

Original article

Generalized Anxiety Disorder among Adult patients attending psychiatric clinic at Baghdad Teaching Hospital

Dr. Hamid Ahmed Wahbie ^{1*}, Dr. Abbas Al_Rubayee ²

¹ Psychiatric registrar, Azadi Teaching hospital, Kirkuk, Iraq

² Consultant Psychiatrist, Baghdad Teaching Hospital, Baghdad, Iraq

* Corresponding Author: Email: hamidqutub9@gmail.com

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Abstract:

- **Background:** Generalized anxiety disorder is characterized by chronic and persistent worry, which is multifocal, excessive, and difficult to control, and accompanied by nonspecific psychological and physical symptoms. The objective of the study is to determine the proportion of GAD, evaluate clinical symptoms with socio-demographic data and determine whether such patients have co-morbid mental illnesses.
- **Method and patient:** This cross sectional study was conducted at Baghdad teaching hospital, 263 patients included, the study took 17 weeks starting in June 2021 till mid-October 2021.
- **Result:** 2.6% of patients (7 patients from 263) found to have GAD, men and women were almost equally affected, most of the patients were employed and married, had secondary school achievements and all of them were from urban areas. Restlessness and irritability were the most frequent symptoms and sleep disturbance was the least among other symptoms. Depression was the most frequent comorbid illness; other anxiety disorders and personality disorder were the least comorbidities.
- **Conclusions:** The proportion of GAD is slightly lesser than other studies, higher proportion seen in older adults than the younger patients, common symptoms of GAD are also seen in other psychiatric disorders leading to under-diagnosing of the illness, and mental health comorbidities are high among patients with GAD, mainly depression.
- **Keywords:** Generalized anxiety disorder, baghdad teaching hospital, restlessness, irritability.

INTRODUCTION

Generalized anxiety disorder (GAD) is characterised via the means of continual worry. This worry, that's multifocal (e.g., approximately finances, family, health, and the future), excessive, and hard to control, is normally observed through different nonspecific mental and bodily signs and identified in line with DSM V criteria (appendix B). The term GAD can also additionally incorrectly means that the signs are nonspecific and this misunderstanding can cause inappropriate use of this terminology for nonspecifically any anxious patient ⁽¹⁾.

Depending on the representative epidemiologic studies, the estimated prevalence of GAD in the general population of the United States was 3.1 percent last year and 5.7 percent over a patient's lifetime; the prevalence is roughly twice as high in women as it is in males⁽²⁾. The onset age of generalized anxiety disorder varies greatly; some instances begin in childhood, the majority in early adulthood, and another peak of new-onset cases occurs in older adulthood, frequently in the setting of chronic physical health issues ⁽³⁾. Generalized anxiety disorder is particularly common in primary care centers, where 7 to 8% of patients suffer from it ⁽⁴⁾. Patients rarely report the worry as a symptom. The main presentation in primary health centers is bodily signs and symptoms which include gastrointestinal symptoms (for example abdominal pain) and headache ⁽⁵⁾. In children GAD frequently represented as recurrent abdominal ache and different somatic complaints which can lead them to leave the school ⁽⁶⁾.

One of the commonest comorbid conditions is depression; major depression sometimes is difficult to distinguish from GAD because many of the manifestations of the disorder (e.g., fatigue and insomnia) overlap with those of depression ⁽⁷⁾. In many patients, GAD is an underlying waxing and waning state, with periodic episodes of major depressive disorder in particularly stressful life circumstances. This dual occurrence of GAD and major depressive disorder constitutes a condition sometimes referred to as anxious depression, which is a common clinical presentation in primary health centers⁽⁸⁾.

Generalized anxiety disorder increases the risks of different mental and physical health conditions (e.g., chronic pain syndromes, asthma or chronic obstructive pulmonary disease, and inflammatory bowel disease ⁽⁹⁾).

35% of GAD patients self-medicate themselves with alcohol and drugs to reduce their symptomatology and this pattern of use contribute to the increased risk of alcohol- and drug-abuse among these patients ⁽¹⁰⁾. Known risk factors of GAD include female sex, low socioeconomic status, and exposure to childhood adversity (e.g., physical or sexual abuse, neglect, and violence, alcoholism, and other drug use problems of the parents ⁽¹¹⁾. Physical

punishment in exposure in childhood is associated with an increased risk of GAD during adulthood ⁽¹²⁾.

