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Associations of mental health help-seeking among Nepali women with anxiety or depression symptoms in the 2022 Demographic and Health Survey

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Abstract

Purpose

Most people with serious mental disorders in low- and middle-income countries receive no treatment. To inform efforts to improve access to care, we estimated the prevalence of anxiety and depression symptoms among women aged 15–49 in Nepal and examined help-seeking, its sources, and associated factors.

Methods

Data came from 7,442 women who completed the mental health module of the cross-sectional 2022 Nepal Demographic and Health Survey. Anxiety was defined as scoring 10 or higher on the Generalized Anxiety Disorder scale (GAD-7) and depression as scoring 10 or higher on the Patient Health Questionnaire (PHQ-9). Help-seeking was defined as having ever tried to seek help. Logistic regression models used Andersen's Behavioral Model of Health Services Use as a framework.

Results

Symptoms of anxiety or depression were present in 9.13% of women. Of the 710 symptomatic women, 40.69% had sought help, most often from family members (49.02%) or a spouse or partner (30.48%), and 4.5% had consulted a medical professional. After adjustment, the odds of help-seeking were higher for women in the richer than the poorest wealth quintile (odds ratio [OR] = 2.95, 95% confidence interval [CI]: 1.48–5.88), for employed women (OR = 1.80, 95% CI: 1.25–2.60), and for comorbid anxiety and depression than for anxiety only (OR = 1.66, 95% CI: 1.11–2.49).

Conclusion

Levels of help-seeking are low and differ by wealth, employment, and comorbidity. More access to screening and treatment would be beneficial, while targeting efforts may be needed to reach women who are of low socio-economic status and not employed.

Introduction

Since 1990, mental disorders have stayed among the leading causes of health burden worldwide. In 2019 they accounted for 970 million cases and ranked seventh among causes of disability-adjusted life-years, with depressive and anxiety disorders the most common of them [1]. Women are affected by depression and anxiety more often than men. Their prevalence of depression is about twice that of men [2,3], and anxiety disorders are also more common in women than in men [4]. In 2019, the global age-standardized prevalence of anxiety disorders was 4,694.7 per 100,000 in females and 2,859.8 per

100,000 in males [1]. In South Asia, the pooled adult prevalence was 16.0% for depression and 12.0% for anxiety [5].

In the World Mental Health Surveys, disorders were classified as serious, moderate, or mild (by impairment in daily life, suicide attempts, and specific diagnoses), and 76–85% of individuals with serious disorders in low- and middle-income countries were untreated in the 12 months before their interview, compared with 36–50% in high-income countries [6]. Stigma and low awareness of mental illness are barriers to seeking care [7,8]. Moreover, low- and middle-income countries have few trained mental health professionals and little public investment in mental health [8,9]. Nepal reported 0.64 psychiatrists and 0.11 psychologists per 100,000 people to the World Health Organization Mental Health Atlas in 2020 [10]. The median in high-income countries that year was 8.6 psychiatrists per 100,000 [11]. Most services are in the large cities, and people in rural areas have little access to care [12]. In a community survey in Chitwan District, 8.1% of adults with depression had been treated in the past 12 months [13]. The treatment gap was therefore more than 90% [13].

Reducing this treatment gap depends on help-seeking, defined by Rickwood et al. as “the behaviour of actively seeking help from other people” [14]. The help can come from formal services, such as medical professionals and counselors, or from informal sources, such as family, friends, and neighbors. An individual experiencing distress might go to family members first. In a systematic review of studies among Asian Americans, for example, Kim and Lee described a preference for family and friends over formal services, and professional care was sometimes the last resort [15]. In Nepal, a study in Chitwan District found that the family is expected to identify a relative’s problem and support help-seeking [16].

