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The association between self-treatment and mental health among Swedish physicians

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Background Despite a high prevalence of mental health problems among physicians, the rate of help-seeking behaviour is low. Instead, physicians tend to self-treat. This can have a negative impact on individual physicians and society.

Aims The aim was to explore the relationship between self-rated depression, the use of psychotropic medication, and the extent of self-treatment across gender and hierarchical position among Swedish physicians. In addition, the aim was to investigate whether social support can buffer against self-treatment.

Methods This study draws on data from the Longitudinal Occupational Health for Health Care in Sweden 2021 study, comprising a representative sample of physicians. Descriptive statistics and logistic regressions were carried out.

Results The present study showed that approximately 60% of the physicians using narcotic or non-narcotic psychotropic medication were self-prescribing. Male and more senior physicians self-treated to a greater extent. Physicians without depression were self-treating to a greater extent than those with depression. Those who used non-narcotic psychotropic medication intermittently were more likely to self-treat than those who used these medications regularly. The frequency of use was insignificant in relation to self-treatment with narcotic psychotropic medication. No buffering effect from social support at work was found.

Conclusions Self-treatment was common among physicians in Sweden, particularly among those who reported mild or no symptoms of depression. This may have negative long-term effects on an individual level and for Swedish health care at large.

Introduction

There is a high prevalence of mental health disorders among physicians [1, 2]. However, the rate of professional help-seeking among physicians is low [3–5]. Specifically, physicians tend to seek professional help due to mental health problems to a lesser extent than the general working population [3]. Instead, physicians may utilize self-treatment or self-prescribing [5,6]. The prevalence of self-treatment of mental health problems among physicians, including self-prescribing psychotropic medication, exceeds 50% [7]. Notably, physicians who avoid seeking medical help due to mental health issues have higher rates of self-treatment than the average physician [8]. This is a primary concern since it can cause potential disease aggravation from inappropriate, subjective or delayed objective treatment [5,9]. Additionally, it could adversely affect care delivery [10–12] and implies an increased risk for substance addiction [13].

There are several potential causes of reduced help-seeking behaviour among physicians. For example, fear of stigmatization [9,11,14,15], concerns about confidentiality or a negative impact on their practice [5,16] may negatively impact help-seeking tendency. In contrast, a supportive culture by managers and colleagues could potentially counteract the stigma associated with seeking professional care, and hence, potentially lower the frequency of self-treatment related to mental health issues [14]. Specifically, social support has multiple positive effects in building physicians' professional identity, helping to manage stress, building trust and enhancing mental well-being [17]. In addition, social support at work could potentially mitigate the overall symptoms of depression [14] and act as a buffer against harmful occupational effects that can influence mental health [15].

To the best of our knowledge, no previous study has explored the subject of self-treatment related to mental health problems among Swedish physicians [7]. Therefore, this study aims to explore the relationship between self-rated depression, the use of psychotropic medication and the extent of self-treatment among Swedish physicians. In addition, we aim to investigate whether social support can act as a buffer against self-treatment.

Methods

This study was conducted in Sweden, where according to law, the National Board of Health and Welfare issues a licence to practice medicine. This enables individual physicians to prescribe a wide range of medications with a few exceptions (i.e. some restricted drugs requiring specialization within the relevant medical field), including the possibility to self-prescribe [18]. There are no other restrictions or professional recommendations for self-prescriptions.

Key learning points

What is already known about this subject:

- The prevalence of mental health problems, including depression, is high among physicians.
- While few physicians seek professional help, many instead self-prescribe.

What this study adds:

- Self-treating with psychotropic medication was common and most frequent among male physicians and those senior in rank.
- Physicians with no or mild symptoms of self-rated depression and those who rarely used psychotropic medication were self-treating to a greater extent than those with depression and those who reported regular use of psychotropic medication.
- Social support at work did not buffer against self-treatment.

What impact this may have on practice or policy:

- A large share of physicians in Sweden were self-treating with psychotropic medication.
- This could cause disease aggravation due to inappropriate or delayed objective treatment.
- In addition, self-treatment could adversely affect care delivery and imply an increased risk for addiction.
- Hence possibilities to self-prescribe should be addressed by stakeholders.

