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PRACTISING PHYSICIANS' EXPERIENCES OF TREATING PATIENTS WITH CANCER PAIN

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Abstract

To elucidate the reasons for the undertreatment of cancer pain in Finland, a questionnaire survey was made of the experiences of 421 physicians. Their view on the role of the medical authorities, the problems experienced in pain treatment, their opinion about drug abuse and side effects of analgesics and the influence of basic and postgraduate education were requested. Seventy-six percent of the respondents reported difficulties in cancer pain treatment. The main problems seemed to be inefficacy of the therapy, mentioned by half of the respondents, side effects of analgesics (18%), and difficulties in the follow-up (9%) and the psychological support (7%) of the patients. Twenty percent of the physicians reported drug dependence among their cancer patients, but a detailed analysis of the problem revealed that in most cases the physicians used the term for tolerance or withdrawal symptoms. The physicians' own clinical experience, postgraduate education and the example of colleagues were the principal sources of information in cancer pain treatment. It is reasonable to assume that treatment of terminal cancer pain can be more successful within medical practice, provided teaching and training within the field is reinforced.

Key words: Cancer pain, analgesics, medical practice, terminal care.

When curative treatment has failed, pain relief is the main task of physicians treating cancer patients (1). Nevertheless, pain is frequently undertreated (2–6). In a Finnish retrospective study (7), the average daily dose of morphine received by the patients in a cancer clinic was 13 mg, intramuscularly. In a recent Finnish questionnaire survey (8), the average daily doses suggested by Finnish physicians for cancer pain treatment in 2 clinical vignettes corresponded to morphine doses representing 30 and 60% of the effective daily dose.

Various explanations for the undertreatment of pain have been presented. Marks & Sachar (5), and Charap (3) noted a lack of knowledge among physicians about the therapeutic dose range and the duration of action of the narcotic analgesics, and an exaggerated concern with their addiction potential. Hackett (9) listed several prejudices exhibited toward patients in pain. He stated that individual differences in body weight or drug tolerance among patients were rarely considered when narcotics were prescribed, and that the prescribed doses were frequently inadequate for pain relief for fear that the patient might become addicted.

It is important to know the factors which determine the use of different pain treatment modalities among physicians. No studies are available addressing this question directly, whereas factors influencing drug prescribing in general have been investigated (10, 11). In addition to medical and pharmacological knowledge, the decision making of a physician is influenced by several factors, such as the number of drugs available, the control measures exerted by health authorities and the reimbursement systems, personal characteristics of the physician, and the example of colleagues (11). This study deals with the physicians' view on the role of medical authorities and the problems experienced in pain treatment, drug abuse and side effects of analgesics, as well as the influence of basic and postgraduate education.

Material and Methods

In 1985, a questionnaire consisting of 13 questions was sent to a random sample (n=783) of Finnish physicians, after specialists not expected to treat cancer patients (e.g. researchers, dermatologists, psychiatrists) had been excluded. The names and addresses of the pysicians were obtained from the register of the National Board of

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Health. The questionnaire was sent twice more if there was no response. Of the 783 physicians, 648 (83%) returned the questionnaires. The responders who never treated cancer pain (227 physicians) were excluded. Thus, 421 questionnaires were analyzed. A part of the study concerning the current practice of cancer pain treatment (drugs versus other treatment, and medicaments and doses used), has been published in Acta Anaesthesiologica Scandinavica (8).

Eight questions were multiple choice, and 5 were open questions (Table 1). The categorization of the answers to the open questions was done after the analysis of the subsample of the 60 questionnaires which arrived first. If several possibilities were mentioned by one respondent, only the first one was taken into account. The clinical obstacles interfering with good pain treatment were assessed by inquiring about the difficulties the respondents meet when treating pain of terminal cancer patients. The physicians' own experiences about the side effects of analgesics and addiction problems among cancer patients were asked by open questions.

The role of professional education was analyzed by asking the respondents' main source of information of cancer pain treatment. The respondents were asked to choose 4 factors from 7 which influenced their choice of the treatment modalities. The first was given 8 points, the second 6, etc. and the points were added up. The physicians were also asked whether they consider their own education in cancer pain treatment adequate or insufficient. The physicians' opinions about their education were compared to the adequacy of their suggestions of pain treatment in 3 simulated patient cases, presented elsewhere (8).

