

## Original Article

# Quality of Life in Cancer Patients with Pain in Beijing

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## ABSTRACT

**Objective:** To investigate the quality of life (QOL) of cancer pain patients in Beijing, and explore the effect of cancer pain control on patients' QOL.

**Methods:** Self-developed demographic questionnaire, numeric rating scale and SF-36 questionnaire were used together among 643 cancer pain patients in 28 Grade 2nd to 3rd general hospitals and 2 Grade 3rd cancer hospitals.

**Results:** The SF-36 eight dimensions scores ranged from 31.75 to 57.22 in these cancer pain patients. The *t* test and Wilcoxon rank sum test were used to compare the QOL between pain controlled (PC) group and pain uncontrolled (PUC) group, and the results showed that patients in PC group had the higher QOL scores in 6 areas of SF-36 ( $P < 0.05$ ). Binary logistic regression results found that pain management satisfaction scores ( $P < 0.001$ ), family average personal monthly income ( $P = 0.029$ ), current receiving chemotherapy ( $P = 0.009$ ) and cancer stage ( $P < 0.001$ ) were the predictors to cancer pain controlled results.

**Conclusion:** Cancer patients with pain in Beijing had poor QOL. Pain control will improve the QOL of cancer pain patients.

**Key words:** Cancer patients; Cancer related pain; Quality of life (QOL)

## INTRODUCTION

Recent data from China Ministry of Health show that cancer is the top risk factor causing Chinese people death and about 24.26%–27.01% people died from cancer<sup>[1]</sup>. The prevalence of pain is estimated at 25% for the newly diagnosed cancer patients, 33% for undergoing activate treatment and more than 75% with advanced disease<sup>[2, 3]</sup>. In 1997, China Ministry of Health conducted a survey on cancer pain in 1,555 cancer patients from 29 provinces and cities, and the results showed that about 61.6% cancer patients had cancer pain<sup>[4]</sup>. Liu, et al.<sup>[5]</sup> investigated the cancer pain status in Beijing and found 66.3% cancer patients had pain, thereamong mild pain and severe pain incidences were 25.9% and 5.2%. The World Health Organization (WHO) and international pain community have identified cancer pain as a global health concern<sup>[6]</sup>. Cancer pain is one of the most

common symptoms experienced by cancer patients<sup>[7]</sup>, and it is also the main reason affecting quality of life (QOL) in cancer patients<sup>[8-10]</sup>. The American Society of Clinical Oncology (1996) has also established QOL as an important outcome, secondary in importance only to survival. Recent years, many researchers suggested that QOL is a more appropriate outcome variable for evaluating the efficacy of cancer treatment<sup>[11, 12]</sup>. Cancer pain can affect patient's physiological, psychological, social and mental functions, and decrease the QOL of cancer patient<sup>[13]</sup>. Cancer pain can not only cause great suffering in cancer patients but also bring heavy burden on family and society<sup>[14]</sup>. In 1986, the WHO published a final monograph under the title of Cancer Pain Relief that aimed to improve the management of cancer pain<sup>[15]</sup>. Pain control plays a key role in determining health-related QOL, and if pain is ongoing and uncontrolled, it will have a detrimental and deteriorating effect on virtually every aspect of a patient's life<sup>[16]</sup>. Many research results showed that pain controlled results influenced the QOL in cancer patients<sup>[17, 18]</sup>. But there are limited researches<sup>[19]</sup> about QOL in cancer pain patients and

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no evidence of the effect of pain control status on QOL in cancer patients with pain in China. In order to learn about the QOL status in cancer patients with pain and compare the QOL between pain controlled (PC) group and pain uncontrolled (PUC) group, we conducted a survey in cancer pain patients from 30 hospitals in Beijing and try to explore the effect of pain control on QOL in cancer pain patients.

## MATERIALS AND METHODS

### Participants and Settings

This descriptive, cross-sectional study selected data from a convenience sample of cancer patients in outpatient department and inpatient department (hospital stay <7 d) from 2 cancer hospitals and cancer departments of 28 general hospitals from October 2009 to October 2010.

Inclusion criteria: (1) 18 years old or above; (2) being diagnosed with cancer by pathological examination; (3) experiencing cancer-related pain in recent one month; (4) being able to read and understand the questionnaires; and (5) being willing to participate in this study and gave his/her written informed consent.

Exclude criteria: (1) with mental disorder; (2) because of not feeling comfort and could not finish the questionnaire; and (3) receiving operation or invasive procedure within one week.

### Instruments

All patients completed the following questionnaires:

#### **Demographic and Clinical Characters Questionnaires**

Demographic characters include age, gender, marital status, family average personal monthly income, educational level and hospital charges paid way. Clinical characters include type of cancer, cancer stage, received treatments, and current receiving treatments.

#### **Numerical rating scale (NRS)<sup>[20]</sup>**

NRS Uses 0–10 to evaluate the pain intensity. 0 is no pain, 1–3 is mild pain, 4–6 is moderate pain and 7–10 is severe pain. In this study, NRS was used to evaluate the current pain and worse pain past 24 hours. A descriptive NRS is a valid and reliable measure of pain intensity<sup>[21]</sup>.

#### **Pain Management Satisfaction<sup>[22]</sup>**

Only one question from American Pain Society Patient Outcome Questionnaire (APS-POQ) was used to evaluate pain management satisfaction of cancer

pain patient. The question is “select the phrase that indicates how satisfied or dissatisfied you are with the results of your pain treatment overall”. Number 1 to 6 separately represents very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, and very satisfied. The higher score shows the patient's higher satisfaction of pain management result, and the score  $\geq 4$  indicates patients are satisfied.

#### **Short Form 36 Health Survey Questionnaire (SF-36)<sup>[20]</sup>**

The SF-36 is a validated, 36-item questionnaire measuring QOL in eight areas of perceived health using a single multi-item scale. SF-36 scales measure perceived health in the areas of physical functioning (PF), role physical (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role emotional (RE), and mental health (MH), with higher scores (range 0–100) reflecting better perceived health. SF-36 was widely used by many researches conducted in cancer patients regardless of adults or children<sup>[23–27]</sup>. And the SF-36 mental health score was significantly related to better survival compared with European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 in colorectal and lung cancer patients<sup>[25]</sup>.

### Data Collection and Quality Control

The research group was composed of researchers, survey supervisors and nurse investigators. The researchers trained the nurse investigators from 30 hospitals twice before the formal survey. During the survey, the nurse investigators investigated the cancer pain patients in 30 hospitals, and the survey supervisors went around all the hospitals, visited each hospital once a week and collected the finished questionnaires. The valid questionnaire required missing item in demographic and clinical characters questionnaire less than 1 item and no missing item in other three questionnaires of each patient. Six hundreds and eighty-four of 800 questionnaires were returned. Questionnaires with less than one missing item in the demographic form and no missing item in other three questionnaires were considered as valid. According to this rule, 643 of 684 questionnaires were considered as valid (valid rate=80.38%).

### Statistical Analyses

Analyses were conducted using the SPSS Version 18.0 (SPSS Inc., Chicago, IL, USA). Comparisons of QOL between the PC group and the PUC group were performed by independent sample *t*-tests and Mann-Whitney rank sum test. Independent sample *t*-test and Chi-square test were used to compare the demographic and clinical characteristics between two