Twin studies shown moderation in genetic risk of the disorder, while the heritability is between 15 and 20%.¹³ Candidate and genome wide association studies suggested some genetic associations ^(13, 14), but these outcomes need to be widely replicated and studied. A psychological term known as intolerance of uncertainty — the habitude of an individual to become anxious when facing uncertain situations — shown to be a relatively specific characteristic of patients with GAD ⁽¹⁵⁾. Although it is unclear whether the origin of this habitude is experiential or genetic, the observation of decreasing intolerance of uncertainty is an important factor for the outcomes of cognitive behavioral therapy provides support for its central role in this disorder ⁽¹⁶⁾.

Functional neuroimaging studies for individuals with GAD have suggested increased activation within parts of the limbic system (e.g., the amygdala) and reduced activation in the prefrontal cortex, and the functional connectivity between these regions ⁽¹⁷⁻¹⁸⁾.

Individuals with GAD generally have (Yes) response to the question Do you worry excessively about minor matters? This is needed to be asked of patients with disturbed sleep, a blue mood, long-term gastrointestinal and pain symptomatology, or other unexplained recurrent health issues. The Generalized Anxiety Disorder 7-Item (GAD-7) Questionnaire is a brief questionnaire that can be used to search and to follow up the disorder. ⁽¹⁹⁾.

Some types of pharmacotherapy, psychotherapy, or both can be used for GAD patients⁽²⁰⁻²¹⁾. A stepped-care approach is recommended. The first choices usually depend on the preference of the patients ⁽²²⁾. Physicians not only the psychiatrists often can prescribe medications and follow the outcomes in such patients ^(23, 24).

Clinical experience and RCT provide evidence for exercise for anxiety, but the effect sizes are modest ⁽²⁵⁾.

Pharmacotherapy reduces suffering and disability and results in improvement in health-related quality of life ⁽²⁶⁾. Efficacy of most (but not all) antidepressants had been supported by evidences, several benzodiazepines, pregabalin and buspar (buspiron) can be used in patients with GAD ⁽²⁷⁾. Selective serotonin-reuptake inhibitors (SSRIs) and serotonin–norepinephrine reuptake inhibitors (SNRIs) are generally considered to be first-line pharmacotherapies for GAD ^(20, 28). There is no superiority in the efficacy of any medication in the classes of SSRI or SNRI in the treatment so the cost, the previous response to medication and the patient's preference makes the choice for the medication ⁽²⁹⁾. There is growing evidence for the use of

both aforementioned classes of medications for the treatment of anxiety disorders, including GAD, in children and adolescents⁽³⁰⁾. Several RCT have shown a benefit of a newly marketed antidepressant, vilazodone⁽³¹⁾. Trials involving patients with GAD haven't shown effect for some other antidepressants, including bupropion and vortioxetin⁽³²⁾, so as a result these agents aren't recommended. The efficacy of imipramine which is an example of tricyclic antidepressants is similar to that of SSRIs.⁽²⁸⁾ In similar cases, alternative or additive therapies may be given; these include buspirone⁽³³⁾, pregabalin (not approved by the [FDA] for GAD), but has been shown to be efficacious⁽³⁴⁾, and quetiapine⁽³⁵⁾. Limited data have suggested efficacy of antihistamines such as hydroxyzine for GAD, these are not recommended because of their sedative effect and absence of long-term evidence supporting the use of such medications⁽³⁶⁾. Because the concerns about misuse and dependence, benzodiazepines for example valium are not administered for anxiety disorders including GAD By some clinicians⁽³⁷⁾.

Psychotherapeutic techniques for GAD, include cognitive behavioral therapy, psychodynamic therapies, mindfulness-based therapies⁽³⁸⁾, and applied relaxation therapy. Cognitive behavioral therapy involves cognitive restructuring, exposure, and relaxation training⁽³⁹⁾, cognitive behavioral therapy which can be delivered using Internet may be a perfect point to start with for some patients⁽⁴⁰⁾, especially those who cannot visit a therapist in person. The aim of this study is to determine the proportion of GAD among patients attending psychiatry clinic at Baghdad Teaching hospital, evaluate the Socio-demographic data (gender, age, occupation, educational level, marital status and the residency) and clinical symptoms of GAD and determine whether patients with GAD have comorbid mental illnesses.

