Reasons for acute psychiatric admission of patients with dementia

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Introduction: The estimated number of patients living with dementia in Hungary is between 150,000 and 300,000. Hungary's prevalence of vascular dementia is much higher than that of other countries. Patients with dementia can be admitted to psychiatric hospitals for several reasons, the least common of which is cognitive decline. Comorbid psychiatric disorders or dementia-related behavioral disturbances are much more common reasons. **Aim:** To examine the reasons for the acute psychiatric admission of patients suffering from dementia in a psychiatric center in Budapest. **Materials and methods:** In this retrospective survey the data of dementia patients who were referred to the Centre for Psychiatry and Addiction Medicine (CPAM) at Szent István and Szent László Hospitals between August 1 and October 31, 2014 were analyzed with special attention paid to the reasons for hospitalization. **Results:** Altogether 302 patients were admitted to the CPAM over the study period and 26.15% of them suffered from dementia. The distribution of dementia subtypes was as follows: 43% mixed type (vascular and neurodegenerative), 40.5% vascular type, 11.4% Alzheimer's disease, and 5.1% other types. A small percentage (12.7%) of patients had mild dementia, while 34.2% and 53.2% suffered from moderate and severe dementia, respectively. The major causes of hospitalization were *aggressive behavior* (34.2%), *delirium* (19%), and *divagation* and *confusion* 15.2% each. They were mainly associated with moderate and severe dementia. *Suicide attempt* was the reason for admission in 10.1% of cases, and *delusions* in 6.3%. With regard to admission outcome, 44.3% of patients were transferred to a medical ward, 12% within 3 days of psychiatric admission. Nearly 9% of patients required extended hospitalization, 21.5% were discharged home, 20.3% were transferred to a nursing home and 5.1% died while in hospital. More than half of the patients were rated on the CGI-C scale; 59% of them scored 2 points (much improved), 25% scored 1 point (very much improved) and 16% scored 3 points (moderate improvement). **Discussion:** A high proportion of dementia patients acutely admitted to a psychiatric ward was medically compromised and either died soon after admission (5%) or was transferred to a medical ward for further treatment. This highlights the importance of a thorough medical work-up including physical examination and laboratory investigations for dementia patients requiring acute psychiatric admission. It is of note that only a small number of patients could be discharged home or to a nursing home. These figures underscore the need for more nursing home places and a better functioning social care system in this field.

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Progressive deterioration of cognitive functions is the main characteristic of dementia syndrome (Sirály et al., 2015). A number of neuropsychiatric signs and symptoms such as memory impairment (Rajan et al., 2015), disorientation, executive dysfunction (Enright et al., 2015), and deterioration in visuo-spatial capacity (Cerami et al., 2015) can manifest in the first stages of dementia (Sirály et al., 2013).

In association with these symptoms, or even before any clinical symptoms appear, impairment in social skills, motivation, and emotional balance may also be observed (Csukly et al., 2014). In more than half of patients with all types of dementia, diagnosable neurodegenerative processes, most frequently those described in Alzheimer's disease, are responsible for the symptoms (Hampel et al., 2011). The other leading cause of dementia is vascular encephalopathy, followed by other brain diseases, including Lewy body dementia, frontotemporal dementia, and toxic dementia (Lobo et al., 2000). In Hungary, the prevalence of vascular dementia is much higher than that in other countries. In a neuropathological study, the brains of 43% of patients who presented with clinical signs and symptoms of dementia exhibited vascular pathology, and mixed (Alzheimer's and vascular) pathology was detected in 16% (Kovács et al., 2008).

The leading risk factor of dementia syndrome is age. The prevalence of dementia doubles every five years after the age of 65, at which its estimated prevalence is approximately 5-10% worldwide, with a higher percentage in women (Hugo & Ganguli, 2014). According to a meta-analysis, the total number of patients living with dementia will reach 115.4 million worldwide by 2050 (Prince et al., 2013).

In Hungary, two small surveys have examined the rate of dementia, both of which were conducted in general practice. The prevalence of dementia in the Hungarian population was found to be approximately 7.4% (< 65 years) and 38.7% (> 75 years) (Linka et al., 2001) and 7.3% (< 60 years) and 54.6% (> 80 years) (Leel-Őssy et al., 2005). These findings indicate that the number of dementia patients in Hungary can be estimated at between 150000 and 300000 (Érsek et al., 2010a).