But family and community members may not see symptoms as treatable or may respond in ways that reinforce stigma [16], and none of them can provide evidence-based treatment. Supernatural explanations of mental illness are common [16,17]. Families often take a distressed relative to a traditional healer (dhami-jhankri), either before a biomedical provider or alongside one [16,17]. Stigma in Nepal has been analyzed through six local values: prestige and honor (ijjat), social acceptance, income and productivity, privacy, marriage, and equality; a daughter’s marriage prospects are a particular worry for families [18].

In addition, women in Nepal seek help under marked gender inequity, and married women often have limited say in household decisions, including their own health care [19]. On the Survey-Based Women’s Empowerment index, 9.1% of married women were in the high category for decision-making [19].

Nepal’s 2022 Demographic and Health Survey (NDHS) was the first in the series to include a mental health module. The module screens for anxiety with the seven-item Generalized Anxiety Disorder scale (GAD-7) [20] and for depression with the nine-item Patient Health Questionnaire (PHQ-9) [21]. Both instruments are validated, and the survey gives nationally representative estimates of symptom prevalence and help-seeking [22]. In an earlier analysis of the module, 21.9% of women and 11.3% of men screened positive for anxiety, and 5.4% of women and 1.7% of men for depression [23]. That paper compared women with men, and another analysis of the same module was about empowerment in

married women [19]. The first one modeled help-seeking on gender for people with GAD-7 ≥ 6 or PHQ-9 ≥ 10, while the second modeled it on empowerment for women with any symptom. Both adjusted for sociodemographic factors, but symptom type (anxiety only, depression only, or both) was not in their models and their help-seeking denominators were not set at the validated threshold on both instruments. A third analysis modeled help-seeking in women who had experienced partner violence in the past 12 months, and that model used lower cutoffs for anxiety and depression [24]. So none of these analyses examined which sociodemographic and clinical factors are associated with help-seeking in women at the validated threshold.

We used the Nepal DHS' mental health module to estimate the prevalence of anxiety and depression symptoms in women aged 15–49 at the validated thresholds (GAD-7 ≥ 10, PHQ-9 ≥ 10). We estimated the proportion of symptomatic women who sought help and described the sources they used. The sociodemographic and clinical factors were grouped by Andersen's behavioral model [25], and we examined which of them were associated with help-seeking.

Methods

Study Design and Data Source

As mentioned earlier, the data are from the 2022 NDHS, a household survey representative of the whole country. New ERA conducted the fieldwork for the Ministry of Health and Population between January 5 and June 22, 2022; ICF, through The DHS Program, provided technical support, and the United States Agency for International Development funded the survey [22].

The sample was drawn in two stages within 14 strata. The strata were the urban and rural parts of the seven provinces. The survey first selected 476 clusters (248 urban, 228 rural) with probability proportional to size. It then drew 30 households from the household listing of each cluster. In total, 14,280 households were sampled. Women aged 15–49 were eligible if they were usual residents of a sampled household or had slept there the night before the interview [22].

Study Population

Interviews were completed with 14,845 of 15,238 eligible women (97%) [22]. The module was administered in every second sampled household, and all 7,442 women interviewed in those households completed it. Every respondent who scored 1 or more on either instrument was asked the help-seeking questions [22]. Our analysis of help-seeking includes only the 710 women at or above the moderate-to-severe threshold on either instrument, as defined below.

Variables

The outcome was help-seeking, coded 1 for a yes to the question “Thinking about what you yourself have experienced among the different things we have been talking about, have you ever tried to seek help?” and 0 otherwise. The question covers formal sources such as medical professionals and informal sources such as family and friends.

The predictors followed the three groups of Andersen’s Behavioral Model of Health Services Use [25], predisposing (age, education, marital status), enabling (wealth, residence, province, health insurance, employment), and need (symptom type). Age was grouped into three bands (15–24, 25–34, and 35–49 years), and education had four levels (none, basic, secondary, and higher). Wealth was measured in quintiles of the survey’s wealth index of household assets and housing [22], and province was one of Nepal’s seven provinces (Koshi, Madhesh, Bagmati, Gandaki, Lumbini, Karnali, and Sudurpashchim). The binary predictors were marital status (currently married or not), residence (urban or rural), health insurance (covered by any scheme or not), and employment (currently employed or not).