PATIENT and METHOD

The study was conducted at Psychiatric outpatient clinic in Baghdad Teaching hospital that is in the center of the capital, Baghdad city; the General hospital contains nearly most specialties and psychiatric clinic. It is one of the many public psychiatric outpatient clinics in Baghdad city which has relatively 7.1 million populations.

There are around 20 patients attending daily for various disorders and illnesses including those referred from other clinics,

This is a cross sectional observational study, 263 patients included in the study after taking their consent, the questionnaire was filled via person to person interview individually. The questionnaire contains 4 parts: the 1st one is the socio-demographic data, containing gender, age, occupation, marital status, education level, and living area. while 2nd part consisted of DSM5 diagnostic criteria of GAD and whether the patients met the criteria or not, 3rd part had

clinical symptoms related to GAD which was derived from DSM5 criteria; (restlessness, irritability, decreased concentration, easily being fatigued, sleep disturbance, and muscle tension), the final part had the common comorbidities that might associate GAD including depression, other anxiety disorders, substance use disorder, personality disorder, all are diagnosed based on DSM V criteria for the mentioned disorders.

The study took nearly 17 inconsecutive weeks for data collection, once weekly, each Wednesday, from 8:30 am. to 1 pm, spending almost 20 minutes with each patient the study started in early June 2021 till mid-October 2021.

Any adult individual aged 18-60 years who accepted to participate in the study were included whereas patients who were un-amenable, incommunicable, and those with severe cognitive and intellectual disabilities were excluded.

Ethical considerations involve the scientific and ethical committees of Iraq board of psychiatry thoroughly evaluated and accepted the researcher proposal. The participants got informed about the nature of the study, consent was taken verbally, and finally they were reassured regarding the secrecy and the confidentiality of their identity, and their information will only be used in for research purposes.

The collected data were introduced into Microsoft excel, and word using a personal laptop. Descriptive statistics including frequencies and percentages of the data were presented in tables and graphics.

RESULTS

Socio-demographic data

Total number of patients included in the study was 263 patients, 7 (2.66%) of them suffered from GAD, nearly half of all participants were men 147 (55.89%) and 116(44.1%) were women those who suffered from GAD were 4 men (1.52%) and 3 women (1.14%).

Almost less than 1/3 of all participants 75(28. 51%) aged between 30-39 years, 2(0.76%) of them had GAD, [3 (1.14%)] patients with GAD fell in the category of age 50-59 years, 1(0.38%) patient who suffered of GAD fell in the category 18-19 years and another was in the category 40-49 years

Occupation-wise, almost one quarter 71 (26.99%) of participants were either employed, 4 (1.5209%) of them met DSM5 criteria for GAD, or free lancers 69 (26.23%), 2 (0.76%) of them

had GAD. Almost half, 123 (46.768%), of the study contributors were unfortunately not working at the time of sample collection, amongst them only 1 (0.38%) had GAD.

Marriage amongst the participants had the biggest portion, 124 (47.14%) members were married, two of them (0.76%) had GAD, 39 (14.82%) were divorced; 3 (1.14%) of them suffered from GAD, while one quarter 69 (26.23%) of all members in the current study were single; 1 (0.38%) of them had GAD, finally the least portion was the widowed, 31(11.7870%) individuals ,of them 1 (0.3802%) had the disorder.

Regarding education level, almost one quarter of all participants were either illiterate or had finished primary school, while none of GAD patients in our study were uneducated, 1 (0.7604%) patient had finished primary school, more than tierce 103 (39.1634%) patients had completed secondary school, 3 (1.1406%) of them had GAD, finally 29 (11.0266%) of the participants were highly educated with a college degree in different specialties, 2 (28.5%) of them had met the criteria for GAD.

The subgroups of patients in the living area section were two, the major share living in the city 204 (77.5665%); 7(2.6615%) of them diagnosed with GAD, and 59 (22.4334%) were living in rural areas but none of them had GAD.

