

SPECIAL ARTICLE

## An international survey of practice patterns and difficulties in cancer pain management in Southeastern Europe: A Turkish & Balkan Oncology Group common initiative

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### Summary

**Purpose:** While pain is highly prevalent in cancer patients and its management is universally challenging, it is more commonly undertreated in the developing world. Southeastern European countries have limited resources and manpower to allocate for delivery of effective care for cancer-related pain. The purpose of this study was to explore the practice methods and the barriers to effective pain management in Southeastern Europe.

**Methods:** We conducted a Web-based survey using a specially designed questionnaire among physicians practicing in member countries of the Balkan Union of Oncology (BUON).

**Results:** A representative from each of the member countries of BUON (including Armenia and Georgia) and close to 100 physicians from 8 countries responded. The majority

(89%) of respondents were medical oncologists and had been practising for 10 years on average. For pain assessment, only 35.4% of the physicians used a formal pain scale. Of the respondents 34.1% were not able to reach the optimal doses of narcotic medications while managing cancer pain, mostly due to concerns about toxicity, such as constipation and nausea. Most physicians listed their inability to consult sub-specialists to seek assistance for improving pain management cases as one of the major difficulties in day-to-day clinical practice, along with lack of time.

**Conclusions:** The limitations faced by our respondents seem to be related mostly to the shortcomings of the respective health care systems, along with the need for more experience and knowledge about the titration of pain medications and dealing with toxicities.

**Key words:** analgesia, cancer, Europe, pain

### Introduction

Cancer-related pain is one of the most feared aspects of cancer diagnosis, both for the patient and his relatives and for the health care provider. Most patients with advanced and metastatic cancer will suffer from pain and several will have inadequate pain control despite international guidelines. A systematic review revealed that the

prevalence of cancer pain was 33% after curative treatment, 59% while patients were on anticancer treatment and 64% in patients with metastatic, advanced or terminal phase disease [1]. International guidelines recommend frequent objective assessment of pain, a step-wise approach to using analgesics and regular reassessment of pain control [2-6]. Despite the availability of guidelines and a wider range of therapeutic agents, under-

treatment of cancer pain is highly prevalent; a review of the literature suggested that nearly half of the patients with cancer pain were undertreated across the world [7].

Providing and maintaining adequate pain control proves to be even more difficult outside the developed world. There are various causes of disparities in cancer pain treatment across the world, including limited availability of effective analgesics and various difficulties that physicians have to overcome while delivering symptomatic treatment to cancer patients.

We explored the difficulties and the barriers that physicians in the Southern Europe face while trying to manage cancer pain in their daily clinical practice.

## Methods

### *Survey and study sample*

We conducted a Web-based survey exploring various difficulties physicians face in cancer pain management, inquiring about both personal strengths and health system-related barriers. We reached a representative colleague from each of the member countries of BUON (including Armenia and Georgia). All members of Turkish Oncology Group were invited to participate via e-mail. Invitations were sent to the members of BUON via the national representative of each country. The survey study was initiated and the data collection was completed in 30 days.

### *Procedures and the Questionnaire (see Appendix)*

The pain questionnaire was constructed at the Marmara University Medical School in Istanbul, Turkey, with input from all the academic Faculty members at the Division of Medical Oncology. Direct contact was made with the countries' representatives of BUON via e-mail. The SurveyMonkey™ was used to collect responses online.

## Results

### *Sample characteristics and response rates*

In total 82 physicians responded and filled in the questionnaire. The vast majority of the respondents were medical oncologists (89.0%) and the remaining were radiation oncologists (N=2), general surgeons (N=3), a palliative medicine specialist, a hematologist and an anesthesiologist. Almost half of the respondents were from Turkey (51.3%), with respondents from Greece as the second largest group (15.8%). The remaining participating countries were Serbia, Georgia, Bos-

**Table 1.** Countries' participation (responses, N=76)

Countries	N	%
Albania	0	0.0
Armenia	2	2.6
Bosnia	4	5.3
Bulgaria	0	0.0
FYROMacedonia	0	0.0
Georgia	6	7.9
Greece	12	15.8
Romania	2	2.6
Serbia	8	10.5
Turkey	42	55.3
Other	3	3.9

nia, Armenia and Romania (Table 1). In terms of years of experience in their field, approximately a third of the participating physicians (29.3%) had more than 15 years of experience, while almost a quarter (24.4%) had been in practice for 1-3 years.