We measured anxiety symptoms with the GAD-7 and depression symptoms with the PHQ-9. Both instruments ask how often the participant has been bothered by each symptom in the past two weeks, and on either one a total score of 10 or more marks moderate-to-severe symptoms [20,21]. A study in Nepal has validated the PHQ-9 [26]. Symptom type (anxiety only, depression only, or both) was the need factor in the models.

Statistical Analysis

We ran the analysis with the svy commands in Stata 19. All 710 symptomatic women in our sample had complete data on all independent variables we explored, and we analyzed them as a subpopulation with subpop().

Symptom prevalence and help-seeking are reported as weighted proportions with a 95% confidence interval (CI). To compare help-seeking between the subgroups we ran design-based chi-square tests. We then used three nested logistic regression models starting with the predisposing factors (Model 1), the enabling factors (Model 2), and symptom type (Model 3), in Andersen’s order. Results are reported as adjusted odds ratios (ORs) with 95% CIs, and every bivariate test and regression term has its exact p-value. Results with a two-sided $p < 0.05$ were taken as significant in this analysis.

Ethics

Because this secondary data analysis uses public, de-identified data, the University of North Carolina at Chapel Hill Office of Human Research Ethics determined that it did not require institutional review board approval (Study #25-3198).

Results

Prevalence of Mental Health Symptoms

Of the 7,442 women who completed the module, 9.13% (95% CI: 8.18–10.09%) screened positive on at least one instrument. Anxiety was present in 7.49% (95% CI: 6.63–8.34%) and depression in 5.43% (95% CI: 4.75–6.12%); 3.79% (95% CI: 3.25–4.41%) were positive on both. In mutually exclusive terms, 3.70% had anxiety only, 1.65% depression only, and 3.79% both.

Help-Seeking Behavior

Among the 710 symptomatic women, 40.69% (95% CI: 36.57–44.95%) had tried to seek help. The 279 help-seekers mostly consulted informal sources (Fig. 1). Family members other than a spouse or partner were named by 49.02%, a spouse or partner by 30.48%, friends by 29.47%, and neighbors by 10.13%. A medical professional had been consulted by 11.14%; religious leaders or dhami (0.87%), community health workers or fieldworkers (0.38%), and an unspecified other source (0.50%) were rarely named. None reported a social service organization, a social worker, or a nongovernmental organization.

Bivariate Associations

In bivariate analysis (Table 1), only wealth and employment were associated with help-seeking. The proportion who had sought help ranged from 29.81% in the poorest wealth quintile to 52.95% in the richer quintile ($p = 0.011$), with 43.91% in the richest; 44.26% of employed women had sought help against 34.80% of women not employed ($p = 0.017$). Help-seeking did not differ significantly by symptom type ($p = 0.055$), with 46.44% of women with both conditions, 36.18% with anxiety only, and 37.60% with depression only. Nothing else was associated.

Table 1
Proportion Seeking Help by Predictor Among Symptomatic Women (n = 710)

Predictor	n	% sought help	p-value
Age Group			**0.473**
15–24 years	214	38.66%	
25–34 years	220	44.44%	
35–49 years	276	39.20%	
Education Level			**0.406**
No education	242	37.96%	
Basic	244	38.43%	
Secondary	216	45.72%	
Higher	8	45.41%	
Wealth Quintile			**0.011***
Poorest	225	29.81%	
Poorer	161	41.29%	
Middle	138	35.46%	
Richer	127	52.95%	
Richest	59	43.91%	
Marital Status			**0.608**
Not married	144	42.68%	
Married	566	40.11%	
Employment			**0.017***
Not employed	242	34.80%	
Employed	468	44.26%	
Residence			**0.391**
Urban	375	41.93%	
Rural	335	38.38%	
Health Insurance			**0.828**
No	634	40.50%	