Table 1: Sample distribution according to gender

Variable	n./ (%)	Total number of GAD/ (%)	Percentage (%)
Gender Male			
Female	147 (55.893%)	4 (1.5209%)	57.1%
Total	116 (44.106%)	3 (1.1406%)	42.8%
	263 (100%)	7 (2.6%)	100%

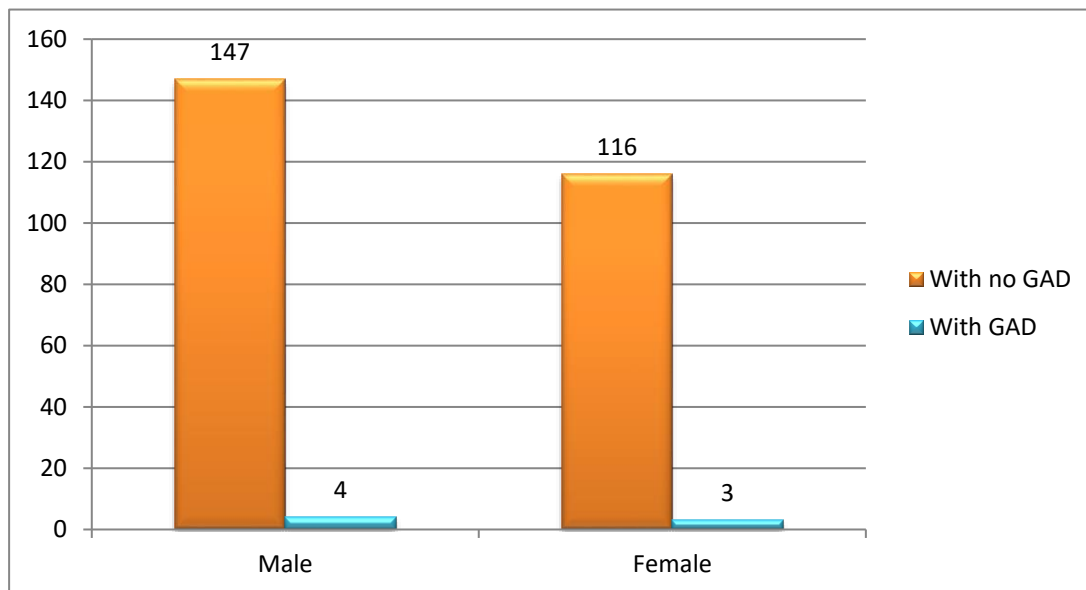


Figure 1: Sample distribution according to gender

Table 2: Sample distribution according to Age

Variable	<i>n./ (%)</i>	Total number of GAD/ (%)	Percentage (%)
Age in years			
18-29	56 (21.29%)	1 (0.38%)	14.2%
30-39	75 (28.51%)	2 (0.76%)	28.5%
40-49	63 (23.95%)	1 (0.38%)	14.2%
50-60	69 (26.2%)	3 (1.14%)	42.8%
Total	263 (100%)	7 (2.6%)	100%

