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Original article

# Who receives treatment for alcohol use disorders in the European Union? A cross-sectional representative study in primary and specialized health care

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ABSTRACT

*Background:* Alcohol use disorders (AUDs) are highly prevalent in Europe, but only a minority of those affected receive treatment. It is therefore important to identify factors that predict treatment in order to reframe strategies aimed at improving treatment rates.
*Methods:* Representative cross-sectional study with patients aged 18–64 from primary health care (PC, six European countries, $n = 8476$, data collection 01/13–01/14) and from specialized health care (SC, eight European countries, $n = 1762$, data collection 01/13–03/14). For descriptive purposes, six groups were distinguished, based on type of DSM-IV AUD and treatment setting. Treatment status (yes/no) for any treatment (model 1), and for SC treatment (model 2) were main outcome measures in logistic regression models.
*Results:* AUDs were prevalent in PC (12-month prevalence: 11.8%, 95% confidence interval (CI): 11.2–12.5%), with 17.6% receiving current treatment (95%CI: 15.3–19.9%). There were clear differences between the six groups regarding key variables from all five predictor domains. Prediction of any treatment (model 1) or SC treatment (model 2) was successful with high overall accuracy (both models: 95%), sufficient sensitivity (model 1: 79%/model 2: 76%) and high specificity (both models: 98%). The most predictive single variables were daily drinking level, anxiety, severity of mental distress, and number of inpatient nights during the last 6 months.
*Conclusions:* Variables from four domains were highly predictive in identifying treatment for AUD, with SC treatment groups showing very high levels of social disintegration, drinking, comorbidity and functional losses. Earlier intervention and formal treatment for AUD in PC should be implemented to reduce these high levels of adverse outcomes.



## 1. Introduction

Treatment of alcohol use disorders (AUDs) is one of the biggest challenges for mental health. On the one hand, AUDs are among the most prevalent mental disorders in the European Union (EU) with an estimated 23 million people affected in 2010 [45,66], with high

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associated disability [44,51] and standardized mortality ratios (SMR; a ratio quantifying the increase or decrease in mortality of a specific group – people with AUD in treatment – compared to the general population of same sex and age [50]) around 10 for young adults [48]. Overall, AUDs have the second highest burden of disease of all mental disorders after depression, the highest in men [66]. On the other hand, treatment rates have been low – in fact the lowest of all major mental disorders [28] – with about 10% in Europe during the past decade [2,42,43].

Different explanations for the low treatment rate for AUDs have been brought forward. Based on a large-scale study by the World Health Organization, Üstün and Sartorius [59] claimed that primary care physicians (GPs) do not recognize mental disorders, and therefore neither treat nor refer them to specialized health care (SC). Stigmatization of AUDs may be another reason for the low treatment rate, as it was found to be higher than stigmatization for other mental disorders in general population studies [53], and may be a barrier for people affected to enter treatment [15,27,34]. A third main reason concerns the perceived need of medical treatment by affected people, who may prefer to deal with the problem by themselves [8,52], and may only seek help if they "hit bottom" [32,36]. Even EU treatment systems with their reliance on SC predominantly for severely affected people [20] seem to reflect similar thinking. In this sense, the low treatment rate could be explained as a continuum of severity of AUDs, where only the most problematic forms (i.e., severe alcohol dependence (AD) according to ICD-10 [67] or DSM-IV [3], or AUDs above a certain criteria threshold in DSM-5 [4]) are seen in need of formal treatment, whereas the less severe forms would take care of themselves by natural recovery/auto-remission [55,56]. Severity could be in part characterized by comorbidity (both somatic and mental [12,21,24,30,38]), functionality losses (for the impact of functionality limitations on treatment seeking, see [21,37,61]), or social disintegration [12,32].

Two recent large-scale representative epidemiological samples in primary and specialized health care in six and eight EU countries, respectively, offered a unique opportunity to further investigate AUDs and treatment pathways, for the primary health care sample and for the specialized health care sample. First, it was established that GPs could identify AD and AUD with the exception of younger cases [46], thus not corroborating the first explanation above. Second, we wanted to examine the role of social disintegration, drinking behaviour, comorbidities and functionality in receiving treatment. The main hypothesis tested predictability of any or SC treatment with indicators from these predictor classes.