The role of restrictions and instructions issued by the health authorities was measured by the number of physicians having prescription sheets for narcotics, by their problems, if any, in getting the prescriptions approved by the pharmacists who distribute the drugs, and by their estimation of the influence of the National Board of Health's instructions for terminal care (12).

Analysis of categorical data was performed using χ^2-statistics with 2 or more degrees of freedom. Statistical significance was set at the 0.05 probability level.

Table 1

1. Do you treat terminal cancer patients?
   1. Daily
   2. A few times a week
   3. A few times a month
   4. Occasionally
   5. Never
2. Have you got prescription formulas for narcotics?
   1. No
   2. Yes, personal
   3. Yes, available in my hospital/health care centre
3. Have you experienced difficulties when treating the pain of your cancer patients?
   1. Never
   2. Seldom
   3. Frequently
   4. Almost always
4. If yes, what kind of difficulties?
5. Have you had problems e.g. with the pharmacy when prescribing opiates for outpatients?
   1. No
   2. Yes, what kind of problems?
6. Do side effects of analgetic drugs give you problems when treating cancer pain?
7. What have you done on seeing these side effects in your patient?
8. Has opiate dependence caused you problems in the treatment of cancer pain?
   1. Often
   2. Seldom
   3. Never
9. What kind of problems have you seen?
10. Which of the following factors have done most to influence your cancer pain treatment guidelines? Give the 4 most important factors (1–4)
    () Basic medical education
    () Specialist training
    () Postgraduate education (scientific journals, congresses, etc.)
    () Information by pharmaceutical industry
    () Your own clinical experience
    () The example of colleagues
    () Other, please specify
11. Have the instructions about terminal care by the National Board of Health changed your guidelines in cancer pain treatment?
    1. Considerably
    2. To some extent
    3. Not at all
    4. I do not know
    5. I never heard the instructions
12. Do you think that your education in cancer pain treatment has been
    1. Insufficient
    2. Sufficient
    3. Exaggerated
13. You are a
    1. Specialist
    2. Resident
    3. General practitioner

Results

Clinical difficulties experienced in terminal cancer pain treatment. Of all the respondents, 76% reported difficulties in cancer pain treatment. Table 2 shows that, regardless of the affiliation of the physicians, the greatest problem was the ineffectiveness of the treatment. The side effects of analgesic drugs were listed as a number one problem by 18% of the respondents.

Physicians working in primary health care centres had difficulties in finding personnel to give analgesic injections to cancer patients in home care, to give enough psychological support to the patients, and to get sufficient feedback about their treatment. The reluctance of the personnel to give enough analgesics was experienced as a problem by the physicians working in hospitals.

The side effects of drugs. To the previous question 'Do

Table 2

Clinical difficulties in cancer pain treatment by the type of health care facility

Clinical difficulties	Hospital n=103 (%)	Home care n=95 (%)	Total* n=218 (%)
Treatment is ineffective	52	43	50
Side effects	17	22	18
Follow-up of patients is difficult	6	11	9
Psychological support is difficult	4	10	7
Injections at home cannot be arranged	3	10	5
Reluctance of personnel or pharmacists to provide analgesics	10	3	7
Other	8	1	4
Total	100	100	100

* Includes also 20 physicians working in other institutions.

Table 3

The percentage of physicians reporting opiate dependence as a problem when treating cancer pain (n=421)

Physician sees dependence problems	Percentage of physicians
Often (1–2 per year)	1
Seldom	19
Never	50
Not prescribing opiates	23
No answer	7
Total	100

Table 4

The physicians' ranking list of factors that have had greatest influence on their treatment of cancer pain

Source of information	Importance
The physician's own experience	1 733 points
Post-graduate education (scientific journals, congresses, etc.)	1 493
The example of colleagues	1 247
Basic medical education	978
Specialist training	563
Information by drug industry	422
Other	127

you experience difficulties in the treatment of terminal cancer pain? If so, what kind of difficulties?', only 18% of the respondents mentioned the side effects of the drugs as a first of the problems. When asked specifically: 'Do side effects of analgesics cause problems in the treatment of severe cancer pain?', 68% of all respondents answered yes. Of those who treat cancer pain patients daily, 97% were concerned about the side effects, whereas the percentage was 53 among physicians who treat them only occasionally. The difference was statistically significant.

After seeing side effects of their analgesic treatment, the majority of the physicians (52%) said they would change the medication. Thirteen percent tried to treat the side effect specifically with antiemetics, laxatives, etc., whereas 21% were inclined to reduce the dosage of the medication.