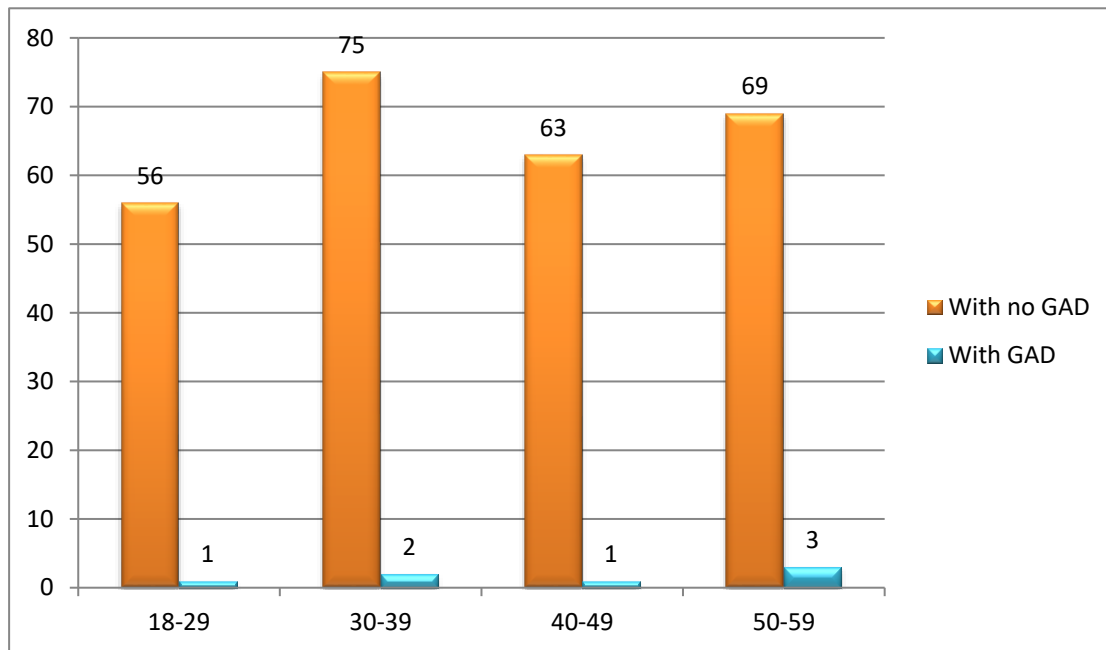


Figure 2: Sample distribution according to Age

Table 3: Sample distribution according to Occupation

Variable	<i>n./ (%)</i>	Total number of GAD/ (%)	Percentage (%)
Occupation			
Employed	71 (26.99%)	4 (1.52%)	57.1%
Unemployed	123 (46.76%)	1 (0.38%)	14.2%
Free lancer	69 (26.23%)	2 (0.76%)	28.5%
Total	263 (100%)	7 (2.6%)	100%

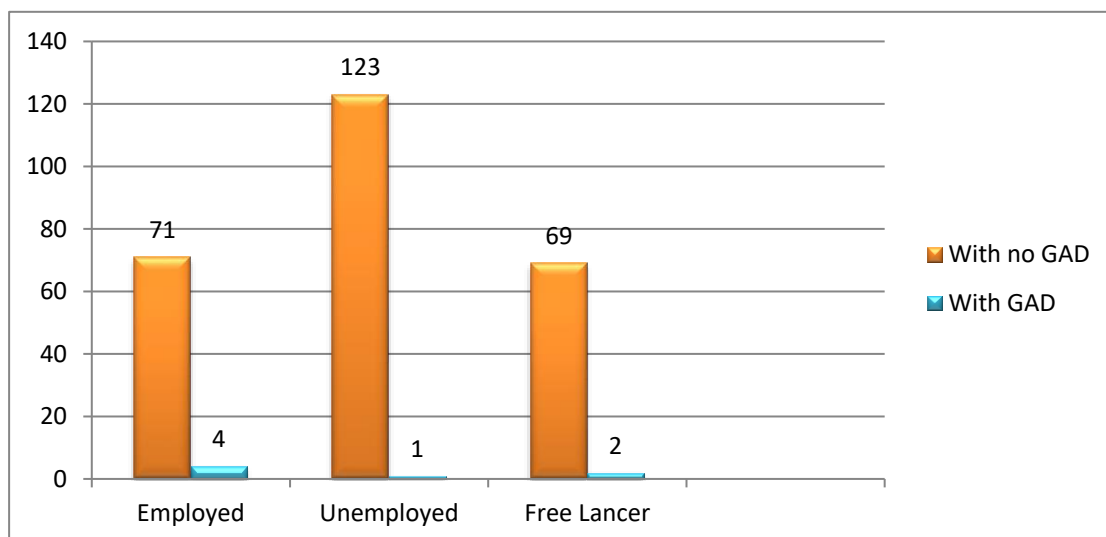


Figure 3: Sample distribution according to Occupation

Table 4: Sample distribution according to Marital Status

Variable	<i>n./ (%)</i>	Total number of GAD/ (%)	Percentage (%)
Marital status			
Single Married	69 (26.23%)	1 (0.38%)	14.2%
Divorced	124 (47.14%)	2 (0.76%)	28.5%
Widowed	39 (14.82%)	3 (1.14%)	42.8%
Total	31 (11.78%)	1 (0.38%)	14.2%
	263 (100%)	7 (2.6%)	100%