This study is based on data from the Longitudinal Occupational Health for Health Care in Sweden (LOHHCS) study in 2021 [1]. The LOHHCS cohort comprises a representative sample of Swedish physicians in the Swedish Occupational Register. A stratified random sampling method using 12 strata based on six healthcare administrative regions and two worksites (working in either primary care or hospital care facilities), that is, physicians in the occupational register were randomly selected from the 12 strata applied [1]. Data collection occurred from February to May 2021. Based on a power calculation with a response rate of 50%, the sample size was set to $N = 7200$. Statistics Sweden was responsible for power calculations, sampling, questionnaire distribution and data collection. To adjust for sampling errors, the response rate below 50% and missing data, Statistic Sweden provided calibrating population weights [1] which were utilized in data analyses in the present study.

Inclusion criteria comprised age <72 years and active clinical duty within the last 12 months. A total of 501 did not meet inclusion criteria and were removed from the sample, leaving 6699. A total of 2761 physicians answered the questionnaire (response rate = 41%). The calibrating weights calculated by Statistic Sweden adjusted for any limitation in the difference between the expected and actual response rate and should not affect the results.

The present study was approved by the ethical review board (2020-06613). A pseudo-anonymized file with data was delivered to the researchers.

Self-rated depression was measured using the symptom checklist—core depression 6 ($SCL\text{-}CD_6$). The $SCL\text{-}CD_6$ is a validated instrument consisting of a six-item symptom checklist appropriate for assessments of depression in larger population surveys [19]. Respondents were asked six questions regarding symptoms of depression during the last seven days (i.e. feeling blue/sad, no interest in things, low energy, everything an effort, worrying too much and blaming oneself). Answers ranged from 0 = Not at all to 4 = Extremely. Items were merged to an index ranging from 0 to 24 (Cronbach's alpha 0.91). A cut-off was set at 17 points, which is an appropriate threshold for depression in epidemiological research and could be assessed as major depression according to Magnusson Hanson [19].

The use of psychotropic medication was assessed using two items addressing the frequency of use of non-narcotic psychotropic medication (non-NPM) and narcotic psychotropic medication (NPM), respectively. Answers ranged from every day, a few days a week, a few days a month, a few times in the last 12 months or never. The answers were trichotomized into regular use (comprising every day and a few days a week [1]), intermittent use (comprising a few days a month and a few times in the last 12 months [2]) and never [3]. Narcotic pharmaceuticals are restricted by law [18] and listed in the book of pharmaceuticals. Most physicians would know which psychotropic medications are classified as narcotics or know where to find information. When they write electronic recipes, a small sign appears that signals to the physicians that they are prescribing narcotics. In the questionnaire, we gave examples of non-NPM and NPM using generic names.

To measure self-treatment, the respondents who answered that they used non-NPM or NPM, were asked to report who prescribed the medication. Answers comprised five alternatives: themselves, a friend, a healthcare professional, occupational healthcare or in another way. Self-treatment was defined as a prescription made by themselves or by a friend, while the remaining three answers were defined as the opposite (i.e. no self-treatment).

Data on gender and hierarchical position originated from different sources. The sex of the respondent was retrieved from the Swedish population register by Statistics Sweden. Hierarchical position was self-reported and divided into physicians in training (i.e. junior physicians and resident physicians), specialists or consultants.

Social support was measured by two items addressing to which degree physicians felt that they could ask for support or help from the employer and colleagues, respectively. Answers comprised always, often, sometimes, rarely or never. These were dichotomized for each question accordingly, into often (i.e. comprising always and often (1)) and rarely (0).

All analyses were performed using SPSS version 28. To improve the quality and analytical strength of the data, calibrating weights for the entire population of Swedish physicians, calculated by Statistics Sweden, were applied in the analysis.

