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## NATIONAL SURVEY ON PREVALENCE OF CANCER PAIN

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*Objective.* To collect nationwide basic data about cancer related pain.

*Methods.* Sixty cancer patients in each province were randomly selected to participate in this survey. The subjects represented all stages of cancer, tumor sites, and different demographic characteristics. Two self-designed structured questionnaires including reasons, types of pain and pain management were used by patients and physicians respectively. Subjects were asked to report whether he/she had experienced any type of cancer related pain and filled out the equivalent questionnaire. The severity of pain was assessed by using "visual analogue scale". Original data input and analysis were using EPI-INFO software package.

*Results.* The result showed that 61.6% (958/1555) of patients had different types of cancer related pain. Majority of pain (85.1%) were caused by advanced cancer. The major reasons (64.4%) for poor management or impedimental factors of pain care are due to patient including over-concern on opioid analgesic addiction, reluctance to report pain or refused to use opioid analgesic until at times when pain is intolerable; 26.8% belonged to physician's reasons including fear to cause addiction on opioid and lack of knowledge about cancer pain management; 16.2% are due to lack of different kinds of opioid analgesic for use and 16.1% belonged to drug regulation.

*Conclusions.* The results showed that majority of patients (61.6%) had different types of cancer related pain. In most of patients, cancer pain was relieved when they were treated. The major reason for under-treatment or impeded factors for effective relief of cancer pain was fear of opioid addiction by both medical professionals and patients.

### INTRODUCTION

Cancer is becoming an increasingly prominent health issue in China. The number of new cancer patients was

estimated to be 1.6 million and the death was about 1.3 million, and ranked first (in metropolis) or second (in rural area) place of death among the common diseases in 1997(1). Because pain is the most common symptoms in cancer patient and cancer related pain generally has a greater impact than other symptoms of cancer, the fear of cancer related pain may play a major role in quality of life for patient. WHO global cancer control program emphasized the palliative care, especially pain relief as one of comprehensive cancer control programs from the early

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1980's(2).

From the early 1990's, two main programs have been adopted by Ministry of Health in China which involved the training and education of health professionals for cancer pain management, issued the official documents to improve the regulation and policy for supporting the availability of narcotic analgesics (3). In China, national systematic data and surveillance on prevalence of related cancer pain are lacking. In order to collect the basic data about cancer related pain, a nationwide investigation was carried out from 1997 to 1998 assigned by Ministry of Health.

## METHODS

In 1997-1999, 60 cancer patients from inpatient and outpatient cancer treatment center or comprehensive hospital in each province were randomly selected to participate in this survey. They were required to meet the following criteria: ① absent in psychiatric disorders; ② aged at least 17 years; ③ patients can fill the questionnaire independently. The subjects represented all stages of cancer, tumor sites, and different demographic characteristics and they were voluntary to complete questionnaire. Two self-designed structured questionnaires including reasons, types of pain and pain management were filled by patient and physician respectively. Patient with cancer was asked to report whether he/she had experi-

enced any type of cancer related pain from the time of diagnosis. The patient who reported pain filled out pain related questions. The severity of pain was assessed by using "visual analogue scale"(VAS)(4). VAS is a self-assessment rating scale that is a line of 10 cm in length, with one end represented no pain, while the other represented the extreme pain imaginable. Intensity of pain was divided into 5 grades: no, slight, moderate, obvious and the extreme pain. Original data input and analysis were using EPI-INFO software package. The analyzed data depended on the actual response sample in each variable.

## RESULTS

One thousand five hundred and fifty-five cancer patients (61.3% male, 38.7% female) from 29 provinces, autonomous regions and municipalities participated in this survey. The mean age of patients was  $53.7 \pm 13.0$  with age range from 17 to 74 years. As for education, 23.9% of patients had finished elementary school, 55.2% had finished secondary school, and 20.9% had finished university. The majority of them (91.0%) were married, 3.4% were single, 1% were divorced and 4.6% were widow or widower. Details regarding the primary site of cancer are presented in Table 1. In different gender, there is significant difference in the distribution of cancer sites ( $\chi^2 = 607.00$ ,  $P < 0.001$ ).