To the question 'Do you find drug dependence a problem in your practice?' the overall frequency of positive answers was 20% of the respondents (Table 3). A detailed analysis of the decriptions of dependence problems revealed the following arguments: 27 physicians (6%) explained that the doses tend to rise with time. Thirteen physicians (3%) reported that patients ask for medication only for pleasure, not for pain. Some patients were claimed to take more medication at home than prescribed (2%). When the frequency of cancer pain patients seen by the physicians was compared to the frequency of the dependence they reported, an inverse relation was found: those who treated cancer patients daily reported less dependence problems than those who treated only occasionally.

The role of professional education. The physicians were asked to choose and list in ranking order 4 factors from among 7 alternatives that had done most to influence their clinical practice in the treatment of cancer pain (Table 4). According to this ranking list, the most important factor determining the physician's choice of therapy was his own clinical experience. Postgraduate education including medical journals, national and international courses, etc. was rated second. When the physicians were asked for their opinions about the adequacy of their medical education on the subject, 68% of them found their education insufficient. One-third of them found their knowledge adequate, and one physician thought he knew too much! The physicians' opinions about their state of knowledge were compared to their actual knowledge of analgesic therapy, ascertained in 3 simulated patient cases (8). The physicians who felt their education in cancer pain treatment to be insufficient, succeded slightly better in suggesting proper treatment in the simulated patient cases, compared to those who rated their knowledge adequate (Table 5).

The role of the regulations and instructions issued by health authorities. In Finland, prescribing narcotics to outpatients is only possible using special personal prescription formulas, available on request from the Bank of Finland, or prescription formulas ordered by hospitals or other health care facilities. The physicians who saw cancer pain patients more frequently were more active in ordering prescription sheets for themselves. Although all respondents saw cancer pain patients at least occasionally, 39% of them had no sheets at all. Table 6 shows the

number of physicians who had prescription sheets, in relation to the frequency of seeing cancer patients.

Fourteen physicians (3%) reported problems in prescribing narcotics for outpatients. Four of these physicians found the rules for prescribing narcotics too difficult. The pharmacy had, for example, refused to accept their prescriptions since they contained some formal errors. Three doctors reported about pharmacists who were unwilling to supply prescribed narcotics to patients.

According to the instructions for terminal care, issued by the National Board of Health (12), special attention should be paid to the relief of pain and other symptoms. When asked whether the instructions had changed their guidelines in pain treatment, 26% of the physicians answered yes. For 31%, the instructions had had no effect, 9% had never heard of them, and 15% were not sure about their effect. 19% did not answer this question.

Table 5

Percentage of adequate and inadequate suggestions for treatment of 3 simulated patient cases by the physicians' opinion of their own education

Suggestion for pain treatment in	Physician considers his education in cancer pain treatment as				
	Insufficient n=225		Sufficient n=86		
	Adequate %	Inadequate %	Adequate %	Inadequate %	
Case 1	47	53	47	53	NS
Case 2	34	66	37	63	NS
Case 3	78	22	67	33	NS

* The simulated patient cases 1–3 and the criteria of adequate answers are presented elsewhere (8).

Discussion

According to this study, the greatest problem in current cancer pain relief in Finland seems to be inefficiency of treatment while side effects of analgesics were mentioned only by a few respondents. This is not surprising as the mean doses of opiates used for cancer pain are very low (8). When specific questions about the side effects were presented elsewhere in the questionnaire, the proportion of physicians reporting side effects was 68%. Thus, there are side effects, but their significance seems to be secondary compared to the intractable pain that patients continue to suffer during the treatment.

Physicians who treat terminal cancer pain only occasionally are much less worried about the side effects than those who treat it frequently. This must be due to the fact that they infrequently see patients in pain and get no feedback from the treatment, or else they use doses which are too low to cause side effects. On the other hand, in the studies by Cleeland et al. (13) and Vainio (8) there were no statistically significant differences in the adequacy of pain treatment between the physicians who treat cancer pain often vs. seldom.

A majority of the physicians were inclined to change the medication upon seeing side effects. This is a good practice where anti-inflammatory analgesics (NSAID) are concerned, because the side effects vary from one preparation to another. There is also a wide selection of these drugs available. Such is not the case with the narcotic analgesics. For example, in Finland there are only 2 strong narcotic analgesics available for peroral use, morphine and methadone. Thus, in order to continue the pain treatment, the physician should know how to cope with the potential side effects.

