



The impact of cancer and its treatment on physical activity levels and quality of life among young Hong Kong Chinese cancer patients



Katherine K.W. Lam ^a, William H.C. Li ^{a,*}, S.Y. Chiu ^b, Godfrey C.F. Chan ^b

^a School of Nursing, The University of Hong Kong, Hong Kong

^b Department of Paediatric & Adolescent Medicine, Queen Mary Hospital, Hong Kong

ARTICLE INFO

Article history:

Received 11 March 2015

Received in revised form

11 September 2015

Accepted 28 January 2016

Keywords:

Physical activity

Psychological well-being

Quality of life

Self-efficacy

Young cancer patients

ABSTRACT

Purpose: Despite the evidence that regular physical activity can have beneficial effects on the physical and psychological well-being of cancer patients, a review of the literature reveals that a majority of young cancer patients fail to attain the same levels of physical activity that they had before contracting the disease. This study is to examine the impact of cancer and its treatment on the physical activity levels and quality of life of young Hong Kong Chinese cancer patients.

Method: A cross-sectional study was conducted, with 76 young cancer patients admitted for treatment to a pediatric oncology unit, and another similar age group of 148 healthy counterparts from the two integrated child and youth service centers were invited to join the study.

Results: The study found that the current physical activity levels of young cancer patients were markedly reduced when compared with their pre-cancer situation. Moreover, they were significantly less active in performing physical exercise, and reported lower levels of self-efficacy and quality of life than their healthy counterparts. The results of the hierarchical multiple regression analysis showed that physical activity is an important indicator of quality of life among young cancer patients.

Conclusion: The results provide further evidence that cancer and its treatment have negative effects on physical and psychological well-being and quality of life among young cancer patients. There is an imperative need for healthcare professionals to promote the adoption of regular physical activity among such patients, even during the treatment itself.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Recent medical advances in cancer screening and treatment have led to a dramatic decrease in mortality rates among cancer patients (Li et al., 2013a; Smith et al., 2010; Stam et al., 2006). Nevertheless, the cancer itself and the adverse effects of treatment remain very damaging to the physical and psychological well-being of young cancer patients (Li et al., 2013b; Williams et al., 2012, 2006). The accumulation of chemotherapy and/or radiotherapy may damage normal body tissue and impair physical fitness (Langeveld et al., 2004), leading to reduced cardio-respiratory function, decreased muscle strength and fatigue (Braam et al., 2010). Such complications may continue until months or even years after the completion of the therapy (Enskar and von Essen,

2008). In addition, a review of the literature reveals that survivors are at high risk of developing secondary malignancies, impaired growth and endocrine and neuro-cognitive dysfunction, and they are especially subject to obesity and osteoporosis (Butler and Mulhern, 2005; White et al., 2005; Tillmann et al., 2002; Landier, 2001; Shusterman and Meadows, 2000). All these short- and long-term adverse effects may substantially impair a child or adolescent's quality of life (Savage et al., 2009; Langeveld et al., 2004).

There is evidence that regular physical activity can enhance the cardiovascular fitness of such patients (Wolin et al., 2010; San Juan et al., 2008a, 2008b), reduce fatigue (Chung et al., 2014; Whitsett et al., 2008; Lucia et al., 2003), and alleviate some adverse effects of the cancer and its treatment, such as osteoporosis (Gohar et al., 2011) and obesity (Hardin et al., 1997). Most importantly, a number of studies (San Juan et al., 2008a; Gohar et al., 2011; Speyer et al., 2010) have demonstrated that young cancer patients achieve a better quality of life through regular physical activity. Nonetheless, a review of the literature reveals that a majority of

* Corresponding author. 4/F, William M. W. Mong Block, 21 Sassoon Road, Pokfulam, Hong Kong, School of Nursing, The University of Hong Kong.

E-mail address: william3@hku.hk (W.H.C. Li).

young cancer patients fail to attain the same levels of physical activity that they had before contracting the disease (Gotte et al., 2014; Winter et al., 2009; Keats et al., 2006, 1999). There is scientific evidence that physical inactivity induces muscle catabolism and atrophy (Braam et al., 2010) and cardiovascular diseases (Grundy et al., 1997), which may lead to a further increase in fatigue and a decrease in the functional capacity of cancer patients. It is vital, therefore, for healthcare professionals to promote the importance of regular physical activity among young cancer patients. First, however, it is crucial to understand the physical activity levels of young cancer patients, in particular to investigate how the disease and its treatment affect their physical activity levels and quality of life, before any appropriate interventions to promote physical activity can be implemented. Previous studies in Western countries and United States showed that the levels of physical activity in cancer patients after diagnosis and throughout the treatment period were substantially reduced (Wolin et al., 2010; San Juan et al., 2008a; White et al., 2005). Nevertheless, no such study has so far been conducted in Hong Kong.

