



BMJ Open Comparing nurses attending a specialised mental health programme with and without substance use disorder: a retrospective, observational study in Spain

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ABSTRACT

Objectives To analyse the differences between nurses with and without substance use disorders (SUDs) admitted to a specialised mental health programme.

Design Retrospective, observational study.

Setting Specialised mental health treatment programme for nurses in Catalonia, Spain.

Participants 1091 nurses admitted to the programme from 2000 to 2021.

Interventions None.

Primary and secondary outcomes Sociodemographic, occupational and clinical variables were analysed. Diagnoses followed Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision criteria.

Results Most nurses admitted to the programme were women (88%, n=960) and came voluntarily (92.1%, n=1005). The mean age at admission was 45 (SD=10.4) years. The most common diagnoses were adjustment disorders (36.6%, n=399), unipolar mood disorders (25.8%, n=282), anxiety disorders (16.4%, n=179) and SUDs (13.8%, n=151). Only 19.2% (n=209) of the sample were hospitalised during their first treatment episode. After multivariate analysis, suffering from a SUD was significantly associated with being a man (OR=4.12; 95% CI 2.49 to 6.82), coming after a directed referral (OR=4.55; 95% CI 2.5 to 7.69), being on sick leave at admission (OR=2.21; 95% CI 1.42 to 3.45) and needing hospitalisation at the beginning of their treatment (OR=12.5; 95% CI 8.3 to 20).

Conclusions Nurses with SUDs have greater resistance to voluntarily asking for help from specialised mental health treatment programmes and have greater clinical severity compared with those without addictions. SUDs are also more frequent among men. More actions are needed to help prevent and promote earlier help-seeking behaviours among nurses with this type of mental disorder.

INTRODUCTION

Nurses experience high levels of distress and emotionally demanding situations as they continuously deal with human suffering,

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study analyses a unique large clinical sample of nurses admitted to a specialised mental health programme in Catalonia during two decades.
- ⇒ The sociodemographic, occupational and clinical profile of nurses seeking help for substance use disorders is compared with those suffering from other mental disorders.
- ⇒ Generalisations of the findings to other settings should be made with caution due to the programme's specific design and also to distinctive policies, sociocultural and healthcare service characteristics present in Catalonia, Spain.

pain, sadness and death. Moreover, they are exposed to difficult job-related circumstances, including work overload, shift work and challenging environments. All these factors may contribute to poor mental well-being and potentially lead to mental disorders, such as anxiety, depression, post-traumatic stress disorder and substance use disorders (SUDs).¹⁻³

The prevalence of mental disorders among nurses has been found to be similar to or higher than the general population. Depression and anxiety are the most frequent diagnoses, with estimated rates ranging from 32.4% to 36.4% for depression^{3,4} and 41.2% to 48.2% for anxiety disorders,^{3,4} followed by post-traumatic stress disorders (7%–23%)^{3,5} and SUDs (3.2%–6%).^{3,6,7} Suicide rates are also greater than in the general population,⁸⁻¹⁰ and SUDs have been identified as increasing the risk of suicide in nurses.¹¹

Untreated mental disorders are known to worsen not only nurses' well-being but also negatively affect the quality of their



performance.¹² With some severe mental disorders, such as addictions, nursing practice may be impaired. Recovery programmes to assist nurses with SUDs have existed at least from the late 1960s in the USA.¹³ Since then, programmes for nurses with mental disorders became gradually available in the majority of US states^{14–19} and in other countries such as Australia, Canada and New Zealand.^{20–21} Treatment programmes across regions and countries vary in their design.²² Even though assistance may be available, nurses are often reluctant to look for it and delay help seeking because of stigma and the fear of losing their license.²³ In fact, the most common reason that Boards of Nursing take disciplinary actions against nurses is the presence of an active SUD.^{24–25}

Therefore, nurses with SUDs are a subpopulation at special risk which requires increased attentiveness to the measures in place to reduce, treat and accommodate nurses with mental health issues in the workplace.²⁶ Barriers such as shame or fear of losing their license often delay seeking help in these circumstances. Conversely, confidentiality has been identified as a major facilitator in reducing barriers to seeking assistance among nurses.¹⁹