Table 1. Distribution of primary sites of cancer\*

(\* No. of one primary site patients = 1545; two primary sites patients = 20)

Primary sites of cancer	No. of patients		Male		Female		Not availability of gender
	n	%	n	%	n	%	
Lung	321	20.8	258	80.4	62	19.3	1
Breast	217	14.0	1	0.5	216	99.5	
Colon - rectal	176	11.4	101	57.4	74	42.0	1
Stomach	161	10.4	130	80.7	30	18.6	1
NPC	118	7.6	92	78.0	26	22.0	
Esophageal	103	6.7	87	84.5	14	13.6	2
Liver	96	6.2	83	86.5	13	13.5	
Lymphoma	84	5.4	60	71.4	24	28.6	
Female reproductive organs	66	4.3	0		66	100.0	
ENT	31	2.0	25	80.6	6	19.4	
Bile, pancreatic	24	1.6	15	62.5	9	37.5	
Thyroid	23	1.5	10	43.5	13	56.5	
Oral cavity	18	1.2	13	72.2	5	27.8	
Soft tissue & skin	16	1.0	12	75.0	4	25.0	
Kidney	14	0.9	9	64.3	5	35.7	
Leukemia	12	0.8	5	41.7	7	58.3	
Bone	8	0.5	4	50.0	3	37.5	1
Prostate	7	0.5	7	100.0	0		
Bladder	5	0.3	3	60.0	2	40.0	
Others	65	4.2	40	61.5	25	38.5	

Based on patient's reports, 61.6% (958/1555) of patients had different types of cancer related pain since they were diagnosed. The reasons of pain showed that 85.1% of pain was caused by advanced cancer involving bone metastasis, nerve compression or soft tissue infiltration. Details regarding the reasons of cancer pain are given in Fig 1.

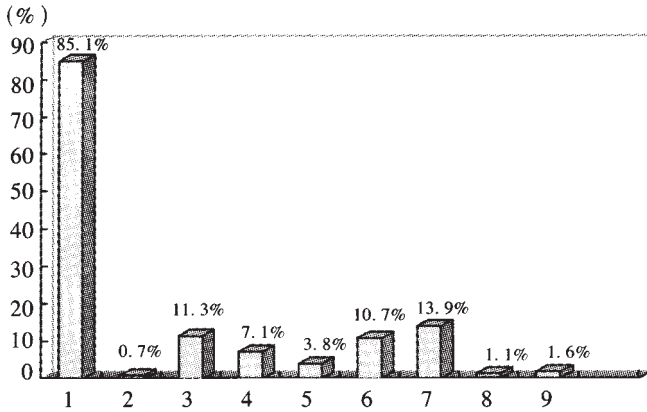


Fig 1. The reasons of cancer pain.

1. Caused by advanced disease
2. Associated with injured diagnosis
3. Post-surgical pain
4. Post-radiation therapy pain
5. Post-chemotherapy pain
6. Associated with complication of cancer
7. Caused by psychological factors
8. Unrelated pain
9. Others

26.8% belonged to physicians, e. g. fear of causing patients' addiction, lack of knowledge about cancer pain management; inadequate methods of pain assessment, and low priority for cancer pain management; 16.2% belonged to drug limited availability, such as lack enough opioid analgesics for alternatives; 16.1% belonged to drug regulation's reasons such as overly restrictive regulation; 14.1% belonged to the adverse drug reactions (ADRs) of opioid; and 13.6% belonged to other reasons. Details regarding the reasons of impedimental factors of cancer pain are given in Fig 2.

