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Association of lifestyle-related factors and psychological factors on quality of life in people with schizophrenia

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ABSTRACT

In people with schizophrenia several factors are associated with poor quality of life (QoL), namely, lifestyle-related factors and psychological factors. However, there has been little research on the impact of these factors on QoL. Therefore, the relation between lifestyle-related factors, psychological factors, and QoL in people with schizophrenia was assessed. A cross-sectional study was conducted among 115 patients (25% women, 50% inpatients). QoL was measured by World Health Organisation Quality of Life- Brief Version. Lifestyle-related factors were assessed, namely physical activity (International Physical Activity Questionnaire- Short Form), sleep quality (Pittsburgh Sleep Quality Index) and dietary intake (Mediterranean Diet score). Psychological factors such as self-esteem (Rosenberg Self-Esteem Scale) and autonomous motivation (Behavioural Regulation Questionnaire- version 3) were also measured. Regression analyses were performed to identify significant predictors of QoL. Results showed that self-esteem predicted better global, physical, psychological and environmental QoL. Physical activity predicted better global and physical QoL, while sedentary time predicted poor social and environmental QoL. Identifying predictors of QoL has implication for the effective design and delivery of lifestyles interventions, including physical activity, dietary education and smoking cessation in people with schizophrenia. Adopting healthy lifestyles may lead to improved physical health, psychological well-being and QoL in this population.

1. Introduction

People with schizophrenia are at high risk of developing a range of physical health conditions, such as cardiovascular disease, obesity, cancer, metabolic syndrome and diabetes (Cimo et al., 2012; Correll et al., 2017; Crump et al., 2013). Behavioural and lifestyle-related factors appear to be significant contributors for poor physical health (Leas and McCabe, 2007), namely insufficient engagement in moderate and vigorous physical activity (Stubbs et al., 2016a), poor sleep quality (Cohrs, 2008; Wulff et al., 2012), unhealthy dietary habits (Brown et al., 1999; Dipasquale et al., 2013; Peet, 2004; Teasdale et al., 2017a) and tobacco smoking (Brown et al., 1999; Kalman et al., 2005).

People with schizophrenia are more sedentary than the general population (Stubbs et al., 2016a, b). Only a minority (about 25%) of persons with schizophrenia adhere to public health recommendations of 150 minutes of physical activity per week (Faulkner et al., 2006). Similarly, around 30 to 80% of people with schizophrenia present with sleep disturbances (Cohrs, 2008), that are negatively associated with greater positive symptoms (Afonso et al., 2011) and difficulties in activities of daily living (Waters et al., 2012). Unhealthy dietary habits are also common in this population (Dipasquale et al., 2013), characterized by a high intake of fat and sugar (Stokes and Peet, 2004) and low intake

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of dietary fibre (Brown et al., 1999), fruits and vegetables (McCreadie, 2003). People with schizophrenia also smoke tobacco at a rate 3–4 times greater than the general population (Kalman et al., 2005; Lasser et al., 2000; McCreadie, 2002).

The adoption of a healthy lifestyle is a process that also involves motivation to plan change, in addition to physical, psychological and material resources to adhere to the plan. Due to illness characteristics (i.e., impairments in cognition, perception, affect and volition) people with schizophrenia may experience difficulties in each step of this process (Hasnain et al., 2011). In people with schizophrenia, low self-esteem is associated with negative symptoms (Frank and Davidson, 2012). In addition, a reduction of these symptoms is positively associated with improvements in self-esteem (Jones et al., 2010). In the general population, self-esteem processes are also associated with motivation to physical activity (Biddle and Mutrie, 2008). When people are physically active in an environment that is perceived as supportive, they are more likely to be autonomously motivated and experience increased levels of well-being. However, if the environment is perceived as not being supportive, more controlled types of motivation, known to be associated with lower rates of physical activity participation, would be expected. In addition, in controlled motivation, one's behaviour is a function of external contingencies of punishment or reward, that may encourage the person to be more active (Deci and Ryan, 2000). In people with schizophrenia, controlled motivation is related to the tendency to feel, think, or behave in particular ways (e.g., guilt or seeking social approval), which in turn is associated with lower physical activity participation (Vancampfort et al., 2013). On the other hand, autonomous motivation towards physical activity is associated with voluntary exercise over longer periods of time, and people who experience this are therefore more likely to experience the multitude of health benefits conferred by an active lifestyle (Vancampfort et al., 2014b).

These lifestyle-related factors and psychological factors lead to a decrease in functionality and a reduction in quality of life (QoL) (Chan et al., 2004). QoL is a multidimensional construct that comprises subjective well-being and objective mental and physical indicators. Over time, people with schizophrenia may experience a reduction in the ability to perform activities of daily living, which can promote financial difficulties (Awad and Voruganti, 2012). In addition, they often suffer stigma and social discrimination, which affects the ability to maintain social relationships and an adequate social functioning (Lysaker et al., 2010). All these factors make it difficult for people with schizophrenia to self-manage the illness (Allison et al., 2003) and, consequently, they tend to have a poorer QoL, when compared to general population.