A recent study conducted with nurses accessing a 20-year-old programme for nurses showed the benefits of promoting help seeking when specialised programmes provide free, easy access, highly confidential treatment together with a proactive attitude to ensuring safe practice.²⁷

Programmes for nurses in the US report that around three out of four admitted cases suffer from SUDs.^{19–23} This proportion may be different in other countries or regions depending on each programme's design and characteristics. Recent studies of nurses with mental disorders (including SUDs) have focused on (1) their estimated prevalence^{5–6–28–30}; (2) the consequences of not seeking help²³; (3) the psychological barriers to accessing specialised programmes^{19–31}; (4) the effectiveness of treatment interventions^{15–32–33} and/or (5) the factors related to better treatment outcomes.^{34–35} However, there are no studies specifically comparing the profile of nurses seeking help for addictions at a specialised mental health programme compared with those suffering from other mental disorders.

This study aimed to search for sociodemographic and clinical differences between nurses with and without SUDs admitted to a highly specialised mental health programme. We hypothesised that there would be differences in their sociodemographic and clinical profiles related to the predictable difficulties of those with addictions have in asking for help. Nurses with SUDs were expected to be more frequently men, come after directed (non-voluntary) referrals, be older, be on sick leave at admission, and be more likely to need hospital admission (greater clinical severity) compared with those admitted for other mental disorders.

METHODS

Design

This was a retrospective observational study.

Participants

A total of 1516 medical e-records of nurses admitted to an ongoing specialised mental health programme in Catalonia, Spain were reviewed. A detailed programme description can be found in a previous work.²⁷ In brief, it can be defined as a free, highly confidential, voluntary, specialised mental health service that offers prevention and treatment interventions for registered nurses with mental disorders, including addictions. Outpatient, day hospital and inpatient services are offered depending on clinical severity.

As confidentiality is a cornerstone of the programme, names of all nurses are changed before starting their evaluation and treatment process. They are offered to change their surnames into their grandmothers' or to choose new ones to conceal their real identity. First names can also be changed by patient request. Patients are informed that their real identity will only be disclosed without the patient's agreement if there is a risk of harm to themselves or others. Cases with risk of malpractice are communicated to their respective nurses association council.²⁷

Data collection

Data were collected between the programme's inception in January 2000 and December 2021 expanding the time period covered in a prior study.²⁷ Sociodemographic and clinical variables were obtained from each patient record. Age, sex, relationship status and having children were chosen as the most relevant sociodemographic variables. Working status (if they had a job, if they were either active or on sick leave, and type of contract) was recorded during the initial screening.

Clinical assessment and diagnosis were conducted by an expert psychiatrist. Other significant clinical variables were type of referral (self-referrals or directed referrals; further details are available elsewhere²⁷) to the programme and need for hospitalisation (yes/no) during the first treatment episode. Both variables were selected with the consideration that they could be an indirect indicator of clinical severity together with occupational status at admission and main diagnosis type (ie, directed referrals, hospitalisation, being on sick leave and having a SUD).

Data analysis

Data analysis was performed during the first trimester of 2022. Cases which were missing values for the study's variables were not included in the analyses. Besides descriptive statistics, χ^2 tests were used to compare dichotomous variables between groups. Student's t-tests were used to compare quantitative variables.

Logistic regression was performed considering potential correlations between independent factors when differentiating SUDs versus other mental disorders. The

dependent variable here was the main diagnosis (SUD vs other mental disorders) and the rest of the variables were included as independent variables despite their statistical significance in the previous bivariate analysis. All hypothesis tests were two-tailed and conducted with an alpha of 0.05. Statistical analyses were conducted using the software STATA V.15.

Validity and reliability

Clinical assessment and diagnosis were conducted according to Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision (DSM-IV-TR) criteria.³⁶

Patient and public involvement

There was no patient or public involvement in the design, conduct, reporting or dissemination plans of this research.

