Men and women with psychosis and the impact of illness-duration on sex-differences: The second Australian national survey of psychosis

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ABSTRACT

We aimed to examine and compare sex-differences in people receiving treatment for psychotic illnesses in community settings, based on long or short duration of illness; expecting association between longer illness-duration and worse outcomes in women and men. Clinical, demographic and service-use data from the Survey of High Impact Psychosis were analysed by sex and duration of illness (≤ 5 years; ≥ 6 years), using independent t-tests, chi-square tests, one-way ANOVA, and Cramer's V. Of the 1825 participants, 47% had schizophrenia, 17.5% bipolar and 16.1% schizo-affective disorders. More women than men had undertaken post-school education, maintained relationships, and been living in their own homes. Women with a shorter-illness-duration showed social functioning equivalent to non-ill women in the general population. Men tended to have an early illness onset, show premorbid dysfunction, be single, show severe disability, and to use illicit substances. Men with a longer-illness-duration were very socially disadvantaged and isolated, often experiencing homelessness and substance use. Men with a short-illness-duration were most likely to be in paid employment, but two-thirds earned less than $AUD500 per fortnight. Men with longer-illness-duration showed most disability, socially and globally. Interventions should be guided by diagnosis, but also by a person's sex and duration of illness.

1. Introduction

Psychotic disorders affect approximately 2% of the population with lifetime prevalence similar for both sexes (Morgan et al., 2010, 2013, 2011, 2012); and higher incidence for men than women (Angermeyer and Kühnz, 1988; Castle et al., 1993; MacDonald and Schulz, 2009).

Characterised by heterogeneous symptomatology, functioning and outcomes, psychotic disorders may be confounded by sex, and age of onset, which varies tending to be later by 3–5 years for women than for men (Angermeyer and Kühnz, 1988; Castle et al., 1993; MacDonald and Schulz, 2009; Morgan et al., 2008).

The reported bimodal, or even tri-modal, distribution of onset

suggests sex-related vulnerability to different psychotic disorders (Castle et al., 1998, 2000, 1994; Morgan et al., 2008). Women with psychosis tend to show better social integration than men, which may be partly-explained by diagnosis type (Grossman et al., 2008; Larsen et al., 1996; Morgan et al., 2008), better coping strategies for managing symptoms (McGlashan, 2008; Schenkel et al., 2005), less disability, and better long-term well-being. Sex-differences may appear early in the illness course, even pre-morbidly (Conrad et al., 2014; Lewin et al., 2012). Women often experience a psychosocial stressor around time of onset (Morgan et al., 2008), with more depressive symptoms (Carpenter et al., 2007), and fewer negative symptoms than men.

Women's functioning eventually approximates that of men (Canuso and Pandina, 2007; Castle et al., 2000). However, in schizophrenia specifically, the prognosis for men is poorer than that for women (Ran et al., 2015), who have better remission, fewer relapses (Grossman et al., 2008), and better marital and housing outcomes (Olsson et al., 2016). While marriage may ameliorate the long-term effects of schizophrenia (Ran et al., 2016) men are relatively unlikely, compared to women with schizophrenia or the general population, to be (Campbell et al., 2012). Early intervention decreases mortality and morbidity (Henry et al., 2010; Mihalopoulos et al., 2009), encouraging community management (Gleeson et al., 2009; Jorm et al., 2008; Mihalopoulos et al., 2009). Early intervention potentially improves consequences for youth (especially regarding employment (Marshall and Rathbone, 2011)), and ameliorating positive symptoms (Birnbaum et al., 2015), but possibly not helping those with long-term experience of their disorder, with detrimental effects on employment, education, social functioning and physical health (Bartels and Pratt, 2009).

Additionally, onset is associated with prognosis: participants in a Hong Kong study with adult-onset psychosis were more likely to be better-functioning, women, full-time employed, smokers, have poorer medication compliance and more hospitalisation for psychiatric issues than adolescent-onset participants, and fewer had schizophrenia (Hui et al., 2014). However, an Australian study showed that compared with adult-onset, early-onset participants who received early interventions reported fewer positive symptoms and showed better global, vocational and social functioning, living comfortably in the community with a better course of illness (Amminger et al., 2011). Hence, treatment timing is important (Ehmann et al., 2014).

The Survey of High Impact Psychosis (SHIP) was conducted in Australia, where there has been a recent move from treatment delivered via general practitioners (GPs) and psychiatric specialists to case managers in publicly-delivered Mental Health Services (MHS) and Community Managed Organisations (CMOs). This is seen as a more person-centred, recovery-focussed method of holistic care that reduces stigma and enables peer support and treatment compliance (National Mental Health Commission, 2015a, 2015b).

