

Generalised anxiety disorder detection rate in a primary care setting in Jordan: a cross-sectional study

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. Previous research suggests that the detection rates of Generalised Anxiety Disorders (GAD) in primary health care are low.

Objectives. The aim of this study is to assess the rate of detecting Generalised Anxiety Disorder (GAD) in a family medicine clinic in Jordan and to investigate physicians' characteristics, which might predict this rate.

Material and methods. This was a cross-sectional study. The sample was composed of 126 patients diagnosed as having GAD. Medical records of the patients were reviewed to determine the resident physician who provided service to each patient and whether a diagnosis of GAD was considered. 15 treating physicians at different levels of vocational training were blindly included. The study explored the relationship between physicians' characteristics and the detection of GAD.

Results. The total rate of recognition of GAD was 13.5%. Of the studied physicians, having taken extracurricular psychiatry courses increased the ability to diagnose GAD with an odds ratio of 3.10 and a 95% confidence interval of 1.09–8.81. Physicians in their third and fourth year of residency (seniors) were less likely to diagnose GAD than first and second year physicians (juniors), with an odds ratio of 0.28 and a confidence interval of 0.10–0.82.

Conclusions. The detection rate of GAD by physicians in primary health care in Jordan is low. The importance of additional training regarding mental health issues in primary care needs to be highlighted.

Key words: primary health care, Jordan, anxiety.

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Background

Generalised Anxiety Disorder (GAD) is a mental disorder commonly encountered in the primary health care setting [1, 2]. According to data from the World Health Organization World Mental Health Survey Initiative, the combined lifetime prevalence of GAD reaches 3.7%, with this prevalence being the highest in high income countries and the lowest in low income countries [3]. GAD is characterised by the presence of excessive worries that cannot be controlled by the patient, in addition to other potential psychological or physical symptoms [4]. The disorder tends to coexist with other mental health conditions, such as depression, panic disorder and bipolar disorders [5]. Even in the absence of comorbid conditions, GAD has been shown to have a significant negative impact on patients' quality of life and daily functioning [4, 6, 7]. Moreover, evidence suggests that GAD represents a significant economic burden to societies and health systems due to higher utilisation of health service and the declined productivity of patients [4, 8, 9].

GAD diagnosis in primary care plays an important role in the delivery of effective evidence-based treatments [10]. Nevertheless, misdiagnosis of GAD is still a problem that needs further attention and research [11]. The negative impact of undiagnosed GAD on individuals and societies cannot be overlooked. It has been reported that excessive worries associated with anxiety can negatively affect patients' health related quality of life and social activities. It can also affect academic and professional

achievement, which can be translated into more days of absence, incomplete work, declined productivity, social isolation and missed opportunities for educational and occupational development [11–13]. Moreover, misdiagnosis of GAD can lead to higher health costs and represents an economical burden to health systems. Previous research has attributed these costs to a number of factors. Patients suffering from GAD have lower levels of productivity than others, whether because of lost ability to perform work tasks or absence from work [14]. In addition, it has been reported that patients with GAD are more likely to utilise health services, exerting more financial pressure on health systems [4].

Misdiagnosis of GAD in primary health care has been attributed to a number of factors. First, GAD patients commonly suffer from non-specific symptoms that can be easily confused with other conditions. Physical symptoms like fatigue, muscle tension and sleep problems are common [10, 15]. In addition, the coexistence of GAD with other comorbidities can also complicate the diagnosis process [2, 9, 11, 12]. Secondly, patient-related factors can play an important role in delaying the diagnosis of GAD. Evidence suggests that GAD patients sometimes try to normalise their symptoms by ascribing them to non-disease factors like workload or life pressures [1]. Patients also tend to avoid seeking diagnosis and help for GAD, fearing of the stigma associated with mental health conditions in general [1]. Thirdly, physician-related factors, such as time constraints, lack of knowledge regarding GAD and uncertainty about diagnostic criteria to be used, can also lead to misdiagnosis of GAD [1, 16].



It is generally agreed that GAD diagnosis and treatment is best carried out in the primary health care setting [17]. Accordingly, family physicians make a significant contribution to the detection, diagnosis and treatment of GAD [18]. Nevertheless, a growing body of literature indicates that the rates of detecting and diagnosing GAD in primary health care settings are suboptimal [4, 19]. Consequently, suboptimal detection of GAD in primary health care represents a missed opportunity for effective treatment of a responsive disorder [2].