### *Pain management – Practice patterns and perceived difficulties*

In respect to recognizing and assessing pain, only 35.4% of physicians reported using a formal pain scale. Various pain scales were reported in response to which particular scale they used. The most commonly used scales were Visual Analogue Scale and the Numerical Rating Scale (rating from zero to ten).

We explored the availability of various pain medications available to the responding physicians. While tramadol and parenteral morphine were available to most respondents, few had access to narcotic analgesics commonly used in the USA, such as hydrocodone and oxycodone (Table 2).

The survey also inquired whether physicians were able to reach the optimal recommended doses when using narcotic pain medications. Although more than half the participants reported being able to do so, 34.1% reported otherwise. Upon being asked what type of dose limiting toxicities they were concerned with, most physicians reported being more concerned with constipation, nausea, vomiting and mental status changes. On a scale of 10 (0-not at all, 10-most concerned), the average rates for constipation, nausea/vomiting and mental status changes were 7.06, 6.55, and 5.63, respectively.

Most physicians reported using a step-wise approach when managing cancer pain (N=75, 91.5% vs N=7, 8.5%). In terms of adjuvant med-

**Table 2.** Pain medications available in practice

Medications	N	%
Parenteral morphine	67	81.7
Oral morphine	53	64.6
Fentanyl patch	68	82.9
Fentanyl oral applicator	44	53.7
Hydrocodone	17	20.7
Codeine	43	52.4
Tramadol	69	84.1
Oxycodone	11	13.4
A particular combination (cocktail-mix) of various pain medications	23	28.0
Others-Unspecified	1	1.2
Others-Specified	2	2.4
Answered question	82	100
Skipped question	0	0
Other categories (specified by respondent)		
methadone drops, SR hydromorphone	1	1.2
hydromorphone HCl	1	1.2

**Table 3.** Problems in daily practice as reported by physicians

Responses	N	%
Lack of time	49	59.8
Difficulty reaching to specialized prescription pads for prescribing narcotics	20	24.4
Lack of subspecialists	36	43.9
Others	7	8.5
Other (please specify)	3	3.6
Answered question	82	10
Skipped question	0	0
Other categories (specified by respondent)		
Poor legislation that creates barrier for good accessibility and affordability of available drugs		
Inexperience, disinterest, fear, opiophobia		
Lack of organized palliative care team at the primary health service		

ications for the management of pain, nonsteroidal anti-inflammatory drugs (NSAIDs) were most commonly utilized (N=66, 80.5%), followed by tricyclic antidepressants (N=46, 56.1%) and gabapentin (N=43, 52.4%).

Concerning the patterns of follow-up of the effectiveness of the pain management change, physicians reported varying re-evaluation schedules. The majority indicated follow-up either 1 week after treatment change (N=30, 36.6%), or during the next scheduled visit (N=29, 35.4%). Nineteen

respondents (23.3%) reported following up 2 days later.

We explored whether our respondents were able to consult other specialties while taking care of cancer pain the way many US oncologists are. The most commonly available specialties were interventional anesthesiologists (N=54, 65.9%) and pain specialists (N=43, 52.4%). Two physicians specified medical oncologists as the specialists to whom patients were referred to for pain management. Only one respondent listed palliative care as an available specialty.

Finally, we inquired what particular problems the participating physicians were having in day-to-day practice while managing cancer pain. The main problems were seemingly "lack of time" and "lack of subspecialties", among others (Table 3).