Few authors have specifically explored the impact of illness duration on sex-specific findings, and SHIP data provide this opportunity. We chose five years post-first-episode as a cut-off point for our examination into duration of illness, as previous research has suggested that early intervention (during the first five years after a first episode) is effective in reducing symptom severity and improving prognosis in many domains, especially in terms of motivation and positive symptoms (Agius, 2009; Agius et al., 2010, 2009; Amminger et al., 2011; Bird et al., 2010; Birnbaum et al., 2015; Cabral and Chaves, 2010; Chen et al., 2011; Coentre et al., 2011; Cotton et al., 2011; Gleeson et al., 2009; Henry et al., 2010; Liu et al., 2010; Marshall and Rathbone, 2011; Norman et al., 2015, 2012; Porter, 2012; Restek-Petrovic et al., 2012; Shrivastava et al., 2012; Srihari et al., 2012; Theodore et al., 2012), and these findings continue to be replicated and debated (Carrión et al., 2017; Castle and Singh, 2015; Chong et al., 2016; Conrad et al., 2014; Ehmann et al., 2014; Galletly et al., 2016; Hahn et al., 2016; Howes et al., 2016; Hughes et al., 2014; Joyce et al., 2016; Lambert et al., 2016; Laurens et al., 2015; Lower et al., 2015; Marshall et al., 2015; McGorry, 2015; Nordentoft et al., 2014; Okasha et al., 2016; Srihari

et al., 2015; Windell et al., 2015).

The aims of this study were to (1) examine sex-differences in adults receiving treatment for psychotic disorders, and (2) compare sex-differences between those with a short duration of illness (0–5 years since onset; SD) and those with a long duration of illness (6 years or longer since onset; LD). Longer illness-duration was expected to be associated with differentially-worse outcomes in women and men.

2. Methods

A comprehensive overview of the study design, including ascertainment, instruments, validity, and participant characteristics can be found elsewhere (Morgan et al., 2013, 2011, 2012). Briefly, the SHIP was conducted across seven catchment sites, covering 1.5 million adults aged 18–64 years (approximately 10% of the Australian population in this age group). A two-phase design was employed. In phase one, all people in contact with specialised MHSs (namely, public inpatient, outpatient and ambulatory services) and non-governmental services supporting people with mental illness (now known as CMOs) within designated catchment areas in the census month (March 2010) were screened for psychotic illness; this was supplemented with an audit of public mental health contacts in the 11 months prior to census; resulting in 7955 adults being screen-positive for psychosis. In phase two (April 2010 – March 2011), 1825 individuals were randomly selected from those 7955 adults and interviewed.

Interviewers and site coordinators, who were mental health professionals, attended national training workshops and had onsite training prior to interviewing participants. Weekly teleconferences and inter-rater reliability testing occurred at the start and end of data collection, and at regular time-points throughout the study.

Participants were aged 18–64 and living in the designated catchment areas at the time of screening. Exclusion criteria were: communication/cognitive impairment, insufficient English, and prison/nursing home residence. Participants provided written informed consent; most also agreed to case-note and GP access. Human research ethics approval was in place at all sites.

The interview schedule comprised 32 modules with closed and open-ended questions (depending on the module) allowing self-report on demographics, education, employment, accommodation, homelessness, income source and amount, substance use, stigma, social and occupational function, and utilisation of physical and mental health services. ICD-10 diagnosis was determined using the Diagnostic Interview for Psychosis-Diagnostic Module (DIP-DM); a semi-structured interview schedule used to rate symptom experience, using the Operational Criteria for Psychosis (OPCRIT) algorithm (Conrad et al., 2014) to assign a lifetime diagnosis; and covering premorbid functioning, age of onset, course of illness, and mode of onset (Castle et al., 2006). The National Adult Reading Test (NART) was used to rate premorbid IQ (Nelson, 1982). The Digit-Symbol Coding Task, a speed of processing task, was used to rate current cognitive performance (Kaplan et al., 1991; Randolph et al., 1998). Disability in performance at work, in study and activities of daily living, was assessed by interviewers on the basis of relevant modules, using The Multidimensional Scale of Independent Functioning (MSIF); here we report on global independent functioning (corrected for level of support and performance relative to community norms) (Jaeger et al., 2003). Participants responded to questions (Kirkpatrick et al., 1989) regarding socialising, social isolation, social withdrawal, perceived and experienced stigma, and relationships with family and friends. Based on these responses and the participants' demeanour, interviewers gave an overall socialising dysfunction score and diminished emotional range score. Interviewers also rated the Personal and Social Performance (PSP) which examined vocational activities, relationships, self-care, and aggressive behaviour (Morosini et al., 2000). Consequently, an overall socialising score of zero or a PSP score of 100 would indicate that the participant exhibited no social dysfunction and socialised as much as could be expected for