Drug dependence in cancer pain treatment is still a controversial issue. Specialists with good clinical experience (14) as well as personal working in the hospice movement insist that opiates do not cause any psychological dependence in cancer patients even during long-term treatment. Yet most of the physicians share the widespread fear of narcotic addiction in society (3, 5, 15, 16).

According to the WHO definition (17), drug dependence is a state, psychical and sometimes also physical, resulting from the interaction between a living organism and a drug, characterized by behavioral and other responses that always include a compulsion to take the drug on a continuous or periodic basis in order to experience its psychical effects, and sometimes to avoid the discomfort of its absence. Tolerance may or may not be present.

Tolerance to opioids results from the adjustment of the CNS cells to the drugs' pharmacologic effects (18). With prolonged therapeutic use of narcotic analgesics, tolerance develops in some, but not in all, patients causing the doses needed for analgesia to increase. According to the WHO definition, patients who use systemic opiates for continuous cancer pain may be regarded as physically dependent, because abrupt withdrawal of the drug would cause 'discomfort' in the form of pain and eventual withdrawal symptoms. However, cancer patients treated for pain do not use the opiates compulsively. If the pain disappears or can be treated by other methods (e.g. neurolytic blocks), the opiate therapy can be discontinued without any drug seeking behavior (14).

In the present study, 20% of the respondents reported dependence problems. When asked in detail, the physicians seemed to be confused about the semantics. The analysis of descriptions indicates that in the majority of the 'dependence' cases, the physicians actually mean drug tolerance or withdrawal symptoms, which are physiological responses to the regular use of opioids. Some of the patients described as 'addicted' may simply be in pain, asking for more medication or taking larger doses at home than prescribed.

The author's evaluation of this material as well as of clinical practice is that, among terminal cancer patients,

Table 6

*The number of physicians possessing prescription sheets for narcotics, in relation to the frequency of cancer pain patients seen**

	Sees cancer pain patients				
	Daily n=39 %	A few times a week n=45 %	A few times a month n=69 %	Occa-sion-ally n=268 %	Total n=421 %
No prescription sheets	20	20	29	48	39
Personal sheets	39	33	29	24	27
Sheets available in hospital or health care centre	41	47	42	28	34
Total	100	100	100	100	100

* The difference between the groups is statistically significant ($p<0.05$).

there may be persons who use opiates for psychological pain, occasionally taking the 'high' as a means of bearing the anxiety and fear of dying. These patients, who use narcotic analgesics to solve their psychological problems pharmacologically, are a small minority among cancer patients taking narcotic analgesics. Whether this behavior should be called abuse, and whether its risks to society justify a ban on adequate medication for all cancer patients, is a matter for further discussion. The proper forums of discussion would be the national medical boards, where a distinction must be made between the medical use of narcotic analgesics, and the problems of illegal drug abuse.

Cancer patients taking narcotic analgetics for chronic pain need the medication for the rest of their lives because of their pain. In a few cases, compulsive drug use may also be present. In all cases of terminal disease, the question of dependence is irrelevant because of the limited life-time of the patients.

In a questionnaire survey among medical and general surgical house staff in New York, Morgan & Pleet (15) found that the most often selected choice for source of knowledge about opioids and pain management was 'bedside experience'. The present study confirms their findings in this respect, whereas the physicians' opinion about their knowledge was different in these 2 materials. In the study by Morgan (16), 80% of the respondents felt that their personal knowledge about opioid use was adequate, whereas in the present study, only 30% of the respondents indicated that their education in pain treatment was sufficient. Charap (3) states that 'most members of the house staff felt their knowledge about pain management was inadequate and relied primarily on fellows or senior house staff for most decisions involving pain medication'.

Most authorities in pain research emphasize the importance of educating physicians on the fundamental aspects of analgesic pharmacology. Morgan (16) does not believe in the success of teaching. In his article he cites Temin (19): 'Prescribing behavior is chiefly customary behavior. Customary or traditional behavior incorporates rules stated or implied by a cohesive community. Physicians evaluate prescribing by comparing their actions to those of their peer group. Such comparison and incorporation of norms is intense, mandatory and rapid during house staff training.' Morgan gives an example of his own course in pharmacology, where the examination reflects more than adequate student knowledge. 'The same students seen one or two years later on the wards no longer retain their knowledge of opioid use and are behaving consistently with their fellow clinical clerks and the house staff, administering wrong dosage and offering unsupported estimates about addiction liability. This is because undertreatment is, indeed, proper behavior and they are not chastised but are rewarded for behaving like their fellows.'