## Discussion

Cancer pain impacts greatly the quality of life of the sufferer and constitutes a major burden on the health care providers. On the physician's part, adequate pain control in cancer patients requires not only good knowledge of pharmacology of analgesics and training in pain management, but also awareness of personal strengths and weaknesses. In a 1990 survey, of 1,800 oncologists participating in the Eastern Cooperative Oncology Group (ECOG) only 51% believed that pain control in their own practice was good or very good, and a large majority expressed dissatisfaction with their training in pain management. Poor pain assessment was rated by 76% of physicians as the single most important barrier to adequate pain management [8]. In the same decade, Cleeland et al. reported that 40 % of patients at ECOG institutions were not treated with analgesics that were strong enough to match the severity of their pain [9]. A discrepancy between patient and physician in judging the severity of the patient's pain was predictive of inadequate pain management (odds ratio, 2.3). In a later ECOG study, an evaluation of patients' baseline pain levels revealed that 72% of the patients had experienced uncontrolled pain for more than six months [10]. In an Italian multicenter prospective study, which was launched in 2006, 1,801 were cases included and 25.3% were classified as potentially undertreated [11]. Even in the USA, many patients go without proper analgesics despite national and international guidelines and the availability of analgesics that can help most patients [12].

Misconceptions about pain medications, a lack of communication between patients and health care providers, and the absence of formal assessment

procedures have long been suggested as some of the most important factors contributing to inadequate pain control across the world, including developed countries [13].

While health care systems in the developed world may provide several resources to physicians while managing cancer pain, this difficult task rests solely on the shoulders of the main physician who often has to work alone with limited resources in other parts of the world. We tried to capture a snapshot of the practices and barriers in cancer pain management in Southeastern Europe, where cancer care burden has been increasing. Physicians in oncology-related fields working in this geographic area have seemingly been dealing with similar problems providing oncologic and palliative care. We were able to reach a significant number of physicians in this area, all of whom are from member countries of BUON. We also achieved a sample with a varying but considerable amount of clinical experience with experience in clinical practice averaging in 10 years. Most of our respondents were medical oncologists. Overall, the entire group of participants may be considered an appropriate representation of many physicians dealing with cancer pain in the geographic area we based our survey.

Our survey inquired about patterns of the assessment and the treatment of pain. Most of our respondents were not using a pain scale regularly to assess pain. All international guidelines on pain management recommend the use of an appropriate pain scale for initial assessment as well as for follow-up. Moreover, there was significant delay in planned follow-up of symptoms after pain medications were changed. Pain level re-assessments were not made as promptly as recommended by commonly used international guidelines [4]. This delay may also play a significant role in poor pain control. Frequent and regular assessment of pain control, on the other hand, often requires much more time and manpower than those allocated to the physicians who have to provide cancer care in countries where there is a significant shortage of oncologists, such as the participants of this study.

In order to inquire further about the pharmacologic aspect of pain management, we asked the participants about reaching the optimal recommended dose in narcotics. Strikingly, about a third of the respondents reported that they were not able to reach the optimal dose. Among the various reasons stated, difficulty in dealing with opioid side effects seems to be a general response. This may be due, at least in part, to physicians' inability to use adequate supportive measures for the most common side ef-

fects, such as constipation and nausea. While we did not investigate the strategies and the agents available in the management of side effects in these countries, the comfort level of physicians dealing with narcotic toxicity may be among the factors limiting pain control.

In our attempt to explore the availability of pain medications, we listed several commonly used centrally-acting analgesics, including the opioids most commonly used in the US and Western Europe, where there is a wider selection of short-acting narcotics for breakthrough pain, such as oral fentanyl applicator, hydrocodone and oxycodone, that seem to improve pain control [14]. Even though many physicians reported being able to prescribe a few of the major opioid analgesics, both oral and parenteral, most did not have the chance to choose from as wide a range of effective opioid compounds as their colleagues in the USA and Western Europe. We propose that the limited choice of analgesic medications is among the important barriers to adequate and sustained pain control in cancer patients in Southeastern Europe.