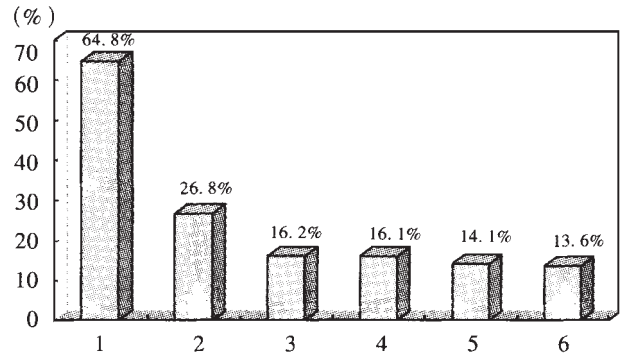


Fig 2. The reasons of under-treatment or impedimental factors of management cancer pain.

1. Related to patient
2. Related to physician
3. Related to drug availability
4. Related to drug regulation
5. Related to ADRs
6. Others

Table 2. Pain intensity in 4 different conditions

Conditions	No		Slight		Moderate		Obvious		Extreme		$\chi^2$
	n	%	n	%	n	%	n	%	n	%	
At original	24	(2.5)	494	(51.8)	266	(27.9)	99	(10.4)	71	(7.4)	529.97*
Before treatment	16	(1.8)	302	(34.2)	370	(41.9)	158	(17.9)	38	(4.3)	
After treatment	97	(11.2)	566	(65.5)	179	(20.7)	19	(2.2)	3	(0.3)	
At present	121	(13.4)	487	(53.8)	247	(27.3)	48	(5.3)	3	(0.3)	

\*  $P < 0.001$

Pain intensity varied depending on 4 different conditions, e. g. pain occurred in original, before, after pain treatment and present. Details regarding the pain intensity are presented in Table 2. The resulting correlation of concurrent validity between patients' and physicians' assessment was significant (Spearman's rank correlation  $r = 0.951$ ).

The major reasons for poor-treatment or impedimental factors of management of cancer pain showed that 64.4% belong to patients' reasons including fear of analgesic addiction, under-reported and reluctance to report pain or refused to use opioid analgesic until at times when pain was intolerable, fear of drug-related side effects (such as constipation), and analgesics were too expensive to use;

## DISCUSSION

The current study provided general findings of prevalence of cancer-related pain in China. Because the subjects came from 29 provinces, they represents current information on cancer related pain on national level. The results suggested that 61.6% of cancer patients experienced various types cancer related pain. The data showed that majority of pain (85.1%) was directly caused by advanced cancer. However, 22.9% of pain occurred as a result of treatment such as postoperative adhesions, post-radiation fibrosis or injured diagnosis; and 13.9% of pain associated with psychological factors. The data in

Table 2 also showed that cancer pain could be relieved in most of patients when they were treated. The major reasons for poor management of cancer pain and impediment factors of relieving cancer pain were the following: fear of opioid addiction in both medical professionals and patients, lack of scientific knowledge of appropriate treatment technique, and overly restrictive regulation of opioid analgesic. The results indicated that over-concern on opioid analgesic addiction was the critical barrier factor in implementation of WHO's strategies on relieving cancer pain in China.

Previous investigations showed that drugs were the mainstay for cancer pain relief. Known as the WHO "Three-step Analgesic Ladder" method, this approach to drug therapy is effective in relieving pain in at least 75% to 90% of patient treated (2, 5). The strategy of WHO's three-step approach has been implementing in China. However, the results indicated that there are some misconceptions in both patients and physicians on "drug addiction". According to pharmacological concept, physical dependence is different from addiction. Physical dependence and tolerance are pharmacological property of opioid or natural physiological consequences, and develop in patients when opioid are used to treat chronic pain (6, 7). Drug addiction occurs when individuals are overwhelmingly involved in obtaining and using illegal drug for its euphoric effects. Clearly, in order to solve some impedimental factors in pain care, the pharmacological concept on opioid addiction need to be re-recognized.

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