Taking into account the remarks by Hemminki (11), Christensen et al. (10) and Morgan (16) as well as the results of this study, the following conclusions can be drawn: It should be possible to improve the quality of the pain treatment of terminal cancer patients by intensifying education on this subject in medical schools, nursing schools and among physicians. Equally important is to initiate a simultaneous change in attitudes towards pain and towards the use of opioid analgesics both in hospitals and in the society. In terminal care, prescribing opiates for cancer pain in a 24-h schedule and in pharmacologically adequate doses, should be regarded as desirable behavior. A leading clinic of oncology, a pain clinic, or physicians known to be authorities among their colleagues, should make great efforts and gain good experience in pain treatment, and by good results and bedside teaching spread this behavior among physicians. Good news about successful pain treatments spread rapidly outside the hospital as well, because the relatives of patients are very concerned about what is happening to their family members in hospital. As a consequence, the concept about cancer being an extremely painful disease can perhaps be

altered. Changing attitudes takes years, but good results can be seen e.g. in the hospice movement, which has improved the quality of cancer pain treatment both in the hospices and in the surrounding hospitals (20).

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REFERENCES

1. Bonica JJ. Cancer pain: a major national health problem. Cancer Nursing 1978; 1: 313–6.
2. Bonica JJ. Past and current status of pain research and therapy. Semin Anesthesia 1986; 5: 82–99.
3. Charap AD. The knowledge, attitudes and experience of medical personnel treating pain in the terminally ill. Mount Sinai J Med 1978; 45: 561–80.
4. Hardy TK. Physical distress suffered by terminal cancer patients in hospital. Anaesthesia 1977; 32: 649–53.
5. Marks RM, Sachar J. Undertreatment of medical inpatients with narcotic analgesics. Ann Int Med 1973; 78: 173–81.
6. Schreml W, Merle W, Heimpel H. Medikamentöse Schmerztherapie bei Krebspatienten. Med Klin 1981; 76: 43–7.
7. Haataja M, Nordman E. Syöpäpotilaiden kipulääkitys (Analgesic treatment of cancer patients). Suomen Lääkärilehti (Finn Med J) 1980; 35: 614–6.
8. Vainio A. Treatment of terminal cancer pain in Finland: a questionnaire survey. Acta Anaesth Scand 1988; 32: 260–5.
9. Hackett TP. Pain and prejudice. Medical Times 1977; 99: 130–41.
10. Christensen DB, Bush PJ. Drug prescribing: patterns, problems and proposals. Soc Sci Med 1981; 15: 373.
11. Hemminki E. Factors influencing drug prescribing—inquiry into research strategy. Drug Intell Clin Pharm 1976; 10: 321–9.
12. The National Board of Health (Finland). Instructions for terminal care, Letter No. 3024/02/80. Helsinki, 1982.
13. Cleeland CS, Cleeland LM, Dar R, Rinehardt LC. Factors influencing physician management of cancer pain. Cancer 1986; 58: 796–800.
14. Kanner RM, Foley KM. Patterns of narcotic drug use in a cancer pain clinic: recent developments in chemotherapy of narcotic addiction. Ann NY Acad Sci 1981; 362: 161–72.
15. Morgan JP, Pleet DL. Opiophobia in the United States: the undertreatment of severe pain. In: Morgan JP, Kagan DV, eds. Society and medication: conflicting signals for prescribers and patients. Massachusetts: Lexington Press, 1983: 313–26.
16. Morgan JP. American opiophobia: customary underutilization of opioid analgesics. Controversies in alcoholism and substance abuse (1985 Fall, 1986 Winter) 5: 163–73.
17. World Health Organization Technical Report Series 1969. (Section 1.1 No. 407: 6).
18. Jaffe JH. Drug addiction and drug abuse. In: Goodman LS, Gilman A, eds. The pharmacological basis of therapeutics. New York: Macmillan, 1975: 287.
19. Temin P. Physician prescribing behavior: is there learning by doing? In: Helms RJ, ed. Drugs and health. Washington D.C.: American Enterprise Institute, 1981: 173–82.
20. Parkes CM. Terminal care; Home, hospital or hospice? Lancet 1985; 1: 155–7.