Objectives

In Jordan, research about GAD in primary health care is scarce. One study carried out in 2018 at Jordan University Hospital family medicine clinics showed that the prevalence of GAD was 23.7%. The study also explored a number of factors that were related to the diagnosis of GAD among the included patients [20]. Accordingly, the current study provides an important opportunity to advance our knowledge of GAD detection in primary health care in Jordan. This study aims to assess the rate of detecting GAD by a sample of family medicine residents. It also aims to explore physician-related factors that affect GAD detection in family medicine clinics at Jordan University Hospital.

Material and methods

This was a cross-sectional study that was conducted in the family medicine department at Jordan University Hospital (JUH), which is a teaching hospital serving the capital Amman and all surrounding provinces. Family medicine practice comprises walk-in clinics that serve medically-insured patients with acute as well as chronic illnesses, and it is also a training centre for undergraduate medical students and postgraduate family medicine residents.

The vocational training for postgraduate family medicine at the School of Medicine of the University of Jordan is a four year training programme. As part of rotations in the different departments in the hospital, first year residents attend three sessions a week in the family medicine department, each session lasting for three hours. Second year residents attend four sessions a week, third year residents have six sessions a week, and final year residents (fourth year) spend seven months practicing in the family medicine clinics under the supervision of consultants. The total period of training in psychiatry for the residents is one month. Data collection for this study lasted for three months from May to July 2018.

In order to assess the rate of detecting GAD in the family medicine clinics, 126 patients diagnosed as having GAD through a two-step process were included in the study. All patients attending the clinics during the data collection period completed a validated Arabic version of the GAD-7 questionnaire, which is an internationally validated tool for screening of Generalised Anxiety Disorders [21]. Subsequently, they filled in a questionnaire collecting data regarding socio-demographic characteristics and comorbidities. Patients with emergent medical conditions or with severe cognitive impairment and patients who were seen by physicians who were part of the study team were excluded from the study. A registered nurse and 2 trained medical students supervised the process of questionnaire distribution and completion. All patients scoring 10 or more on the GAD-7 (which indicates moderate to severe anxiety) were interviewed by one of three family medicine consultants to confirm the diagnosis of GAD using Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria [22]. Patients who did not match the DSM-5 criteria were not included in the study sample, regardless of their score on the GAD-7. The medical records of all patients who were diagnosed as having GAD were reviewed to identify the family medicine resident who provided service to these patients and whether the diagnosis of GAD was documented.

All family medicine residents treating the included patients were given codes from 1 to 15 and were invited to take part in the study. They were kept unaware of the research subjects to assure blindness. A self-administered questionnaire was completed by the 15 physicians (10 were in the first and second year of residency and 5 in the third and fourth year of residency programme) to collect data on age, medical school grade and performance, interest in psychiatry, participation in psychiatric courses and their perception on the prevalence of GAD. The consultants were excluded from the study. The study was approved by the ethical scientific research committee at the Faculty of Medicine and was financially supported by the Deanship of Academic Research of the University of Jordan. Data analysis was performed using Statistical Package for Social Sciences (SPSS) version 11.0. Descriptive statistics (frequencies, percentages, means and standard deviation) were used to present the sample characteristics, while logistic regression analysis using odds ratio and a 95% confidence interval was applied to determine the association between the sample characteristics and the diagnosis of anxiety (diagnosed and not diagnosed).

Results

The overall GAD detection rate was low. Out of 126 patients with GAD, only 17 (13.5%) were diagnosed or suspected of having the diagnosis by the included residents.

The study included a total of 15 family medicine residents with a mean age \pm SD of 29 ± 0.1 years. Table 1 shows the general characteristics of the included physicians. The majority of physicians were female (12–80%). Around two thirds were single ($n = 10$, 66.7%). 10 of the physicians (66.7%) achieved a Grade Point Average (GPA) of excellent or very good in Bachelor of Medicine or Bachelor of Surgery (MBBS). 4 physicians (26.7%) attended additional courses in psychiatry. 8 physicians (53%) graduated from the School of Medicine of the University of Jordan, while others graduated from other medical schools. 10 were juniors (first and second year of residency), and 5 were seniors (third and fourth year of residency programme). Most of the physicians ($n = 12$, 80%) believed that GAD is a common disorder in family medicine patients.

Table 1. General characteristics of included physicians

	Number	Percentage
Total	15	
Gender		
male	3	20.0%
female	12	80.0%
Marital status		
single	10	66.7%
married	5	33.3%
Grads		
good or average	5	33.3%
excellent or very good	10	66.7%
Psychiatry courses		
no	11	73.3%
yes	4	26.7%
Medical school		
University of Jordan	8	53.3%
others	7	46.7%
Resident level		
senior	5	33.3%
junior	10	66.7%
† Perception of GAD prevalence		
no	3	20.0%
yes	12	80.0%

† Perception of doctors that GAD is a common disorder in the community.

