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PSYCHIATRIC COMORBIDITY IN OLDER ADULTS WITH INTELLECTUAL DISABILITY

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SUMMARY

Background: *The population of older adults with intellectual disability (ID) is large and growing due to a significant increase of life expectancy caused by improvements in health and social care. Multimorbidity is highly prevalent in this population and co-morbid psychiatric disorders are especially frequent.*

Subject and methods: *The aim of this article is to review the prevalence and consequences of psychiatric comorbidity in the population of older adults with ID. We therefore performed a literature search of studies relevant to adults with ID, published since January 2006, using the following keywords: intellectual disability and comorbidity, intellectual disability and mental disorders, intellectual disability and polypharmacy.*

Results: *Psychiatric comorbidity is frequent among patients with ID and correlates with older age. Mental disorders are present in up to 40% of older adults with ID and the most prevalent are challenging behaviour, depression, anxiety and dementia. Patients with ID and at least one co-morbid mental disorder are at a high risk of polypharmacy. Importantly, psychiatric comorbidity was found to significantly increase service use and costs of care.*

Conclusions*: Further investigation of the population of older adults with ID is needed, with special attention to development of clear treatment guidelines in order to effectively manage co-morbid mental illnesses and physical health problems.*

Key words: *intellectual disability – comorbidity - mental disorders - aged, polypharmacy*

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INTRODUCTION

The number of elderly people with intellectual disability (ID) is large and growing, which is resulting from significant increase of life expectancy of this population caused by improvements in health and social care (Sinai et al. 2012). It is estimated that over the last 20 years the number of patients with ID in Down syndrome in the Northern Europe was doubled (De Graaf et al. 2011). The mean life expectancy of this population was 18.5 years in the 1930s and increased to 66 years in the 1990s (Braddock 1999). According to some studies, old age in people with ID starts at 50 years old (Perkins & Moran 2010). The mean frailty index (a proportion of deficits present in an individual out of the total number of age-related health variables considered) for people with ID at the age of 50-59 years is comparable to frailty index for the general population at the age of 70-79 years (Schoufour et al. 2013).

Specialist health problems, including psychiatric disorders, are frequent among older adults with ID and their profile differs from that found in general population (Bhaumik et al. 2008). According to some studies, co-morbid mental disorders in patients with ID are undertreated in comparison with similar disorders in the general population, which results in poorer treatment outcomes (Eady et al. 2015). Medication management of coexisting mental health issues is complicated, as older adults with ID are at a high risk of polypharmacy, while older age is associated with increased risk of adverse effects of medications. Older age was also found to be correlated with the lack of caregiver, independently of functional status and comorbidity (Wee et al. 2014). In Singapore it was reported that 73.5% of older adults with ID had a primary caregiver, most often parents or siblings, and the mean age of caregivers was 66 years old (Wee et al. 2014).

METHODS AND MATERIAL

The aim of this article was to review the prevalence and factors associated with psychiatric comorbidity in the population of elderly patients with ID. We therefore performed a literature search of studies relevant to adults with intellectual disabilities, published since January 2006, using the following keywords: intellectual disability and comorbidity, intellectual disability and mental disorders, intellectual disability and polypharmacy.

RESULTS

Tools for undertaking mental health assessments for use with people with ID

Psychiatric disorders are common among older patients with ID, however their prevalence is difficult to determine with diagnostic criteria for the general population, therefore questionnaires designed specifically for this population need to be used. Psychiatric Assessment Schedule for Adults with Developmental Disabilities (PAS-ADD) is a semi-structured clinical interview

based on the International Statistical Classification of Diseases and Related Health Problems - 10th Revision (ICD-10) criteria and combines information obtained from patients and caregivers (Moss et al. 1998). PAS-ADD includes criteria for the following disease entities: schizophrenia (F20), delusional disorder (F22.0), other persistent delusional disorders (F22.8), schizoaffective disorders (F25), other nonorganic psychotic disorders (F28), unspecified nonorganic psychosis (F29), manic episode (F30), depressive episode (F32), agoraphobia (F40.0), social phobias (F40.1), specific phobias (F40.2), panic disorder (F41.0), generalized anxiety disorder (F41.1), obsessive-compulsive disorder (F42), childhood autism (F84.0) and hyperkinetic disorders (F90). Diagnostic Criteria For Psychiatric Disorders For Use With Adults With Learning Disabilities/Mental Retardation (DC-LD) is designed for patients with moderate and severe ID (Royal College of Psychiatrists 2001). DC-LD is based on the ICD-10 criteria adjusted for the ID population. Dementia Questionnaire for People with Learning Disabilities (DLD) is a screening tool based on the international guidelines for dementia diagnosis (Evenhuis et al. 2006). DLD is an informant-based questionnaire and consists of eight subscales: short-term memory, long-term memory, orientation, speech, practical skills, mood, activity and interest and behavioural disturbance. Anxiety, Depression And Mood Scale (ADESS) is a self-report questionnaire to assess five types of symptoms: manic/ hyperactive behavior, depressed mood, social avoidance, general anxiety and compulsive behavior (Esbensen et al. 2003). Importantly, all symptoms in the questionnaire can be observed by the caregiver, which enables assessment of patients with more severe ID.

Psychiatric comorbidity in older adults with ID

Comorbidity is defined as the presence of at least two diseases or disorders in an individual. It is estimated that elderly patients with ID have on average 2.5 times more chronic diseases than their counterparts in the general population (McCarron et al. 2013). Psychiatric comorbidity is particularly frequent in patients with ID – mental disorders are present in up to 40% of this population (Costello & Bouras 2006). Cooper & van der Speck (2009) studied the prevalence of psychiatric comorbidity in a group of 1023 adults with ID and reported that 35.2% of the sample met the DC-LD diagnostic criteria for at least one mental disorder. Challenging behaviour was the most frequent psychiatric comorbidity – it was present in almost 10% of the group, including verbally aggressive behaviour (7.5%), physically aggressive behaviour (6.3%) and destructive behaviour (3.0%). Independent predictors of aggression were: lower ability, female gender, attention deficit hyperactivity disorder (ADHD), urinary incontinence, ID for reasons other than Down syndrome and living without a family.