Table 1. The prevalence of depression and the frequency of use and self-treatment of psychotropic medications across included variables

		Depression[a]	Non-narcotic psychotropic medications			Narcotic psychotropic medications		
			Regular use[a]	Intermittent use[a]	Self-treatment[b]	Regular use[a]	Intermittent use[a]	Self-treatment[b]
Total, *n* (%)	2761	109 (4)	270 (10)	298 (11)	339 (61)	87 (3)	238 (9)	197 (62)
Gender								
Men, *n* (%)	1238	36 (3)	101 (8)	119 (10)	155 (71)	33 (3)	109 (9)	107 (76)
Women, *n* (%)	1523	73 (5)	169 (11)	179 (13)	184 (55)	54 (4)	129 (9)	90 (51)
Hierarchical position								
In training, *n* (%)	818	49 (6)	75 (9)	78 (10)	81 (54)	14 (2)	50 (6)	28 (44)
Specialist, *n* (%)	1080	36 (3)	115 (11)	127 (12)	149 (63)	34 (3)	105 (10)	86 (63)
Consultant, *n* (%)	849	24 (3)	79 (9)	92 (11)	107 (64)	36 (5)	82 (10)	82 (69)
Support from employer								
Often, *n* (%)	1716	36 (2)	135 (8)	177 (10)	199 (65)	48 (3)	137 (8)	117 (64)
Rarely, *n* (%)	912	68 (8)	119 (13)	104 (11)	123 (57)	32 (4)	89 (9)	72 (61)
Support from colleagues:								
Often, *n* (%)	2301	65 (3)	201 (9)	240 (10)	271 (62)	56 (2)	192 (8)	156 (64)
Rarely, *n* (%)	398	41 (11)	56 (14)	45 (11)	53 (55)	25 (6)	37 (9)	32 (53)

[a]Includes all respondents.
[b]Includes only those who use psychotropic medications.

Descriptive statistics were used to identify the prevalence of depression, use of psychotropic medication, and self-treatment across gender, hierarchical position, and experienced social support. To further explore the relationship between depression, the use of psychotropic medication and self-treatment, additional Pearson's Chi-Squared analyses were conducted, including only those who responded using non-NPM and NPM (significance level set to $P < 0.05$).Logistic regressions were used to investigate associations between predictor variables and self-treatment (primary outcome). Analyses were run separately for self-treatment with non-NPM and NPM, respectively. First, we conducted crude analyses for all included variables. Multivariate logistic regression analyses were then run in three models. Model 1 included the variables frequency of using psychotropic medication and depression. In Model 2, gender and hierarchical position were additionally added. In Model 3, support from employers and colleagues was also added. Results were presented with odds ratios (ORs) and a 95% confidence interval (CI).

Results

Table 1 displays the prevalence of depression, frequency of use of medication and self-treatment across gender, hierarchical position and social support. The prevalence of depression among physicians reached 4%, with variations between 2% and 11% across gender, hierarchical position and different levels of experienced social support. Among Swedish physicians, 10% used non-NPM often and 11% used non-NPM sometimes. For NPM, the result was 3% for often and 9% for sometimes. The frequency of use varied across gender, hierarchical positions and different levels of social support. In general, regarding the use of medication, reporting intermittent use was more common than reporting regular use (Table 1).

Among physicians that were currently using non-NPM, 61% were self-treated. The corresponding result for NPM was 62%. Men are self-treated with NPM as well as non-NPM to a greater extent than women. Regarding hierarchical position, the frequency of physicians who self-treated increased with a higher rank. Regarding social support from the employer, among physicians that reported often receiving support, 65% self-treated with non-NPM and 64% with NPM. Correspondingly, among physicians with high support from colleagues, the frequency of self-treatment was 62% and 64% for non-NPM and NPM, respectively.

Table 2 shows correlations between depression and the frequency of using the medication and self-treatment for the physicians that reported using psychotropic medication. For both non-NPM and NPM, physicians with depression reported regular use to a larger extent (42% and 37%, respectively) than physicians with no depression, who more commonly reported intermittent use (58% and 79%, respectively). Regarding self-treatment with non-NPM and NPM, physicians with no depression were self-treating to a larger extent (63% and 65%, respectively) than physicians with depression.