In addition to causing immeasurable suffering to patients and their families, the high frequency of dementia inflicts an enormous burden on society (De Fazio et al., 2015). The management of dementia incurs very significant costs and overwhelms healthcare systems (Érsek et al., 2010b). A significant number of dementia patients are admitted to hospital, most commonly to medical and surgical wards (Fukuda et al., 2015), and their treatment is usually lengthier than that of their non-demented counterparts (Sebestyén et al., 2006). Dementia patients require hospital admission for several reasons, the least common of which is cognitive decline. Comorbid psychiatric disorders or behavioral disturbances associated with dementia are much more common reasons (Azermai, 2015).

The aim of this study was to examine the reasons for the psychiatric admission of patients suffering from dementia.

METHOD

This retrospective survey analyzed the data of patients who were referred for admission to the Centre for Psychiatry and Addiction Medicine (CPAM) at Szent István and Szent László Hospitals in Budapest with a diagnosis of dementia between August 1 and October 31, 2014. The following variables were extracted from patients' medical notes: sex, age, reason for admission, type and severity of dementia, psychopharmacotherapy and outcome of the admission. Descriptive statistics were used for the statistical analysis.

RESULTS

Of the 302 patients admitted to the CPAM during the study period, 26.15% suffered from dementia. The majority of the dementia patients (68.4%) were female. The mean age of the dementia cohort was 77.65 years. Seventy-eight percent of the patients received a brain CT scan during or prior to their index admission. In the remainder, the type of dementia was determined on the basis of clinical signs and symptoms. The distribution of dementia subtypes was as follows: 43% were mixed type (vascular and neurodegenerative) 40.5% vascular type, 11.4% Alzheimer's disease, and 5.1% other types (e.g., dementia caused by Huntington's disease).

The severity of dementia was assessed with the Mini Mental State Examination and Clock Drawing Test, with 12.7 %, 34.2 % and 53.2 % of patients classified as having mild, moderate, and severe dementia, respectively.

The major causes of hospitalization in patients with dementia were *aggressive behavior* (34.2%), *delirium* (19%), and aimless *divagation* and *confusion* 15.2% each. *Suicide attempts* and delusions necessitated admission in 10.1% and 6.3% of cases, respectively. Patients with mild dementia attempted suicide more often than their moderately or severely demented counterparts. Those suffering from moderate/severe dementia were usually admitted because of aggressive behavior and delirium.

The psychotropic drugs prescribed are shown in Table 1. In addition to a single psychotropic medication, the following combinations were used: tiapride + memantine + benzodiazepine; tiapride + benzodi-

azepine + quetiapine; haloperidol + tiapride + benzodiazepine; quetiapine + SSRI + benzodiazepine; and donepezil + quetiapin + benzodiazepine + tiapride.

The outcome of hospitalization was as follows: 44.3% of the patients had to be transferred to an acute medical ward; 12% within 3 days of psychiatric admission to CPAM and 64% after more than 3 days. Twenty-four percent of all patients transferred to an acute medical ward needed further care at a chronic medical setting.

Nearly 9% of the patients needed longer psychiatric hospitalization; 21.5% were discharged home, 20.3% were transferred to a nursing home, and 5.1% died during the index psychiatric admission.

The Clinical Global Impression – Change scale (CGI-C) was administered to 50.6% of patients; those who died or were transferred to a medical ward were not assessed with the CGI-C. On the CGI-C, 59%, 25% and 16% of patients scored 2 points ("much improved"), 1 point ("very much improved") and 3 points ("moderately improved"), respectively

Table 1. Medications prescribed to patients with dementia in a psychiatric hospital

Medication	Proportion of patients (%)
Tiapride	21.51
BZD	1.26
QTP	5.06
Tiapride+BZD	22.83
Tiapride+QTP	1.26
SGA (QTP or RISP)	15.18
SSRI+BZD	2.53
Tiapride + SSRI	3.79
Triple combination	22.83
Tetra combination	3.79

BZD = benzodiazepine; QTP = quetiapine; SGA = second-generation antipsychotic; RISP = -risperidone; SSRI = selective serotonin reuptake inhibitor

DISCUSSION

The main findings of this survey are that psychopathological symptoms were responsible for the acute psychiatric admission of more than a quarter of demented elderly patients. The most frequent reasons for admission were aggressive behavior, psychomotor agitation and delirium, which are most commonly associated with moderate or severe forms of dementia. These findings are in accordance with the recent literature on the functional and cognitive deficits found at hospitalization (Zhu et al., 2015, Sebestyén et al., 2006). In contrast, earlier studies reported different reasons, mainly problems with activities of daily living, such as an inability to bathe independently (Andrieu et al., 2002), and caregiver exhaustion and burnout (Balardy et al., 2005) which were not identified in the present sample. Suicide attempts were found to be the major reason for admission in patients with mild dementia, possibly because such patients are aware of their bleak future.

