 15:20-23.
11. Seers KJ, Watt-Watson J, Bucknall T. Challenges of pain management for the 21st century. *J Adv Nurs* 2006; 55:4-6.
12. Koller M, Aaronson NK, Blazeby J, Bottomley A, Dewolf L, Fayers P, Johnson C, Ramage J, Scott N, West K on behalf of the EORTC Quality of Life Group. Translation procedures for standardised quality of life questionnaires: The European Organisation for Research and Treatment of Cancer (EORTC) approach. *Eur J Cancer* 2007; 43(12):1810-20.
13. Nasjonalt folkehelseinstitutt. Kroniske smerter – faktaark med helsestatistikk. 4-4-2011.
14. Kehlet H, Jensen TS, Woolf CJ. Persistent postsurgical pain: risk factors and prevention. *Lancet* 2006 May 13;367(9522):1618-25.
15. WHO. Framework for Action on Interprofessional Education & Collaborative Practice. 2010; http://www.who.int/hrh/nursing_midwifery/en/. 3/19/2013
16. *Interpellation about Chronic Pain*, 2012; <http://Stortinget.no> 3/19/2013