The results from the logistic regression are presented separately for non-NPM (Table 3) and NPM (Table 4). In Table 3, regarding non-NPM, the crude analysis showed significant associations between exposure variables (except support from colleagues) and self-treatment. A decreased likelihood for self-treatment was found among those who regularly used non-NPM, had depression, females and physicians-in-training. Physicians who experienced a high level of social support from the employer had a lower likelihood of reporting self-treatment (OR = 0.77, CI: 0.69–0.85).

In Models 1–3 (Table 3), the OR for the variable frequency of using non-NPM remained the same as in the crude model and was stable when adjusted across all models. The difference in self-treatment between those with depression compared to those without remained significant but became less distinct when adjusted for gender and hierarchical position (Model 2) and support (Model 3). For gender, OR for self-treatment was lower among females and remained stable across models. The

Table 2. Correlations between depression and frequency of using medication and self-treatment, respectively for non-narcotic psychotropic medication (non-NPM) and narcotic psychotropic medication (NPM)[a]

		Frequency of using medication				Self-treatment	
		Regularly:	Sig.	Intermittent:	Sig.		Sig.
Non-NPM	Depression, *n* (%)	465 (66)	<0.05	241 (34)	<0.05	329 (47)	<0.05
	No depression, *n* (%)	2607 (42)	<0.05	3577 (58)	<0.05	3780 (63)	<0.05
NPM	Depression, *n* (%)	124 (37)	<0.05	209 (63)	<0.05	102 (31)	<0.05
	No depression, *n* (%)	803 (22)	<0.05	2927 (79)	<0.05	2403 (65)	<0.05

[a]Analysis includes only respondents using non-narcotic and narcotic psychotropic medications, respectively.

Table 3. Logistic regression for non-narcotic psychotropic medications (non-NPM) with self-treatment as the outcome variable[a]

	Crude		Model 1		Model 2		Model 3	
	OR	CI	OR	CI	OR	CI	OR	CI
Regularly using non-NPM (ref. intermittent)	0.56	0.51–0.62	0.57	0.52–0.63	0.57	0.51–0.63	0.58	0.52–0.64
Depression (ref. no depression)	0.52	0.45–0.61	0.59	0.50–0.69	0.62	0.53–0.74	0.73	0.60–0.88
Women (ref. men)	0.50	0.45–0.55			0.51	0.46–0.56	0.56	0.50–0.63
Hierarchical position								
In training	0.77	0.68–0.87			0.91	0.80–1.04	0.91	0.79–1.04
Specialist	0.95	0.84–1.06			1.05	0.93–1.18	1.04	0.92–1.18
Consultant (ref)	1				1		1	
Support from employer (ref. rarely support)	0.77	0.69–0.85					1.26	1.13–1.40
Support from colleagues (ref. rarely support)	1.00	0.88–1.14					0.85	0.73–0.98
n (valid)			6742		6726		6253	
LL2			31.0		509.6		1611.8	

[a]Including only those who use non-NPM.

variable hierarchical position became non-significant in Models 2 and 3. Notably, in Model 3, experienced support from the employer became positively associated with self-treatment (OR = 1.26 CI: 1.13–1.40) compared to the crude analysis. The variable support from colleagues became significant in Model 3, and those who experienced support from colleagues were less likely to self-treat (OR = 0.85, CI: 0.73–0.98).

For NPM (Table 4), the crude results showed no significant association between frequency of use and self-treatment. The frequency of use remained non-significant across all models. Self-treatment with NPM occurred significantly more often among those with no depression, males, high hierarchical rank and those who received support from the employer.

In Model 1 (Table 4), the association between depression and self-treatment remained the same as in the crude model. When adjusted for gender and hierarchical position, the difference in self-treatment between those with depression and those without decreased (OR = 0.31, CI: 0.24–0.41). This difference further decreased when also adjusting for support (OR = 0.41, CI: 0.31–0.54). This indicates that support had a moderating role in the association between depression and self-treatment.

Discussion

This study aimed to explore the prevalence of self-treatment with psychotropic medication and its association with self-rated depression among physicians in Sweden. The present study identified that approximately 60% of all psychotropic medication (i.e. non-NPM and NPM) used among Swedish physicians is self-prescribed. Our results indicate a higher frequency of self-treatment with psychotropic medication among Swedish physicians compared to previous findings in other countries [20,21]. In specific, we found that physicians who self-treated to a greater extent were male, senior in rank and reported no to mild depression. Those who used non-NPM intermittently were more likely to self-treat than those who used these medications regularly. The frequency of use was insignificant in relation to self-treatment with NPM. No buffering effect from social support at work was found.

