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Discharge of adolescents with mental health problems against medical advice: Findings from adult mental health inpatient facilities across Ontario, Canada

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ABSTRACT

Little is known about discharge against medical advice (DAMA) among adolescents with mental health problems. The objective of this study was to examine the prevalence of DAMA and provide some insight into the factors that influence DAMA among adolescents with mental health problems using a large dataset from Ontario, Canada. Data on 1811 adolescents aged 14–18 years who were discharged from adult mental health beds between October 2005 and March 2010 were analyzed using logistic regression. Of the 1811 discharges in the sample, 78(4.3%) were against medical advice. In the multivariate model, older age, having limited insight or no insight into mental illness, provisional DSM-IV diagnoses of substance-related disorders, eating disorders, and personality disorders increased the odds of DAMA. Length of stay was negatively associated with DAMA. The findings of this study highlight the importance of completing comprehensive assessments at the time of admission to identify adolescents who are at risk of treatment refusal and provide timely intervention to prevent DAMA.

1. Introduction

The last half-century has witnessed remarkable efforts aimed at empowering psychiatric inpatients (Brooks, 1982; Quanbeck et al., 2003). This has brought about changes in mental health legislations with patients now having considerable say in decisions regarding their care including the right to treatment and to refuse treatment (MacKenzie, 1993; Talbott, 2004; Brook et al., 2006). With this patient-centered approach, a mentally ill person can only be treated against his/her will if he/she is either a threat or danger to him/herself or to others (Brooks, 1982). Although there are many positives to this patient-centered approach, including more collaborative treatment and improved patient motivation, some mental health professionals are finding it increasingly difficult and frustrating to treat mental health patients who decide they no longer want treatment (Gerbasi and Simon, 2003; Quanbeck et al., 2003; Talbott, 2004). As a result, various studies have been undertaken to examine the phenomenon of psychiatric patients discharging themselves against medical advice (see e.g., Brook et al., 2006; Alfandre, 2009; Valevski et al., 2012; Tawk et al., 2013).

Prevalence rates of DAMA among adult patients vary from 1% to 2% (Ibrahim et al., 2007; Alfandre, 2009; Tawk et al., 2013). Brook et al. (2006) reviewed past studies on DAMA from different patient populations and settings and found prevalence of this phenomenon ranging from 3 to 51%, with a mean of 17%. The majority of existing studies on DAMA, however, are from adult samples and less is known about this phenomenon in pediatric populations (Roodpeyma and Hoseyni, 2010).

Studies conducted among adult patients have identified some factors associated with DAMA, including age, gender, race, marital status, lower socio-economic status, length of stay, rehospitalization, and mental health diagnosis related to substance use. Many studies have found a negative association between age and leaving against medical advice over and above other patient demographic and clinical characteristics (Weingart et al., 1998; Ibrahim et al., 2007; Valevski et al., 2012; Tawk et al., 2013). Findings regarding the association between gender and DAMA are fairly consistent, with most studies showing males to be more likely to leave against medical advice than females. For instance, Tawk et al. (2013) found the odds of leaving against medical advice to be about two times higher for males when compared to females. Regarding length of stay and rehospitalization, a review found DAMA was much higher among patients with a shorter length of stay and prior

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hospitalization (Brook et al., 2006). Hwang et al. (2003) also found 21% of patients, who left against medical advice, were rehospitalized within 15 days compared to 3% of patients discharged routinely. Other studies have also found patients who leave against medical advice to have a shorter length of stay and higher risk of readmission (Pages et al., 1998; Weingart et al., 1998; Ibrahim et al., 2007). One additional common factor identified by past studies as contributing to DAMA is substance use (Pages et al., 1998; Brook et al., 2006; Choi et al., 2011).

A review of the extant literature also suggests that insight into mental illness is strongly associated with treatment outcome, including adherence to medication and willingness to participate in treatment (Keck et al., 1996; Weiss et al., 1998; Teter et al., 2011; Stewart and Baiden, 2013). Keck et al. (1996) found poor insight to be the most commonly cited reason (18%) for pharmacological noncompliance. A recent study by Stewart and Baiden (2013) also found adolescents who had limited or no insight into their mental illness were two times more likely to be nonadherent to their medication regimen than adolescents who had full insight into their mental illness. Surprisingly, limited research has examined the extent to which insight into mental illness could predict DAMA. Among an adult sample, Windish and Ratanawongsa (2008) found lack of insight into medical condition was the main factor for patients leaving against medical advice, followed by poor communication, mistrust, and conflict with staff.

An improved understanding of the factors associated with discharge of adolescents with mental health problems against medical advice is important, since such an understanding could help identify adolescents at higher risk for treatment refusal. Early identification would also allow interventions to be implemented sooner to not only prevent dropout, but also prevent illness relapse, decrease the likelihood of readmission, reduce mortality, lessen health care costs, and ultimately improve the patient's long term prognosis (Alfandre, 2009; Roodpeyma and Hoseyni, 2010; Kehyayan et al., 2011). The objective of this study was to examine the prevalence of DAMA and provide insight into the factors that influence this type of discharge among adolescents with mental health problems.

