# Quality of life and most prevalent unmet needs of Chinese breast cancer survivors at one year after cancer treatment

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## ABSTRACT

*Keywords:*
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*Purpose:* This study aims to examine the supportive care needs of Chinese breast cancer survivors, and investigate the relationships with participant characteristics and quality of life.
*Methods:* A total of 163 participants were recruited from a local public hospital and completed a self-administered questionnaire: the 34-item Supportive Care Needs Survey, the supplementary module of access to healthcare and ancillary support services, and the Functional Assessment of Cancer Therapy.
*Results:* The five most commonly reported unmet needs were all in the health system information domain (range: 55–63%), and the majority (84%) reported at least one unmet need in relation to information on healthcare. Stepwise multivariable regression analyses revealed that the time spent on travelling from home to hospital, receiving hormonal therapy, and physical and psychological unmet needs were independently associated with poorer quality of life among the participants.
*Conclusions:* Breast cancer survivors perceive various unmet needs, and health system information is the most common one. Those who have more unmet needs in the physical and psychological domains were more likely to perceive a poorer quality of life.

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## Introduction

Breast cancer is the leading type of cancer in women of both developing and developed regions, and the second most commonly diagnosed form of cancer worldwide (Ferlay et al., 2010; World Health Organization, 2013). The incidence ranges from 21.6 per 100,000 women in China to 109.2 per 100,000 in Belgium, and it has been estimated that about 1.4 million cases are newly diagnosed globally each year (Ferlay et al., 2010). In Hong Kong, breast cancer is also the most common form of the disease among women. It accounts for 24.1% of all newly diagnosed cancer in Hong Kong women in 2010. The incidence rate has increased by 50%, from 2016 in 2001 to 3014 in 2010, with an average of 2476 newly diagnosed cases each year (Hospital Authority, 2013).

Despite high incidence rates, increasing awareness of the value of early detection and continuing advances in treatment efficacy have greatly improved survival rates. In Hong Kong, two thirds of newly diagnosed cases are at stage I or II (Hospital Authority, 2013). The eight-year survival rate for a combination treatment of surgery and radiotherapy is about 86%, and it should increase further to 95% when five-year tamoxifen treatment and chemotherapy are added (Formenti et al., 2012).

As more people survive, more attentions are drawn to support the needs of breast cancer patients in the transition period between end of treatment and survivorship and improve their quality of life (QoL). In fact, the portion of cancer patients expressing their unmet needs is highest in the post-treatment phase when compared with other phases in the cancer continuum (Harrison et al., 2009). Bonevski et al. (2000) identified five main areas of SCNs among cancer patients throughout of the cancer continuum: physical and daily living, psychological state, health system and information, patient care and support, and sexuality (Bonevski et al., 2000). Studies have been reported that the prevalence of unmet SCNs among cancer survivors varied from 30% to 50% across studies (Harrison et al., 2009). However, most of them focus on the needs of cancer patients on the diagnose and treatment phase, studies examined their needs immediate after treatment are lacking (Harrison et al., 2009; Lam et al., 2011). Although few studies only reported SCNs among

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cancer survivors in general (Armes et al., 2009; Pauwels et al., 2013; So et al., 2013), evidence for the factors influencing cancer survivors' unmet SCNs may not be able to apply to specific cancer types, including breast cancer in the Chinese population. Understanding the prevalence of supportive care needs among Chinese breast cancer survivors is essential so that effective interventions can be provided to improve their QoL.

The present paper is part of a larger study investigating the supportive care needs of 376 cancer survivors with different forms of the disease (response rate = 93.8%) (So et al., 2013), and reports the needs only of breast cancer survivors and the association between their characteristics and quality of life. The research questions for this report were:

1. What are the five most common supportive care needs among breast cancer survivors?
2. Is there an association between these survivors' characteristics and their needs and quality of life?

## Methods

### Design and sample

This cross-sectional study was conducted in 2010–11. Potential subjects were recruited from an outpatient oncology department in a teaching hospital in Hong Kong. Inclusion criteria for recruiting eligible subjects were: Chinese women of 18 or over at the time of diagnosis of breast cancer who had finished treatment (surgery, chemotherapy and radiation therapy) within a year, and were able to communicate in Cantonese or read Chinese. Excluded from the study were those who had a history of psychiatric disease, suffered from metastatic brain disease, had any other type or recurrence of cancer, or had received additional treatment within one year of the main treatment.