When faced with challenging pain management issues, physicians in Southeastern Europe do not seem to have adequate support from other specialties. Only one respondent reported being able to work with palliative care specialists. Interventional anesthesiologists and pain specialists constitute the majority of physicians providing support in the treatment of cancer pain. Having limited access to subspecialists with expertise in cancer pain management also poses a significant problem for physicians in Southeastern Europe who already have limited time to adequately manage the anticancer treatment to begin with.

The limitations faced by our respondents discussed above seem to be related mostly to the shortcomings of the health care systems our respondents are working in, as well as the need for more knowledge about the titration of pain medications and dealing with toxicities. While some of these limitations are also observed in the developed world, the physicians in our study face them more frequently in day-to-day clinical practice without any support mechanisms. Cancer pain is a major burden for the patient, his family, and for the society. We propose that increased efforts in the improvement of physician education and health care systems allowing better supporting mechanisms may significantly reduce this burden for the physician, the society and more importantly, the cancer patients suffering from undue pain.

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## Appendix

The following questions are part of a survey to find out your approach towards patients suffering from cancer-related pain.

1. What is your subspecialty?
  - a) Medical oncology
  - b) Radiation oncology
  - c) General surgery
  - d) Pulmonology
  - e) Other
2. How many years have you been in practice?
  - a) 1-3 years
  - b) 4-6 years
  - c) 7-10 years
  - d) 10-15 years
  - e) More than 15 years
3. Which of the following medications are available in your practice?
  - a) Parenteral morphine
  - b) Oral morphine
  - c) Phentanyl patch
  - d) Fentanyl oral applicator
  - e) Hydrocodone
  - f) Codeine
  - g) Tramadol
  - h) Oxycodone
  - i) A particular combination (cocktail-mix) of various pain medications
  - j) Others
4. Are you able to reach the optimal recommended doses in narcotics:    Yes    No
 

If no, what are the main dose limiting toxicities that you are concerned with?

  - a) Constipation  
1.....10
  - b) Respiratory depression  
1.....10
  - c) Nausea-vomiting  
1.....10
  - d) Pruritus  
1.....10
  - e) Mental status changes  
1.....10
  - f) Addiction  
1.....10
  - g) Others
5. Do you follow a step-wise approach to cancer pain management?    Yes    No
6. Which of the following adjuvants do you use regularly?
  - a) NSAIDs
  - b) Tricyclic antidepressants
  - c) Pregabalin
  - d) Gabapentin
  - e) Antiepileptics (i.e. valproic acid, carbamazepin)
  - f) Central nervous system stimulants (i.e. haloperidol)
7. Which of the following specialists are available for management of cancer pain?
  - a) Interventional anesthesiologists
  - b) Registered nurses specifically trained in cancer pain
  - c) Neurosurgeons specialized in interventional pain-related activities
  - d) Pain specialists
  - e) Others
8. In day-to-day practice, what particular problems do you have with the management of cancer patients?
  - a) Lack of time
  - b) Difficulty reaching to specialized prescription pads for prescribing narcotics
  - c) Lack of subspecialists
  - d) Others
9. Do you use a formal pain scale regularly to assess pain?    Yes    No
 

If yes please indicate, which particular scale do you use?
10. How soon do you follow a patient after a pain management change?
  - a) 2 days
  - b) 1 week
  - c) 2 weeks
  - d) During the next scheduled regular appointment
11. In which one of the following countries are you practicing medicine?
  - a) Albania
  - b) Armenia
  - c) Bosnia
  - d) Bulgaria
  - e) FYROMacedonia
  - f) Georgia
  - g) Greece
  - h) Romania
  - i) Serbia
  - j) Turkey
  - k) Other