

## CHAPTER 1

### INTRODUCTION

#### 1.1 Study rationale

Schizophrenia is a serious mental illness that is characterized by: i) positive psychotic symptoms such as hallucinations, delusions; ii) negative psychotic symptoms such as avolition, alogia; and iii) mild cognitive impairment. It has been known that schizophrenic patients have shorter lifespans than the general population. The standard mortality risk for all causes of death in schizophrenic patients is approximately 1.6 times higher than the general population (Harris & Barraclough, 1998). Approximately two-thirds of this excess mortality is thought to result from physical health problems – mostly, cardiovascular in origin (Brown et al., 2000). It is widely accepted that obesity plays an important role in causing cardiovascular disease.

Similar to obesity in general population, obesity in schizophrenic patients is of increasing concern. Using three data sources, Allison et al. found that schizophrenic patients had higher body mass index than did people without schizophrenia (Allison et al., 1999). In Caucasians, approximately 50% of women and 41% of men with schizophrenia were obese as compared with 27% women and 20% of men in general population (Dickerson et al., 2006). Some studies have shown that, at the same age, schizophrenic patients have an increased obesity risk of 2.3 times higher than general population (Saarni et al., 2009). Obesity is also common in Asians with schizophrenia. In a study of 650 Taiwanese patients with schizophrenia or schizoaffective disorder, 30.8% of males and 40.7% of females were obese (Huang et al., 2009). Some study

results have shown that schizophrenic patients with obesity are likely to have poorer quality of life, and weight loss in this population is associated with increased quality of life (Kolotkin et al., 2008).

Pharmacological management may not be applicable for an obese schizophrenic patient who has been on an optimal drug treatment regimen. Complete discontinuation of antipsychotic therapy is almost impossible. Changing the antipsychotic medication may cause a serious psychotic relapse. In addition, there is only limited evidence to support the addition of adjunctive agents to induce weight loss. A recent review of 9 randomized-controlled trials of pharmacological adjunctive treatments has found that no single pharmacological agent is consistently superior to placebo in terms of weight loss efficacy (Faulkne et al., 2007).

So far, several lines of evidence have supported the use of cognitive/behavioral treatment for obesity in schizophrenic patients. Cognitive/behavioral programs in two randomized-controlled trials of weight gain prevention and three randomized-controlled trials of bodyweight reduction have shown consistent findings of their efficacy (Faulkne et al., 2007). These results are in concordance with the findings of a review that individual therapy, group therapy, cognitive/behavioral therapy, and nutritional counseling are effective for both recent-onset and chronic schizophrenia (Alvarez-Jimenez et al., 2008). A program including both nutrition and exercise counseling is also effective for severe mentally ill patients with obesity. It is now widely accepted that psychosocial treatment for weight gain prevention or bodyweight

reduction should be a part of schizophrenic management program (Allison et al., 2009; Dixon et al., 2010).

Although exercise has played an important role on weight management programs, the effectiveness of this single intervention is still questionable in schizophrenia with obesity. A systematic review of 3 randomized-controlled trials have found that exercise programs may improve negative schizophrenic symptoms and physical health but may not be able to reduce bodyweight and body mass index (Gorcznski & Faulkner, 2010). It should be noted that most exercise programs included in the review mainly focused on having daily exercise sessions, such as, walking on a treadmill, brisk walking, jogging, weight training, and aerobic training.

Although it is not yet known why exercise programs cannot reduce bodyweight and body mass index in obese schizophrenia, there may be some strategies to improve these programs. Firstly, alternative to sessions of intense exercise, generally increased physical activity in everyday life, such as walking, may be more applicable in this population. A recent review of 26 studies in general people has found that, in comparison to control participants, pedometer users significantly increased their physical activity by 2,491 steps per day and decreased their body mass index by 0.38 kg/m<sup>2</sup> (Bravata et al., 2007). Secondly, interventions to increase motivation for exercise should be a part of a weight management program for schizophrenic patients. It has been found that amotivation is a common negative schizophrenic symptom and the sole predictor of functioning (Foussias et al., 2009). However, increasing schizophrenic patients' motivation to change their health behavior is not impossible.

Motivational interviewing has been found to be effective in reducing alcohol consumption in schizophrenic patients with alcoholism (Graeber et al., 2003). Because pedometer walking plus motivational interviewing may be of benefit for obese/overweight schizophrenic patients, we proposed to design and examine a program called 'walking plus individual motivational enhancement therapy or WIMET program' in these individuals.

## 1.2 Definitions

**Schizophrenia** is typical mental sickness that affects on perception, thought, cognitive, and behavior. These symptoms are required to be present for a 1-month duration or longer. Its diagnosis is usually based on the DSM-IV or ICD-10 diagnosis criteria.

**Overweight** is body mass index  $\geq 23.0 \text{ kg/m}^2$  (Gallagher, 2004)

**Obesity** is body mass index  $\geq 25.0 \text{ kg/m}^2$  (Gallagher, 2004)

**Quality of Life (QOL)** is a term which is used to indicate the general well-being of people (Saatici et al., 2010).

**Exercise self-efficacy** is people's beliefs about their capabilities to produce designated levels of performance as exercise (Bandura, 1994).

**Motivational Enhancement Therapy (MET)** is a technique that is used primarily to comprehend how ready or motivated a patient is for recovery whilst at the same time

promoting/enabling active participation in order to identify key goals required for change (Borrell, 2010). MI is a particularly useful means to address motivational concerns in patients who lack personal motivation and have been previously very resistant to change. MI Therapy deals with each patient as an individual at their own pace, recognising that every person has his or her own readiness level and does not usually involve direct persuasion.

### **1.3 Purposes of the study**

1. To design and examine a program called ‘Walking plus Individual motivational enhancement therapy (WIMET) program’ with schizophrenic patients who are with obese or overweight.
2. To identify characteristics of schizophrenic patients with successful weight reduction

### **1.4 Benefits of the study**

This study creates the WIMET program which is easy to be implemented and need inexpensive pedometers. Therefore schizophrenic patients can lose weight anytime at low cost.