In line with the literature, the majority of the patients with dementia who needed psychiatric admission were female. Similar to previous findings in Hungary (Kovacs et al., 2008), the most common types of dementia were vascular or mixed. More than half of the patients suffered from severe dementia. A high proportion of dementia patients acutely admitted to a psychiatric ward was medically compromised and either died soon after admission (5%) or had to be transferred to a medical ward for further treatment. This highlights the importance of a thorough medical work-up including physical examination and laboratory investigations, for dementia patients needing acute psychiatric admission (Ekler et al., 2008). The patients who ended up in long-term medical facilities were either in a dire social situation and could not be discharged home or were severely medically compromised and needed permanent medical care. It is of note that only a small number of patients could be discharged home or to a nursing home. These figures underscore the need for more nursing home places and a better functioning social care system in this field (Gazdag et al., 2013).

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Demenciában szenvedő páciensek akut pszichiátriai osztályra történő felvételének okai

Bevezetés: Magyarországon jelenleg 150-300 ezer közöttire becsülhető a demenciában szenvedő betegek száma. A vaszkuláris demencia előfordulási aránya Magyarországon magasabb, mint más országokban. A demens páciensek kórházi felvételének számos, különféle oka lehet. Maga a kognitív deficit a legritkább esetben szolgál kórházi beutalás alapjául, sokkal inkább a demencia magatartásbeli tünetei vagy a társuló rendellenességek képezik a kórházi felvételek legfőbb okát. **Célkitűzés:** egy budapesti pszichiátriai centrumba felvett demens betegek akut pszichiátriai osztályra történő felvételét képező okok vizsgálata. **Anyag és módszer:** retrospektív vizsgálatunkban az Egyesített Szent István és Szent László Kórház, Merényi Gusztáv Kórház – Pszichiátriai és Addiktológiai Centrumába (PAC) 2014.08.01.-2014.10.31. között felvett betegek adatait vizsgáltuk meg, különös tekintettel a kórházi felvétel okaira. **Eredmények:** a vizsgált periódusban 302 beteg került felvételre a PAC-ba, melynek 26,15%-a szenvedett demenciában. A demencia altípusainak megoszlása következőképpen alakult: 43% kevert típus (vaszkuláris és primer neurodegeneratív) 40,5% vaszkuláris, 11,4% Alzheimer típusú, 5,1% egyéb típusú demencia. A páciensek 12,7%-a enyhe, 34,2% középsúlyos, 53,2%-a súlyos demenciában szenvedett. A kórházi felvétel okai a következők voltak: 34,2%-ban *agresszív magatartás*, 19%-ban *deliráns tudatzavar* tünetei, 15,2%-ban *zavartság* és *céltalan elkóborlás*. Mindezek főként középsúlyos és súlyos demenciához társultak. Öngyilkossági kísérlet, 10,1%-ban szolgált a felvétel okául, míg 6,3%-ban téveszmék hangoztatása miatt kerültek a betegek felvételre. A páciensek 44,3%-ának volt szüksége belgyógyászati osztályra történő áthelyezésre, ezen belül 12% a felvételt követő 3 napon belül került áthelyezésre. A vizsgált betegek közel 9%-a hosszabb pszichiátriai osztályos ápolásra szorult, 21,5%-ot lehetett az otthonába bocsátani, 20,3% idősek otthonában került elhelyezésre és 5,1% volt a demens betegek halálozási aránya. A páciensek több mint felénél volt lehetőség CGI-C skála felvételére, ennek eredményeként 59% 2-es pontszámot (sokat javult) ért el, 25% 1-et (nagyon sokat javult), 16% 3 pontot (közepes javulás). **Megbeszélés:** A belgyógyászati osztályra történő áthelyezések és elhalálozások (5%) magas aránya rávilágít az akut pszichiátriai osztályra felvett idős betegek alapos szomatikus kivizsgálásának és laboratóriumi vizsgálatainak fontosságára. Szembetűnő a hazaengedhető és az idősek otthonában elhelyezett páciensek alacsony száma, ami a szociális hálózat fejlesztésének szükségességére hívja fel a figyelmet.

Kulcsszavak: demencia, akut pszichiátriai felvétel, okok