2. Methods

2.1. Participants

The analyses presented in this paper are based on the discharge record of 1811 adolescents between the ages of 14–18 years ($M=17.69$, S.D.$=1.05$), who were admitted into adult mental health facilities in Ontario, Canada between October 2005 and March 2010. These adolescents were treated in adult mental health facilities due to unavailability of beds in adolescent centered mental health facilities or they may have been in rural settings with non-existent adolescent inpatient mental health services. The adolescents in this study represent a heterogeneous population in terms of their mental health problems, daily adaptation, and functioning (Stewart and Baiden, 2013; Stewart et al., 2013). Although the adolescents were aged 14–18 years, most (78%) were aged 17 and 18 years. The sample was evenly distributed by gender, with 51.5% female and 48.5% male. Average length of stay was 17.52 days (S.D.$=23.22$), and a total of 145 representing 8% were admitted involuntarily. More than half (58.4%) of the adolescents were first-time admissions and the remaining 41.6% had been admitted on two or more occasions. The details of the data including study methods have been described elsewhere (see e.g., Baiden et al., 2013; Stewart and Baiden, 2013; Stewart et al., 2013).

2.2. Instrument

The current study utilized data from the Resident Assessment Instrument – Mental Health (RAI-MH), which was reported to the Canadian Institute for Health Information (CIHI), Ontario Mental Health Reporting System (OMHRS) (2011) for the period covering October 2005–March 2010. The RAI-MH is part of an interRAI suite of instruments designed for use by clinicians, physicians, and nurses in assessing the mental health needs of patients in Ontario, Canada (Hirdes et al., 2005). The RAI-MH tool is a standardized instrument administered to all inpatients admitted into adult mental health facilities in the province of Ontario and consists of items and definitions that serve as a guide in designing clinical assessment, with most of the items serving as specific triggers for care planning (Hirdes et al., 2005; Perlman et al., 2013). The instrument takes about an hour to complete and is completed by trained clinical assessors by interviewing the patient, family, friends, and using information from clinical chart notes and clinical observation (for a detailed description of the RAI-MH see Hirdes et al., 2002, 2005, 2008; Martin et al., 2009; Perlman et al., 2013). The assessors were given comprehensive training on the use of the RAI-MH.

The psychometric properties of the RAI-MH have been established with most of the items having adequate to excellent reliability and validity coefficients (see e.g., Hirdes et al., 2002, 2008; Martin et al., 2009). The RAI-MH data also has built-in validation rules with detailed coding procedures put in place to safeguard data quality (CIHI, 2011). Assessors were trained to adhere to the documentation of coding guidelines contained in the RAI-MH manual.

2.3. Outcome variable

The primary outcome variable of interest examined in this study was DAMA. This was measured as a binary variable coded one if the patient left the hospital facility against medical advice and 0 if the discharge of the patient was planned. Discharges resulting from death, suicide, or patient and discharges due to Absent without Leave (AWOL) or Leave of Absence (LOA) were excluded.

2.4. Explanatory variables

Explanatory variables examined in this study included age, gender, Aboriginal origin, residential instability, education, admission status, readmission, length of stay, insight into mental illness, and provisional DSM-IV diagnostic categories. Residential instability relates to a temporary residence in which the adolescent has lived for less than 30 days (e.g. a shelter or hostel) but plans to live elsewhere. Education was coded as "0=less than grade 9", "1=grades 9–11", and "2=high school and above". Admission status was coded as a binary variable into "0=voluntary admission" versus "1=involuntary admission". Similarly, readmission was measured as a binary variable and coded as "0=none (first-time admission)" versus "1=repeated admissions". Length of stay (in days) was calculated by subtracting the date of discharge from the date of admission. This was treated as a continuous variable in the analysis.

Insight into mental illness was assessed to determine the adolescent's level of awareness of his or her condition and the contributing factors. This was coded as an ordinal variable into categories of "0=full insight", "1=limited insight" and "2=no insight". Insight into mental illness was not intended to provide a comprehensive knowledge of the various signs and symptoms that the adolescent may be experiencing, but rather, that the adolescent is aware that an illness exists and requires treatment if s/he is to recover (see Hirdes et al., 2005). This was assessed by asking adolescents about their view of the present situation and what they thought was happening to them. Those who were able to recognize that an illness existed and appeared to have a fair understanding of the illness or were aware they needed treatment were classified as having full insight and coded 0. Adolescents were coded one (limited insight) if they acknowledged that they had an illness, but were not able to identify the nature of the illness or the contributing factors. Lastly, those who appeared to have no awareness of the mental health illness they were experiencing, did not acknowledge that their behavior or actions were problematic, and did not see the need for assistance or the need to be in hospital were classified as having no insight and coded two. Nine dichotomously coded (0=absent, 1=present) provisional DSM-IV diagnostic categories (disorders of childhood/adolescence, substance-related disorders, schizophrenia and other psychotic disorders, mood disorders, anxiety disorders, eating disorders, impulse-control disorders, adjustment disorders, and personality disorders) were also included in the analysis.

2.5. Statistical analysis

The analysis process involved two stages. In the first stage, a bivariate analysis using chi-square was conducted to examine the association between DAMA and the categorical explanatory variables. One-way ANOVA was used to compare the mean length of stay for adolescents that left against medical advice versus those for which discharge was planned. In the second stage, a multivariate analysis using SAS PROC LOGISTIC (SAS Institute Inc, Cary, NC) was conducted to identify the association between DAMA and the set of explanatory variables. We chose logistic regression because the outcome variable (DAMA) was measured as a dichotomous variable and the explanatory variables were measured as categorical and continuous variables. One additional advantage of using logistic regression is that unlike discriminate analysis, logistic regression has less stringent assumptions regarding the distribution of the data. With logistic regression, the predictors do not necessarily have to be normally distributed or linearly related (Hosmer and Lemeshow, 1989; Agresti, 2007; Tabachnick and Fidell, 2007). Given that the