## 2. Methods

### 2.1. Sampling procedures

Both study samples were cross-sectional: first, we sampled 8476 primary health care (PC) patients from 358 GPs across six European countries (patient response rate: 82.2%; GP response rate: 43.6%) between January 2013 and January 2014 (see also [33,39]). Representativeness was achieved regionally in countries with more than 40 million inhabitants (Germany: Saxony and Berlin, Italy: Friuli-Venezia Giulia and Tuscany, Poland: Łódź and Podkarpackie provinces, Spain: Catalonia), and nationally in smaller countries (Hungary, Latvia). Second, 1767 patients from various SC settings were sampled across eight European countries between January 2013 and March 2014 (patient response rate: 82.73%; institutional response rate: 62.5%; see Supplementary Table S1 for an overview; see [47] for details). Patients receiving SC for AUDs were recruited from the same regions and countries of the PC sample with the exception of Poland (provinces: Pomorskie, Warmińsko-Mazurskie, Dolnośląskie, Podlaskie, Podkarpackie, Małopolskie); Austria (one region Carinthia) and France (whole country) were added. Both samples were restricted to patients aged 18–64.

Selection of PC patients was carried out randomly on one day or consecutive days. GPs filled in a short questionnaire about all patients for the next day if prior appointment was made or on the same day if GP visits were mostly spontaneous. For the patient interview, we contacted all patients in Hungary and Spain and drew subsamples of those being assessed by their GP in all remaining countries, with different probabilities based on GP's answers about alcohol consumption and problems (undersampling abstainers, oversampling AUD cases). Most SC patients were also selected by presence on a given day. In Poland, admission to the SC facility in a given time period comprised study participation.

### 2.2. Instruments

In addition to socio-demographic assessment including measures of social disintegration [5] (unemployment, not being married, low socio-economic status (SES)), we assessed somatic (hypertension, liver problems) and mental comorbidity (anxiety, depression) both via GP (PC sample only) and interview. We used the Composite International Diagnostic Interview [25] to establish 12-month diagnoses of AUDs according to the DSM-IV [3] and DSM-5 [4]; and to assess current drinking levels. Further, the Kessler Psychological Distress Scale (K10) [26] determined the extent of experienced mental distress, and the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) [62,63] assessed the degree of functionality losses in different life domains. Custom-made items were applied to gain information on current or lifetime treatments; and on somatic and mental comorbidities of SC patients. All patient interviews were conducted after written consent was given. Compensation for being interviewed was offered in some countries.

Independently from and in addition to the patient interview, all PC patients were assessed by their treating GPs using a brief form. The form comprised questions on socio-demographics, general health and assessed past and current alcohol use and alcohol-related problems and possible treatment of the patient as perceived by the GP.

One of the main outcome variable in this study – treatment access by PC patients – was derived by a combination of GP assessment and patient interview. GPs provided very basic treatment information (distinguishing only between psychosocial and/or pharmacological AD interventions), whereas the patients themselves disclosed more details about the type of treatment received (e.g. counselling, pharmacotherapy) and the kind of health professional involved (e.g. GP, psychotherapist, psychiatrist). Our definition of professional treatment included group therapies led by health professionals, but excluded mere social support (e.g. from family, friends) or interventions from non-health professionals such as herbalists and priests.

Patients from the SC sample received a variety of interventions – depending on the type of setting they were recruited from. Most patients were treated in inpatient clinics (53.6%), followed by outpatient centres (32.8%). The remaining patients received interventions by GPs, psychiatrists or were in self-help groups. Large country-specific differences regarding treatment settings were prevalent, for more details, see Rehm et al., 2015 [47].

For descriptive purposes, the following six exclusive subgroups were created: PC patients without AUD; alcohol abuse (AA; without concurrent AD) in PC without treatment; AD in PC without treatment; AUD in PC with treatment (mainly for AD); AUD in SC with at most 3 DSM-5 criteria; and AUD in SC with at least 4 DSM-5 criteria. All AUD diagnoses (AD, AA) were determined by GP and/or CIDI in the PC sample, while the SC patients' were diagnosed with CIDI only.