RESULTS

During the 2000–2021 period, 1516 nurses were admitted to the programme and 1091 were included in the analyses. A total of 88% (n=960) were women, 59.4% (n=648) reported being in a relationship and 60.2% (n=657) had children. The mean age at admission was 45 (SD=10.4) years. A total of 98.4% (n=1074) declared having a regular income and, with regards to their working status, 99.6% (n=1087) had a job, 49.3% (n=538) were on sick leave and 6.4% (n=70) had a temporary contract. Most of them, 92.1% (n=1005), were self-referred to the programme. According to the clinical assessment, 36.6% (n=399) were admitted for an adjustment disorder, 25.8% (n=282) for a unipolar mood disorder, 16.4% (n=179) for an anxiety

disorder, 13.8% (n=151) for a SUD and 7.3% (n=80) for other disorders; 19.2% (n=209) of the sample needed hospitalisation during their first treatment episode. The most frequent SUDs 63.6% (n=96) were due to: alcohol, 10.6% (n=16); cocaine, 9.9% (n=15); opioids, 7.3% (n=11); sedatives, 4.6% (n=7); cannabis, 3.3% (n=5); stimulants; and 0.7% (n=1) to multiple drug use.

As a sensitivity analysis, a regression model was conducted to detect disparities between those study participants with no missing data and those with one or more missing observations in any variable. The predictors used were identical to those that are considered in the primary multivariate analysis of the study. Only hospitalisation exhibited a significant effect ($p < 0.003$). Specifically, individuals who were hospitalised were more likely to be excluded from the analysis compared with those without this condition (29% vs 19% respectively).

Differences between nurses with and without a SUD are summarised in [table 1](#).

According to logistic regression analysis, being a man, being on sick leave when asking for help, having a directed referral and being hospitalised during the first treatment episode remained statistically significant predictors of having a SUD at admission (see [table 2](#)).

DISCUSSION

This study provides a new insight into the profile of nurses with and without SUDs accessing a specialised programme designed to offer treatment to those with mental disorders. The specific nature of the programme, which aims to encourage voluntary help seeking, needs to be considered when analysing our results. More

Table 1 Sociodemographics, occupational and clinical data of nurses at admission (n=1091)

	SUDs (n=151)	Other mental disorders (n=940)	Statistics		
			t/ χ^2	p value	OR (95% CI)
Sociodemographics					
Age, mean (SD)	45.3 (9.75)	44.97 (10.56)	0.34	0.74	0.14*
Women, % (n)	70.9 (107)	90.7 (853)	46.8	<0.001	4.03 (2.67 to 6.1)
In a relationship, % (n)	50.3 (76)	60.9 (572)	5.5	0.02	1.5 (1.09 to 2.17)
With children, % (n)	52.3 (79)	61.5 (578)	4.2	0.04	1.46 (1.03 to 2.06)
Occupational data					
With a regular salary, % (n)	97.4 (147)	98.6 (927)	0.66	0.42	1.94 (0.62 to 6.03)
On sick leave, % (n)	47 (71)	49.7 (467)	0.27	0.6	1.1 (0.79 to 1.57)
Temporary employee†, % (n)	7.3 (11)	6.3 (59)	0.44	0.8	
Clinical severity					
Self-referrals, % (n)	78.1 (118)	94.4 (887)	44.9	<0.001	0.21 (0.13 to 0.34)
Hospitalisation at their first treatment episode, % (n)	60.9 (92)	12.4 (117)	194.3	<0.001	0.09 (0.06 to 0.13)

*For quantitative variables, Cohen's *D* are calculated.
 †We considered three situations: self-employed, permanent employee and temporary employee.
 SUD, substance use disorder.