### Instrument

A self-report survey in three parts was used: participants' socio-demographic and clinical characteristics, supportive care needs (McElduff et al., 2004; So et al., 2011) and quality of life (Yu et al., 2000). Details of the instruments are reported elsewhere (So et al., 2013).

#### Socio-demographic and clinical characteristics

The following data were collected through participants' self-reports: age, sex, marital status, highest level of education attained, employment status, household monthly income, travelling time from home to hospital, and family history of cancer. Similarly the following clinical data were collected from the participant's medical record: time since diagnosis, stage of the disease, number of cancer treatment received, receiving hormone treatment, comorbidity, prognosis and family history of cancer.

#### Chinese version of Supportive Care Needs Survey form (SCNS-SF34)

The Chinese version of the SCNS-SF34 was used to measure unmet needs among breast cancer survivors. A total number of 34 items are divided into five domains: physical/daily living (5 items), psychological (10 items), patient care and support (5 items), sexuality (3 items), and health systems and information needs (11 items). A five-point rating scale (1 = no need/not applicable, 2 = no need/satisfied, 3 = low need, 4 = moderate need and 5 = high need) is used to show levels of need for help over the past month. The internal consistency of each subscale was good (Cronbach's alpha ranged from 0.78 to 0.92).

Confirmatory factor analysis indicated an adequate fit to the five-domain factor structure (RMSEA = 0.074, NNFI = 0.96 and SRMR = 0.080) (Li et al., 2011).

#### Chinese version of the Functional Assessment of Cancer Therapy-General (FACT-G (Chi))

The FACT-G was used to examine the QoL of breast cancer survivors. It consists of four domains: physical, emotional, social and functional well-being. Each item is rated on a five-point scale (0 = not at all; 1 = a little bit; 2 = somewhat; 3 = quite a bit; 4 = very much). Both the total score and the well-being subscale scores are analysed, with higher scores representing better functional status. The Chinese version of FACT-G demonstrated acceptable validity and reliability in a sample of 1262 Chinese cancer patients from three regional hospitals (Yu et al., 2000).

### Procedure

The work was approved by the ethics research committee of the study institution. A research assistant first screened the follow up list and identified eligible potential participants at the out-patient clinic in the oncology department. The research assistant then

**Table 1**
Socio-demographic and disease characteristics of the study sample ($n = 163$).

|  | Mean (SD)/median (IQR)/$n$ (%) |
|---|---|
| **Socio-demographic characteristics** |  |
| Age (years)[†] | 51.0 (9.2) |
| Marital status |  |
|   Single/divorced/widowed | 39 (23.9%) |
|   Married/cohabitation | 124 (76.1%) |
| Educational level |  |
|   No formal education/primary | 45 (27.6%) |
|   Secondary or above | 118 (72.4%) |
| Employment status |  |
|   Unemployed/retired/homemaker | 104 (63.8%) |
|   Employed | 59 (36.2%) |
| Household monthly income (HK$) |  |
|   ≤10,000 | 46 (28.6%) |
|   10,001–30,000 | 69 (42.9%) |
|   > 30,000 | 46 (28.6%) |
| Living alone |  |
|   No | 149 (91.4%) |
|   Yes | 14 (8.6%) |
| Time travelling from home to hospital (minutes)[Ψ] | 40 (25–60) |
| **Disease characteristics** |  |
| Time since diagnosis (months)[Ψ] | 14 (11–19) |
| Stage of disease |  |
|   ≤ II | 129 (79.1%) |
|   ≥ III | 34 (20.9%) |
| Number of cancer treatment |  |
|   1 | 9 (5.5%) |
|   ≥ 2 | 154 (94.5%) |
| Receiving hormone treatment |  |
|   No | 49 (30.2%) |
|   Yes | 113 (69.8%) |
| Any co-existing disease |  |
|   No | 106 (65.0%) |
|   Yes | 57 (35.0%) |
| Cancer is under control or diminishing |  |
|   Yes | 122 (74.8%) |
|   No/unsure | 41 (25.2%) |
| Family history of cancer |  |
|   No | 91 (55.8%) |
|   Yes | 72 (44.2%) |

Data marked with [†] are presented as mean (standard deviation) and with [Ψ] as median (interquartile range), all others are presented as frequency (%).