A cross-sectional study (Chung et al., 2014) assessed physical activity and factors affecting regular exercise among 128 Hong Kong Chinese children aged 9 to 16 who had survived cancer. The findings showed that, compared with their pre-morbid situation, there was a significant decline in physical activity levels, with an increasing number of children participating in lighter activities but a decrease in those undertaking moderate to vigorous activity. There are some particular reasons for the decline in physical activity levels among Hong Kong Chinese childhood cancer survivors. The major factors preventing such survivors from engaging in regular physical activity were fatigue and a decrease in physical strength and endurance after remission (Chung et al., 2014). Besides, most Hong Kong Chinese parents overlook the importance of regular physical exercise for their children, and some even have misconceptions about its effects on the recovery from cancer and related treatment. Furthermore, worrying about low body resistance and high susceptibility to infection after cancer treatment, most parents keep their children at home and do not allow them to go to crowded public places. In addition, concern about the academic performance and the hot and humid climate in Hong Kong are the common reasons for not having regular physical activity (Chung et al., 2014). Last but not the least, Hong Kong Chinese people are influenced by the philosophy of Confucianism (Chan et al., 2006; Li et al., 2012), which emphasizes the importance of achieving health through maintaining harmony in the body (Li, 2009). Under the influence of this philosophy, cancer or other chronic diseases are considered detrimental to the harmony, and it is believed that physical inactivity can help restore harmony in the body (Chui et al., 2005). In this cultural context, many Chinese parents of childhood cancer survivors usually advised them to take more rest and avoid any high-energy-consuming activities (Chung et al., 2014).

Physical inactivity among young cancer survivors is a health problem that certainly deserves the attention of healthcare professionals and of society in general. Nevertheless, the physical activity levels among young cancer patients in Hong Kong have remained relatively underexplored. Although the incidence and types of childhood cancer occurring in Hong Kong are similar to those in Western countries (Li et al., 2010), cultural differences – in particular the different philosophies of care and treatment in Chinese and Western societies (Chung et al., 2014) – may cause patients to respond differently to the disease and its treatment, producing as a result different impacts on physical activity levels (Simpson, 2003). This study aimed to shed light on the effect of cancer and its treatment on the physical activity levels and quality of life of young Hong Kong Chinese patients. The objectives of this

study were:

- to compare the self-perceptions of physical activity levels in pre-cancer and current situations of young Hong Kong Chinese cancer patients.
- to compare the physical activity and self-efficacy levels and the quality of life of such patients (current status) and their healthy counterparts.

2. Methods

2.1. Study design and sample

A cross-sectional study was conducted, with 76 young cancer patients admitted for treatment to a pediatric oncology unit and meeting the inclusion criteria invited to participate. These criteria were: (a) aged between 9 and 18, (b) able to speak Cantonese and read Chinese, and (c) diagnosed with cancer and undergoing active treatment. Young patients with cognitive or learning problems identified from their medical records were excluded. Another similar age group of 148 healthy counterparts, members of the two integrated child and youth service centers in different Hong Kong districts, were invited to join the study for the purposes of comparison.

2.2. Measures

2.2.1. Demographic sheet

A demographic sheet was designed to collect the demographical data of the participants. The collected data included sex, age and parent's educational level. Young cancer patients were asked about their medical history including diagnosis, diagnosis date, type and number of treatments received.

2.2.2. The Chinese university of Hong Kong: physical activity rating for children and youth (CUHK-PARCY)

The physical activity level of participants was assessed using the CUHK-PARCY. The CUHK-PARCY is based on an 11-point physical score (0–10) system to grade levels of physical activity. The score ranges from no exercise at all (0) to vigorous exercise on most days (10). A score of 0–2 can be regarded as having low intensity activity level, while 3 to 6 represented moderate and 7 to 10 were high activity level. The CUHK-PARCY has been used in the Hong Kong Chinese children in various studies (Chung et al., 2014; Kong et al., 2010). The results of psychometric tests showed good content validity (content validity index = 90%) and appropriate test-retest reliability ($r = 0.86$).

2.2.3. Physical activity self-efficacy (PA-SE)

The PA-SE was used to measure the participants' self-confidence in their ability to participate in various age-appropriate physical activities (Matheson et al., 2004). The PA-SE comprises five items in which participants were asked if they are 'not sure', 'a little sure', or 'very sure' that they can do such things as 'keep up a steady pace without stopping for 15–20 min'. Higher scores indicate higher self-efficacy. This scale has been validated and used in Chinese children (Chen et al., 2011), with internal consistency found to have alpha coefficients ranging from 0.67 to 0.69.

2.2.4. The pediatric quality-of-life inventory™ (PedsQL™) cancer module v. 3.0

The quality of life of participants with cancer was assessed using the PedsQL™ Cancer Module (Varni et al., 2002). The instrument consists of 27 items. Participants were asked how much of a

Download English Version:

<https://daneshyari.com/en/article/5868355>

Download Persian Version:

<https://daneshyari.com/article/5868355>

[Daneshyari.com](https://daneshyari.com)