In people with schizophrenia several factors are associated with poor QoL, such as severity of psychopathology and pharmacotherapy (Fitzgerald et al., 2001; Pinikahana et al., 2002; Ritsner et al., 2002; Tomotake, 2011), demographic (Munikanan et al., 2017; Pinikahana et al., 2002), psychological (Brekke et al., 2001; Gureje et al., 2004; Ritsner et al., 2014), and clinical factors, including obesity, hypertension and metabolic syndrome (Allison et al., 2003; Malhotra et al., 2016), as well as unhealthy lifestyles (Deenik et al., 2017; Hofstetter et al., 2005; Ritsner et al., 2004; Vancampfort et al., 2011).

Regarding psychopathology, depressive and negative symptoms were associated with poor QoL (Browne et al., 1998; Dickerson et al., 1998; Fitzgerald et al., 2001; Norman et al., 2000; Tomotake, 2011), while the association of positive symptoms is scarce and controversial (Fitzgerald et al., 2001; Norman et al., 2000; Ritsner and Gibel, 2007). Side effects of antipsychotic agents also have been found to play a significant role in QoL (Ritsner et al., 2002). On demographic variables, male gender was associated with poor QoL in psychological domain (Li et al., 2017), while female gender significantly predicted better QoL in physical and psychological domains (Munikanan et al., 2017). However others studies (Chou et al., 2014; Wartelsteiner et al., 2016) reported no effect of gender on QoL. Being unemployed was associated with poor QoL in the majority of the studies (Cai and Yu, 2017; Chou et al., 2014; Li et al., 2017; Marwaha et al., 2008), while in others studies (Munikanan et al., 2017; Wartelsteiner et al., 2016) no associations were found. On educational level, patients with higher levels of education reported lower QoL (Caron et al., 2005; Ruggeri et al., 2005). Treatment setting, namely living arrangements was also associated with better QoL (Caron et al., 2005). On psychological variables, some factors such as low self-esteem and self-efficacy were also associated with poor QoL (Brekke et al., 2001; Gureje et al., 2004; Ritsner et al., 2014). In the study of Wartelsteiner et al. (2016) self-esteem was significantly correlated with QoL. In the same study, self-esteem was also identified as a predictor of QoL. On clinical variables, the association between BMI and QoL domains in the literature is inconsistent, the majority of previous studies reported that overweight and/or higher BMI was associated with impairments in the physical aspects of QoL (Bressington et al., 2016; Faulkner et al., 2007; Vancampfort et al., 2011). Other studies (Kolotkin et al., 2008; Sugawara et al., 2013), reported that both physical and psychological aspects of QoL were significantly and positively associated with an overweight status in this population. On lifestyle-related factors, poor sleep quality (Hofstetter et al., 2005; Ritsner et al., 2004), and lack of physical activity (Vancampfort et al., 2011) were associated with poor QoL in people with schizophrenia. Recent research (Deenik et al., 2017) demonstrated that physical activity is a significant predictor of some domains of QoL including physical, psychological and social domains. There is a lack of research evaluating the associations between diet quality and QoL in people with schizophrenia. However, in non-clinical populations the diet quality was associated with a better QoL (Henriquez Sanchez et al., 2012; Munoz et al., 2009).

Despite the high prevalence of poor lifestyle behaviours in people with schizophrenia and high rates of physical health comorbidity, there has been limited research on the contribution of lifestyle-related factors to the domains of QoL. To the best of our knowledge, there has not been any study which has simultaneously analysed lifestyle-related factors (i.e., physical activity, sleep quality, smoking and dietary habits) as predictive factors of QoL in people with schizophrenia. Identification of predictors of QoL would be helpful in designing more effective psychoeducational interventions to reduce lifestyle-related risk in people with schizophrenia. Therefore, the present study aimed to assess the association between lifestyle-related factors, psychological factors, and QoL in a sample of people with schizophrenia.

2. Method

2.1. Participants and study sites

All participants in this cross-sectional study were recruited using convenience sampling determined by recruitment opportunities in seven psychiatric centres (see acknowledgments), located in the northern region of Portugal. Inpatients were long-term hospitalized patients recruited from four psychiatric hospitals. In these hospitals, mental healthcare and residence is provided when even clinically stable patients are unable to live independently or in sheltered homes (e.g., lack of social support, lack of family members, or financial conditions). Outpatients were recruited from three community mental health centres where therapeutic approaches are provided.

All participants met the following inclusion criteria: 18 years of age or older, acute symptoms (at least partially) remitted and, prescribed a stable medication regimen (i.e., no medication changes within the last month). Exclusion criteria included an inability to provide informed consent, or to speak Portuguese, an inability to concentrate for at least 20 minutes (as determined by the treating psychiatrist), neurological disorders, and a diagnosis of substance abuse or dependence in the previous six months. Psychiatric diagnosis of the participants was based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) (American Psychiatric Association, 2013) criteria and was established by experienced psychiatrists. The study procedure was approved by the