The present study has some acknowledged limitations. First, the cross-sectional study design precludes any causal inferences. Second, exposure and outcome data were based on self-rated assessment scales which implies an increased risk for bias (e.g. recall bias). Third, based on SCL-CD6 scale data, we used the recommended cut-off threshold for major depression [19] to define cases of depression, possibly underestimating the number of physicians affected by symptoms of depression. Last, assessments of self-treatment were based on subjective data (i.e. self-reported). In future studies, pharmaceutical register data for self-made prescriptions should be utilized to avoid the known limitations of self-report data. A major strength of the present study is the large sample size, representative of all Swedish physicians based on calibrating weights provided by Statistics Sweden.

We found that the prevalence of self-treatment with psychotropic medication was higher among physicians with mild to no symptoms of depression, which is in line with findings

Table 4. Logistic regression for narcotic psychotropic medications (NPM) with self-treatment as the outcome variable[a]

	Crude		Model 1		Model 2		Model 3	
	OR	CI	OR	CI	OR	CI	OR	CI
Regularly using NPM (ref. intermittent)	0.98	0.85–1.14	1.06	0.90–1.24	1.13	0.96–1.33	1.09	0.92–1.29
Depression								
Depression (ref. no depression)	0.23	0.18–0.30	0.23	0.18–0.29	0.31	0.24–0.41	0.41	0.31–0.54
Women (ref. men)	0.34	0.30–0.39			0.37	0.32–0.43	0.42	0.36–0.48
Hierarchical position								
In training	0.46	0.39–0.54			0.72	0.60–0.87	0.61	0.50–0.71
Specialist	0.83	0.72–0.96			1.08	0.92–1.26	0.95	0.80–1.12
Consultant (ref)	1				1		1	
Support from employer (ref. rarely support)	1.22	1.07–1.39					0.96	0.83–1.12
Support from colleagues (ref. rarely support)	1.10	0.94–1.29					1.13	0.93–1.36
n (valid)				4010		4002		3757
LL2				26.29		505.5		1086.3

[a]Including only those who use NPM.

in previous studies [20]. These results could indicate that physicians with more severe symptoms of depression may seek professional care to a greater extent than physicians with mild depression. However, widespread self-treatment among physicians with mild symptoms of depression could be problematic, as the absence of early proper clinical assessment and treatment of depressive symptoms may lead to subsequent disease aggravation [5, 9], increased risk for suicide [22] and reduced quality of care [10–12]. Notably, easy access, such as self-treatment, to addictive medication could also lead to addictive behaviours [22]. Meta-analyses showed an elevated risk for suicide among physicians, especially females, compared to the general population [23,24]. Thus, stakeholders should consider the potential risks following the self-treatment of mental health problems when reviewing the possibilities of self-prescription among physicians [13].

There are several potential causes of self-treatment for depressive symptoms among physicians. A major contributing factor could be the potential stigma associated with help-seeking behaviour [24,25], starting already in medical school [25]. Previous studies have found that social support from colleagues may have a buffering function, that is, providing a more open and safe work environment, which could reduce stigmatization associated with mental health problems [14]. However, in the present study, the beneficial effects of social support from colleagues could not be confirmed. Future studies should further explore the potential beneficial effects of social support at work in relation to depression, stigma and self-treatment among Swedish physicians.

The present study is a novel addition to the knowledge about self-treatment among Swedish physicians, depicting the prevalence of self-treatment as well as its distribution across different gender and hierarchical positions. We found only two previous studies that explored self-treatment across groups, showing that older physicians self-prescribe more often than junior physicians [6, 20]. While this study extends current knowledge about self-treatment among physicians, future studies should explore the underlying mechanisms contributing to self-treatment and investigate if these mechanisms can explain the identified differences in self-treatment across various groups.

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Competing interests

The authors have no competing interest to declare.

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