Predictor	n	% sought help	p-value
Age Group			**0.473**
Yes	76	42.07%	
Province			**0.636**
Koshi	123	43.32%	
Madhesh	117	45.13%	
Bagmati	69	44.37%	
Gandaki	50	37.96%	
Lumbini	107	37.09%	
Karnali	140	36.73%	
Sudurpashchim	104	32.71%	
Symptom Type			**0.055**
Anxiety only	268	36.18%	
Depression only	138	37.60%	
Both (comorbidity)	304	46.44%	

Source: authors' analysis of the 2022 NDHS. n is the unweighted count of symptomatic women in the subgroup; % sought help is the weighted share of the subgroup reporting any help-seeking. p-values are from design-based chi-square tests (Rao-Scott F statistic). F (degrees of freedom): age 0.75 (2.00, 923.15); education 0.97 (2.98, 1377.59); wealth 3.32 (3.89, 1795.08); marital status 0.26 (1, 462); employment 5.72 (1, 462); residence 0.74 (1, 462); province 0.70 (5.36, 2476.88); insurance 0.05 (1, 462); symptom type 2.91 (1.99, 920.01). * $p < 0.05$.

Multivariable Logistic Regression

Table 2 shows the three nested models. Model 1 was not significant overall ($p = 0.531$); Model 2, with the enabling factors added, was ($p = 0.047$), as was the fully adjusted Model 3 ($p = 0.033$). Online Resource 1 gives the full output for each model.

Table 2
Nested Logistic Regression Models of Help-Seeking Among Symptomatic Women (n = 710)

Variable	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Age Group (ref: 15–24)			
25–34 years	1.43 (0.91–2.23)	1.22 (0.76–1.97)	1.24 (0.76–2.02)
35–49 years	1.29 (0.79–2.11)	1.05 (0.61–1.80)	1.07 (0.61–1.86)
Education (ref: None)			
Basic	1.06 (0.69–1.63)	0.96 (0.61–1.52)	0.95 (0.60–1.51)
Secondary	1.49 (0.91–2.44)	1.33 (0.77–2.27)	1.34 (0.78–2.29)
Higher	1.41 (0.31–6.42)	1.36 (0.23–7.94)	1.35 (0.19–9.37)
Marital Status (ref: Not married)			
Married	0.90 (0.59–1.36)	0.92 (0.60–1.40)	0.94 (0.60–1.46)
Wealth (ref: Poorest)			
Poorer	—	1.66 (0.90–3.09)	1.65 (0.88–3.08)
Middle	—	1.27 (0.67–2.40)	1.19 (0.63–2.26)
Richer	—	2.92 (1.46–5.81)**	2.95 (1.48–5.88)**
Richest	—	1.92 (0.84–4.39)	1.87 (0.82–4.26)
Residence (ref: Urban)			
Rural	—	1.06 (0.73–1.54)	1.02 (0.70–1.49)
Health Insurance (ref: No)			
Yes	—	0.97 (0.53–1.77)	1.01 (0.55–1.87)
Employment (ref: Not employed)			
Employed	—	1.85 (1.28–2.67)**	1.80 (1.25–2.60)**
Symptom Type (ref: Anxiety only)			
Depression only	—	—	1.16 (0.72–1.87)
Both (comorbidity)	—	—	1.66 (1.11–2.49)*
Model F (df)	F(6, 457) = 0.85	F(19, 444) = 1.63	F(21, 442) = 1.67

Variable	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Age Group (ref: 15–24)			
Model p-value	0.531	0.047*	0.033*

Source: authors' analysis of the 2022 NDHS. Province ORs are omitted; none was significant in any model (all p ≥ 0.15). A dash marks a variable not in that model. df, degrees of freedom; ref, reference category. * p < 0.05; ** p < 0.01.