**Table 2** Logistic regression analysis output for having a substance use disorder (SUD) at admission (n=1091)

Variables*	B	Wald	P value	OR (95% CI)
Age	-0.02	3.58	0.06	0.98 (0.96 to 1)
Women	1.42	30.35	<0.01	4.12 (2.49 to 6.82)
In a relationship	-0.07	0.08	0.78	0.94 (0.6 to 1.47)
With children	0.48	3.4	0.07	1.61 (0.97 to 2.68)
With regular income	0.16	0.05	0.82	1.17 (0.3 to 4.59)
On sick leave	0.79	12.3	<0.01	2.21 (1.42 to 3.45)
Type of contract				
Permanent employee†				
Self-employed	-0.15	0.12	0.73	0.87 (0.38 to 1.98)
Temporary employee	0.23	0.09	0.76	1.26 (0.27 to 5.85)
Self-referral	-1.5	25.73	<0.01	0.22 (0.13 to 0.4)
Hospitalisation	-2.59	133.04	<0.01	0.08 (0.05 to 0.12)

*Dichotomous variables were coded as follows: SUD=1 versus non-SUD=0 taken as a reference variable.
†Permanent employee was considered the reference condition.

than 90% of nurses came voluntarily to the programme in contrast to other studies, where at least half of the samples were referred to treatment by their regulatory boards.^{19 23} These types of programmes for nurses, mainly in the USA, report that around 69%–85% of cases suffer from a SUD. In our study, the prevalence of addictions among nurses accessing the programme was significantly lower (around 14%) compared with other studies but it is likely to be more representative of the index population,^{3 6} while affective and anxiety disorders (including adjustment disorders, the most prevalent condition) were highly frequent among those with a non-addictive mental disorder. The enhanced mechanisms to protect confidentiality in our programme could help reduce the reluctance to seek help voluntarily among nurses needing mental health treatment, even when they have a SUD.¹⁹

Around 50% of the sample was on sick leave at admission. This fact points to the burden of mental disorders among health professionals not only for their own well-being but also for the healthcare system workforce and for the society.^{12 37} With regards to their clinical severity, around 20% needed to be hospitalised during their first treatment episode. In any case, the majority of cases could be initially treated at outpatient facilities.

Nurses suffering from SUDs had more difficulties in seeking help compared with those with other mental disorders. In fact, they were less frequently self-referred (78.1% vs 94.4%) and had greater clinical severity at admission, as they were more prone to be hospitalised during their first treatment episode (60.9% vs 12.4%). This finding could also be related to the fact that they may have needed an initial detoxification period at an inpatient unit but also to the negative impact of the SUD on their well-being.

Interestingly, being on sick leave at admission emerged as a predictor of a SUD, when controlling for other variables. This is logical as addictions among nurses are known

to negatively affect clinical performance and potentially cause unsafe clinical practice.²¹ In fact, they are the most common mental disorders behind disciplinary actions taken by the regulator.^{24 25} Indeed, health professionals with addictions admitted to our programme cannot go back to practice during the detoxification process and until drug screening has proven abstinence.

Male nurses at admission were more likely to suffer from a SUD compared with women (30% vs 10%). This is an interesting finding that could be related to several factors. Addictions in women are different from men regarding drug of choice, clinical presentation, help-seeking behaviour, evolution and prognosis.^{38 39} In fact, the prevalence of addictive behaviours among nurses may be similar regardless of gender, but the heightened stigma associated with addictions in women⁴⁰ may negatively influence their likelihood to seek treatment and could probably explain why they are under-represented in treatment centres^{41 42} and in research studies.^{43 44} It could also be hypothesised that women tend to internalise problems more often than men do.⁴⁵ Moreover, women are also known to need lower amounts of drugs or alcohol and less exposure time to develop an addiction compared with men.^{39 46} On the other hand, in some US programmes while male physicians were more likely to face disciplinary actions compared with women, female nurses (86%) were highly represented compared with men⁴⁷ but this should be weighted with the high percentage of women in the nursing profession.