Table 2. Potential predictors of the diagnosis of GAD

	Not diagnosed		Diagnosed		Odds ratio (OR) (95% confidence interval)
	Number	Percentage	Number	Percentage	
Total	109	86.5%	17	13.5%	
Gender					
male	21	77.8%	6	22.2%	0.44 (0.14–1.32)
female	88	88.9%	11	11.1%	
Marital status					
single	75	89.3%	9	10.7%	1.96 (0.70–5.52)
married	34	81.0%	8	19.0%	
Resident's medical school					
University of Jordan	66	84.6%	12	15.4%	0.64 (0.21–1.94)
other universities	43	89.6%	5	10.4%	
Resident's grade					
good and average	44	93.6%	3	6.4%	3.16 (0.86–11.64)
v. good and excellent	65	82.3%	14	17.7%	
Resident's attendance of psychiatry courses					
no	80	90.9%	8	9.1%	3.10 (1.09–8.81)*
yes	29	76.3%	9	23.7%	
Resident's perception of GAD					
no	18	85.7%	3	14.3%	0.92 (0.24–3.55)
yes	91	86.7%	14	13.3%	
Resident's level of training					
seniors	22	73.3%	8	26.7%	0.28 (0.10–0.82)*
junior	87	90.6%	9	9.4%	

* Significant p -value = 0.03.

Table 2 lists physicians' characteristics as potential predictors for the diagnosis of GAD. Physicians who had attended psychiatry courses were significantly more likely to diagnose patients with GAD than those who did not attend the courses (OR = 3.10, 95% CI: 1.09–8.81, p = 0.03). Senior residents were significantly more likely to diagnose GAD than junior residents (OR = 0.28, 95% CI: 0.10–0.82, p = 0.03). Age, marital status, MBBS degree, medical school and the perception of GAD as a common disorder in family medicine practice did not significantly predict GAD diagnosis.

Discussion

The current study aimed at assessing the rate of detecting Generalised Anxiety Disorder (GAD) in a primary care setting in Jordan. The study showed that in family practice clinics at Jordan University Hospital, the rate of detecting GAD was low (13.5%). This rate is lower than GAD detection rates reported in previously conducted studies, which range from 33% to 64% [13]. There is a large volume of published studies that confirm the low rates of diagnosing mood and anxiety disorders in primary care, and this study adds to this body of research [13, 15, 23].

In the current study, physician-related factors predicting the likelihood of diagnosing (or misdiagnosing) GAD were explored. It was found that physicians' attendance of additional psychiatry courses was a significant predictor for diagnosing GAD. This finding differs from what has been reported by O'Brien et al. on the potential factors affecting the detection of anxiety disorders in children. In their study, they reported that psychiatry training was not a significant predictor of a physician's confidence in diagnosing anxiety disorders [24]. Moreover, the findings of the current study do not support the recent research conducted by Barnes et al., who explored barriers to and facilitators of diagnosing GAD in primary care. In their research, Barnes et al. did

not report psychiatry training among the general practitioners' related factors facilitating or impeding anxiety diagnosis [25]. Nonetheless, primary care physicians training on mental health issues was highlighted as an important improvement method of primary care management of mental health disorders [26].

The residents' level of training was a significant predictor of GAD diagnosis. Senior residents in the current study were more likely to diagnose anxiety than junior residents. This is not in line with the results reported by O'Brien et al., who found that the number of years one was qualified did not significantly predict one's confidence in diagnosing anxiety [24]. It has been reported in literature that more years of experience were associated with increased confidence in diagnosing cases of GAD [27].

The findings of the current study have important implications for refining the family medicine residency training programme in JUH and other Jordanian universities. While it is well established that the GAD cases encountered in primary care settings are on the rise, it is necessary for family physicians to be able to diagnose such cases accurately. This study highlighted an important area of improvement in this context, which is the inclusion of more focused psychiatry courses within the family medicine residency training programmes.

The generalisability of finding from the current study might be limited by the small size of the sample. In addition, the study included residents only, while it did not include any consultants in family medicine clinics.

Conclusions

The current study indicates that the detection rate of GAD by resident physicians in a family medicine clinic in Jordan is low. Based on the research findings, the importance of additional training regarding mental health issues in primary care needs to be highlighted.

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