In the fully adjusted model, women in the richer quintile had nearly three times the odds of help-seeking compared to the poorest (OR = 2.95, 95% CI: 1.48–5.88, p = 0.002); the poorer, middle, and richest quintiles had odds ratios above 1 that were not significant. Employed women had 80% higher odds of help-seeking than women not employed (OR = 1.80, 95% CI: 1.25–2.60, p = 0.002), with wealth in the model. Women with both anxiety and depression had 66% higher odds of help-seeking than women with anxiety only (OR = 1.66, 95% CI: 1.11–2.49, p = 0.014); depression only did not differ from anxiety only (OR = 1.16, 95% CI: 0.72–1.87, p = 0.540). None of the other factors (age, education, marital status, residence, province, health insurance) was significant in any model.

Discussion

Prevalence and Treatment Gap

Anxiety prevalence at the validated cutoffs [20,21] was lower than earlier estimates from the same survey that used a lower GAD-7 cutoff [23,27], and depression prevalence was the same as the estimate at the same PHQ-9 cutoff [23]. An analysis at the same cutoffs on both instruments reported the same prevalence [28]. Across South Asian studies, an umbrella review reported depression at 5.0% (95% CI: 3.0–6.0%) when measured with diagnostic interviews and at 27.0% (95% CI: 13.0–44.0%) with screening measures, and anxiety at 1.0% (95% CI: 0.0–3.0%) and 26.0% (95% CI: 19.0–34.0%) by the same two methods [5]. Our estimates of 7.49% for anxiety and 5.43% for depression are closer to the diagnostic-interview range.

Of the symptomatic women, 41% had ever sought any help, and 4.5% had ever consulted a medical professional. Most help-seekers went to informal sources, probably because formal care is scarce and far away, and also because spouses, family, friends, and neighbors are part of daily life. Programs can reach women through these informal sources. Mental health literacy programs made for Nepal could show communities that the symptoms are treatable and how to refer women to services. These programs could build on approaches in Nepal that start from local understandings of distress and from community values and that aim to lower stigma and make care easier to accept [16–18].

Wealth

Help-seeking was lowest in the poorest wealth quintile, although people in poverty have anxiety and depression more often [29,30]. After adjustment, women in the richer quintile had nearly three times the odds of help-seeking compared to the poorest. Much of the cost of care in Nepal is paid out of pocket, and people in remote areas pay for travel [13]. Time spent away from work or domestic duties has a cost of its own. When financial means fall short, a woman may put immediate needs ahead of symptoms that do not seem urgent.

Services for low-income women should remove financial and practical barriers. Primary care and community health programs can offer screening and brief treatment, and Female Community Health Volunteers (FCHVs) can be trained to identify and refer symptomatic women. Counseling by lay counselors with six months of training lowered depressive and anxiety symptoms in a randomized trial of task-shifting in rural primary care in Nepal [31]. Community-based counselors in Chitwan District reduced depression within primary care [32]. In Zimbabwe, the Friendship Bench trial trained lay health workers to deliver problem-solving therapy in primary care clinics, and six months later their patients had fewer symptoms of depression and anxiety than patients in comparison clinics [33]. The MANAS trial in Goa, India, paired lay counselors with primary care doctors, and more of their patients in public clinics recovered from depression and anxiety [34]. Such a program could be delivered nationally by Nepal's FCHVs if they are trained and supervised. Mobile outreach would reduce travel barriers by bringing the services closer, and attending would cost less if services were timed and located to fit women's domestic workloads.

Employment

Married women's mobility and decision-making are often restricted in South Asia [19,35]. In the NDHS, only 22% of married women made their own health care decisions alone, and 16% of women named getting permission as an obstacle to treatment [22]. Employment may give some women access to care through resources that the wealth index does not capture, such as income under their own control and contacts outside the household.