In Catalonia, only 10% of nurses are men.⁴⁸ In this study, conducted to analyse nurses' working conditions and healthy lifestyles, men were more likely to have hazardous drinking than women (12.5% vs 5.7%), but both rates were higher than those of the reference population. On the other hand, sedative misuse was almost equal between men and women (around 7%). In our sample, cocaine and opioid use disorders were even more prevalent than

sedative use disorders. This finding contrasts with the high estimated rates of anxiolytic and hypnotic drug misuse as a self-treatment strategy among nurses.⁴⁸ It could be hypothesised that this type of behaviour has been 'normalised' despite its potential risks. Therefore, nurses developing a sedative dependence may not be aware of their problem or they may hide this type of problem because of self-stigmatisation.

The main limitations of this study are (1) its retrospective design; (2) the diagnosis was made following DSM-IV-TR criteria³⁶ but not after a structured interview; (3) there was little information on more significant psychosocial working variables; (4) its quantitative approach was not enriched with a qualitative analysis of the reasons behind help-seeking behaviours in nurses with mental disorders and (5) the under-representation of hospitalised individuals excluded due to missing values; however, among the set of assessed factors, this variable has to be considered the only one with a potential bias when interpreting results. Nonetheless, a notable strength of this study, conducted in a sample of more than 1000 nurses, lies in the voluntary nature of the admissions, exceeding 90% of those entering the programme. This high frequency of self-referrals is likely to mitigate biases when distinguishing disparities between cases involving SUDs and those without such conditions. This stands in contrast to other studies where treatment admission is influenced by mandatory or legal factors, potentially skewing their conclusions. On the other hand, this work does not include a subsequent assessment spanning a period of 2 (or more) years. The study documents the clinical status of accumulated cases using a cross-over design, focusing on their initial interaction with our clinical unit across the 21-year operational span of our facility. The next research steps of our group may potentially focus on other prognostic outputs (such as readmission rate or treatment effectiveness).

Our findings underscore the importance of reconsidering preventive actions to enhance voluntary help seeking among nurses with addictions, as well as the need for developing therapeutic interventions taking into account differences related to gender and addictive behaviours. Moreover, the programme's design indicates the potential benefits of delivering a free, easy access and highly confidential mental health service to overcome the psychological barriers nurses with all types of mental disorders (including addictions) may have to promptly seek adequate treatment when required. It is also important to prevent nurses from misusing sedatives and to promote early help seeking among them if any misuse develops into a SUD. Self-medication with anxiolytics and hypnotics should be specifically discouraged as a maladaptive coping strategy to deal with distress or insomnia in this professional group.

Care should be exercised when attempting to generalise the findings from this study, considering the potential impact stemming from the specific design of the programme and the nuanced sociocultural and

healthcare-related factors at play. Although some nurses may seek private treatment, it is assumed that most nurses with mental disorders in Catalonia choose this specialised programme as it is cost-free and guarantees confidentiality. It is also the first option suggested by occupational health services. Hence, an assessment of the characteristics that contribute to the credibility of mental health services tailored for nurses holds scholarly significance. Such insights may effectively lessen the hesitancy observed among nurses contending with mental disorders, consequently facilitating their willingness to seek essential help.

CONCLUSION

Nurses with SUDs have greater resistance to voluntarily asking for help from specialised mental health treatment programmes. Furthermore, their clinical condition tends to manifest greater severity in comparison to counterparts lacking such addictions. Additionally, SUDs present a higher prevalence among male nurses. Addressing this scenario requires heightened efforts aimed at both preventing SUDs among nurses and fostering earlier help-seeking behaviours within this professional group facing such mental health challenges.

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Contributors MDB was involved in all phases of the study, including study design, literature search, conducting the study, data analysis and the writing of the different versions of the manuscript. XM helped with the study design and with the interpretation of data. GN contributed to the literature search and data analysis. SV performed the statistical analysis. EG, EL, RS, LG-L, JAR-Q and EB contributed to the critical review of the different versions of the paper. MDB is the guarantor of the paper content. All authors approved the final version of the manuscript.

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Patient consent for publication Consent obtained directly from patient(s).

Ethics approval This study was approved by Vall d'Hebron University Hospital Ethics Committee (PR(AG)160/2015_v2). The study was conducted ethically in accordance with the World Medical Association's Declaration of Helsinki. Participants gave informed consent to participate in the study before taking part.

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