Older age was found to be correlated with the occurrence of psychiatric comorbidity. Data obtained from an Irish longitudinal study on aging, multimorbidity was established for 71% of the sample (Mc Carron et al. 2013). The most frequent comorbidity pattern was mental health/neurological disease. The authors reported that people aged 50-64 years old were almost 1.5 times more likely to have at least 2 chronic conditions compared to patients aged 40-49 years old. Patients aged 65 or over had a 3.8 times higher probability of having multimorbidity than those aged 40–49 years. Interestingly, the presence of Down syndrome diminished the likelihood of having a comorbidity. A study by Hermans & Evenhuis (2014) stays in line with these results: multimorbidity was present in the majority (79.8%) of the sample which consisted of 1047 people with ID aged over 50 years. The risk of multimorbidity was increasing with age and severity of ID. The most frequent psychiatric comorbidities were: severe challenging behaviour (32.4%), depression (15.2%) and anxiety (13.6%). The same authors performed a study on the prevalence of depression and anxiety in 990 patients with ID over 50 years old (Hermans et al. 2013). Data was mainly obtained from primary caregivers and also from self-report questionnaires. The authors reported that depressive symptoms were present in 16.8% of the sample and correlated with older age, while diagnostic criteria for depressive disorders were met in 7.6% of the sample. Anxiety symptoms were reported in 16.3% of the sample and correlated with female gender and milder severity of ID. Diagnostic criteria for anxiety disorders were met in 4.4% of the participants. A study by Strydom et al. (2010) investigated the prevalence of psychiatric comorbidity in 222 patients over 60 years old with ID excluding Down syndrome. The authors found that 42% of the sample had a history (according to informants or medical records) of at least one serious mental illnesses, while only 20% were receiving care from psychiatrists and 12% from psychiatric nurses.

According to some authors the prevalence of dementia in patients with ID is five times higher than in the general population (Strydom et al. 2013). There are several hypotheses explaining this correlation. “Brain reserve hypothesis” refers to the fact that individuals with ID have lower brain volume, smaller number of neurons and synaptic connections (Valenzuela & Sachdev 2006). There is a "critical point" upon which clinical signs of dementia develop; individuals with ID achieve it earlier due to the lower brain reserve (Valenzuela & Sachdev 2006). Increased risk of Alzheimer disease (AD) in Down syndrome is probably due to triplication of chromosome 21, which includes the gene encoding amyloid precursor protein (APP), which is closely related to AD (Vilardell et al. 2011). Another reason explaining increased risk of dementia in this population is the fact that the majority of people with ID are not involved in activities that stimulate

cognitive functions (education, professional career) to the same extent as their counterparts in the general population.

It is important to underline that psychiatric comorbidity increases service use and costs of care. In England, elderly patients with ID comprise 0.15- 0.25% of the population, however they consume up to 5% of the total Social Services budget (Strydom et al. 2010). Socioeconomic factors associated with ID were examined in a British study (Strydom et al. 2010). According to the study, average weekly cost of living for an elderly person with ID is £ 790 (74% of which is associated with accommodation). Psychiatric comorbidity increased the costs to £ 992 per week. The severity of ID and somatic comorbidity were also correlated with higher costs. Dementia did not lead to increased costs, in contrast to the tendency in general population, as people with ID are often already living in supported accommodation, therefore no additional resources are used.

Polypharmacy in older adults with ID

Multimorbidity is inherently associated with polypharmacy and older adults with ID are at a particularly high risk of adverse drug effects. It is important to stress out that patients with ID are often excluded from randomized clinical trials on medical treatment because of the suspicion that they are unable to express informed consent, therefore side effects of medications in this population are less known than in the general population. Strydom et al. (2010) assessed the prevalence of polypharmacy among 222 patients over 60 years old with ID excluding Down syndrome. The results showed that 85% of the sample were chronically medicated; 59% of them were receiving two or more medications, 42% - at least three, 5% - at least four and 2% - over eight. The results of The Intellectual Disability Supplement to the Irish Longitudinal Study on Ageing (IDS-TILDA) are even more alarming – 90 % of the study group (753 people with ID aged between 41 and 90 years) was chronically medicated (O'Dwyer et al. 2016). Polypharmacy (5-9 medications) was reported in 31.5% of the sample, while excessive polypharmacy (>10 medications) in 20.1% (O'Dwyer et al. 2016). Accommodation in a care facility, as well as the occurrence of mental and neurological disorders, was strongly associated with polypharmacy and excessive polypharmacy after taking into account confounding factors. Age and gender were not significantly correlated with polypharmacy.

CONCLUSIONS

The population of older patients with ID faces a number of problems, among which the most prominent is multimorbidity (especially psychiatric), which leads to polypharmacy and significant increase of costs of care. Improvement of mental health of older adults with ID not only require effective treatment of mental illness and co-morbid physical health problems, but also social and economic factors need to be considered. Social rehabilitation and stimulation of cognitive functions are of especially high importance. Closer collaboration between specialist service providers and clear treatment guidelines are needed in order to avoid unnecessary polypharmacy. Meeting the special needs of this group of patients still requires further research.

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Contribution of individual authors:

The first and the second author conceived of the presented idea for a review. The first author performed the literature research and drafted the manuscript. The third author supervised the findings of this work. All authors discussed the results and contributed to the final manuscript.

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