Women who are not employed might be more often economically dependent on other family members who are, and in our sample fewer of them had sought help. Reaching them requires FCHV screening and existing platforms for women such as maternal and child health services and mothers' groups [12]. Mental health should be counted among the outcomes of policies on women's economic empowerment, because entering work and controlling one's own earnings may have benefits beyond income. In the same survey, an unadjusted comparison among married women with any symptom on either scale also showed help-seeking lowest in the poorest wealth quintile, but it showed no difference by employment [19]. We found an association with employment at the moderate-to-severe threshold after adjustment for wealth and the other factors. How employment and help-seeking are linked in Nepal remains to be studied.

Comorbidity and Symptom Severity

Women above the threshold on both instruments are likely to have more severe symptoms [36], and this symptom burden is the most plausible explanation for the comorbidity effect. The Health Belief Model proposes that a person with low perceived susceptibility or severity needs a strong cue to action [37]. Under this model, a woman above the threshold on only one instrument may see her symptoms as manageable until her distress grows strong enough to make seeking help seem necessary.

Non-Significant Factors

Neither marital status nor education was associated with help-seeking. Schooling may not produce mental health literacy if the subject is absent from curricula. Residence was not associated with help-seeking, although formal services are concentrated in urban areas. The probable reason is that the outcome counted help of any kind, and most of it came from spouses, family, friends, and neighbors, who live in villages as well as cities. An urban advantage would have probably appeared only if the outcome had measured formal care. Province was not associated with help-seeking. Insurance showed no association either; only 76 of the 710 women were insured (Table 1), in a survey where 88% of women had no coverage [22].

Strengths and Limitations

The sample is nationally representative, and because the analysis is weighted and adjusted for the survey design, the estimates apply to Nepali women aged 15–49. Our prevalence estimates use the standard ≥ 10 cutoff on both instruments and can be compared with those of other population studies. The regression models were limited to women with clinically meaningful symptoms, and their estimates describe help-seeking among women whose symptoms suggest a need for care.

The NDHS is cross-sectional, and none of the associations can establish cause. Help-seeking was self-reported, and the question asked whether a woman had ever tried to seek help, so some of the reported contacts may predate the symptom episode measured by the GAD-7 and PHQ-9, as the question had no recall period. Finally, the outcome counts any contact and does not show what treatment followed.

Conclusion

In this sample of symptomatic Nepali women, the factors associated with help-seeking were wealth, employment, and comorbidity. Age, education, marital status, residence, province, and insurance were not associated with help-seeking. Affordable, culturally acceptable services that reach women across the wealth distribution, and women who are not employed and of low socio-economic status, should be prioritized.

Declarations

Competing interests

The authors declare that they have no conflict of interest.

Ethics approval

Because the analysis uses public, de-identified data, the University of North Carolina at Chapel Hill Office of Human Research Ethics determined that it did not require institutional review board approval (Study #25-3198). The NDHS protocol was reviewed by ICF's review board and the Nepal Health Research Council [22].

Consent to participate

The household head gave written consent, and each respondent gave oral consent, recorded by the interviewer, after the consent statement was read to her [22].

Consent to publish

Not applicable.

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Author Contribution

Mohammed Fakhry: Conceptualization, Data curation, Formal analysis, Methodology, Project administration, Software, Validation, Visualization, Writing – original draft, Writing – review & editing. Marie Lina Excellent: Supervision, Writing – review & editing. Kavita Singh: Supervision, Writing – review & editing.

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Data Availability

The data underlying this study are available from The DHS Program (https://dhsprogram.com/data/available-datasets.cfm): Nepal Demographic and Health Survey 2022, Individual Recode file (NPIR82FL). Access requires free registration and approval by The DHS Program; the authors received no special access privileges, and others can obtain the data in the same way.

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Figures

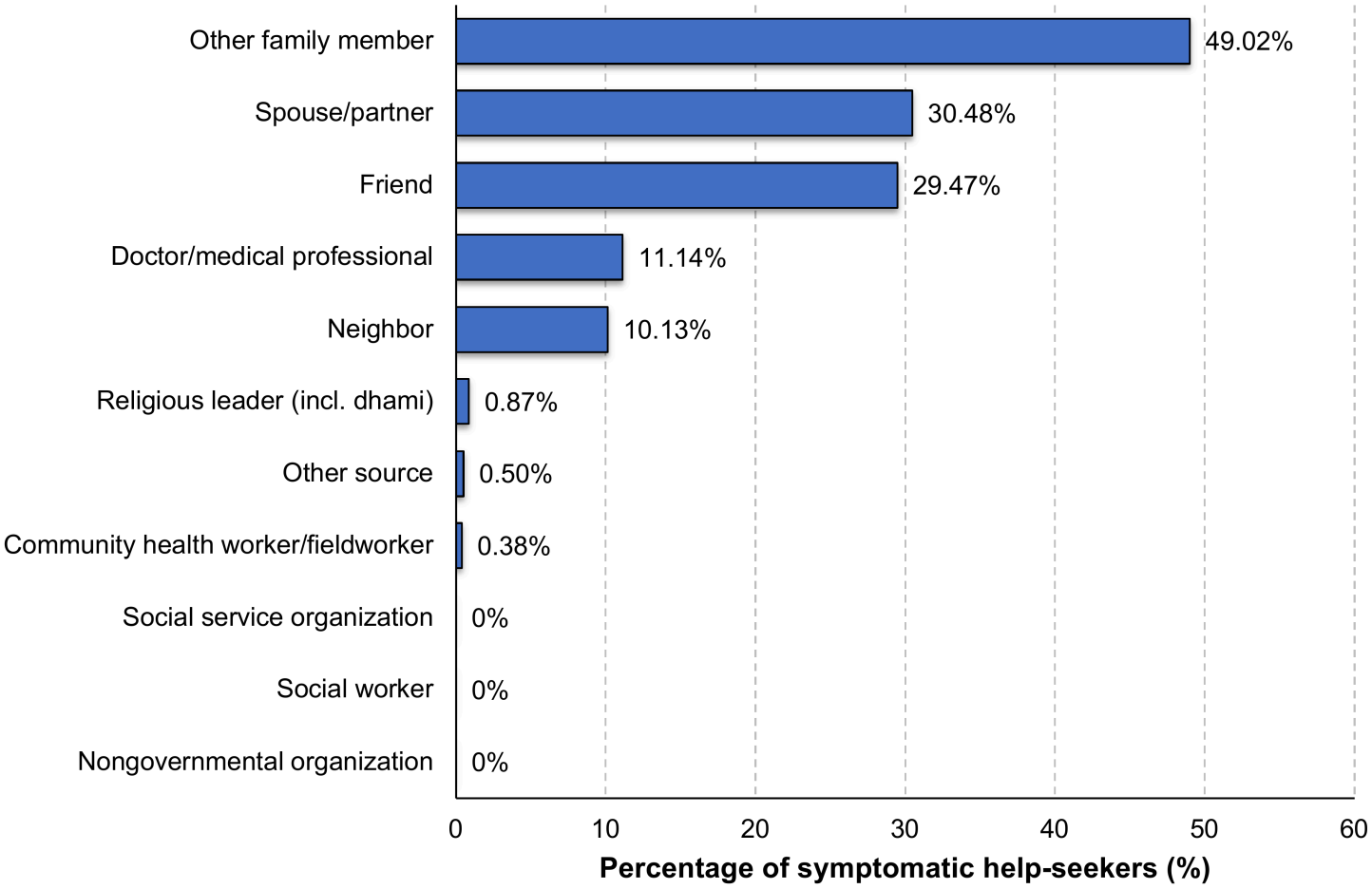


Figure 1

Sources of help among symptomatic women who sought help (n=279)

Note: Percentages sum to more than 100% because respondents could report more than one source. Denominator: 279 symptomatic women who reported seeking any help.

Supplementary Files

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