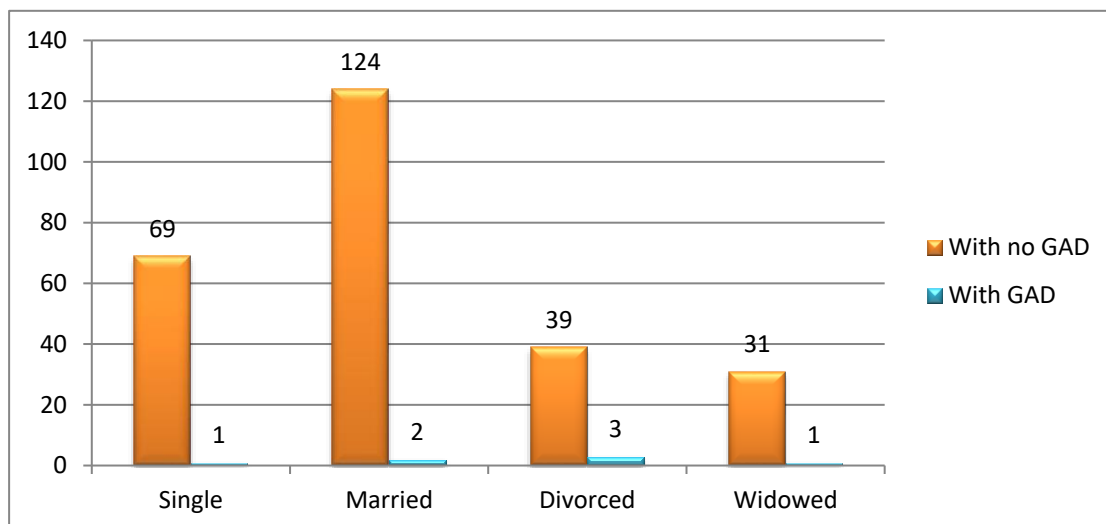


Figure 4: Sample distribution according to Marital Status

Table 5: Sample distribution according to Educational Level

Variable	n./ (%)	Total number of GAD/ (%)	Percentage (%)
Education level			
Illiterate			
Primary	67 (25.74%)	-----	-----
Secondary	64 (24.33%)	2 (0.76%)	28.5%
University	103 (39.16%)	3 (1.14%)	42.8%
Total	29 (11.02%)	2 (0.76%)	28.5%
	263 (100%)	7 (2.6%)	100%

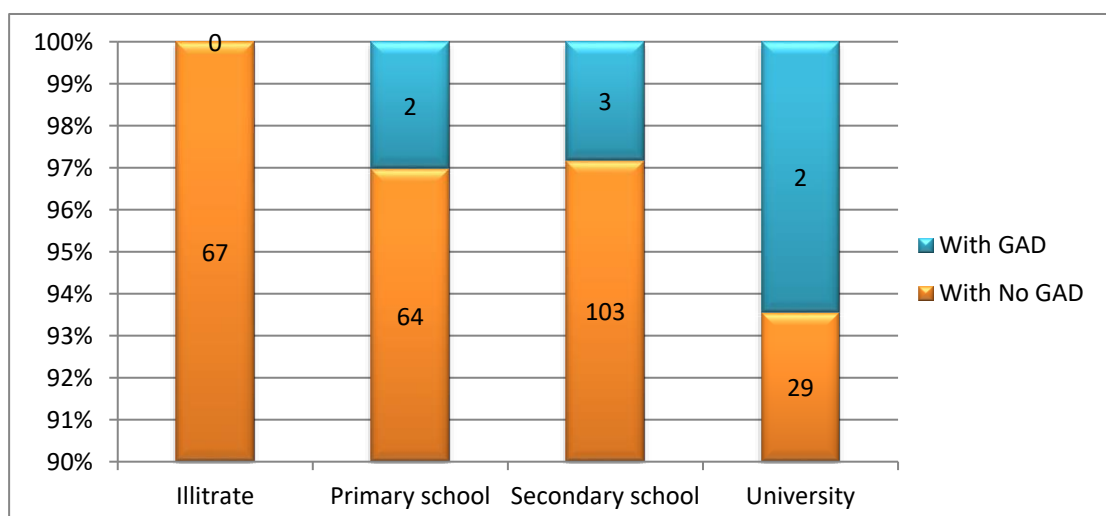


Figure 5: Sample distribution according to Educational Level

Table 6: Sample distribution according to Residency

Variable	n./ (%)	Total number of GAD/ (%)	Percentage (%)
Living area			
Urban	204 (77.56%)	7 (2.6%)	100%
Rural	59 (22.43%)	-----	-----
Total	263	-----	-----

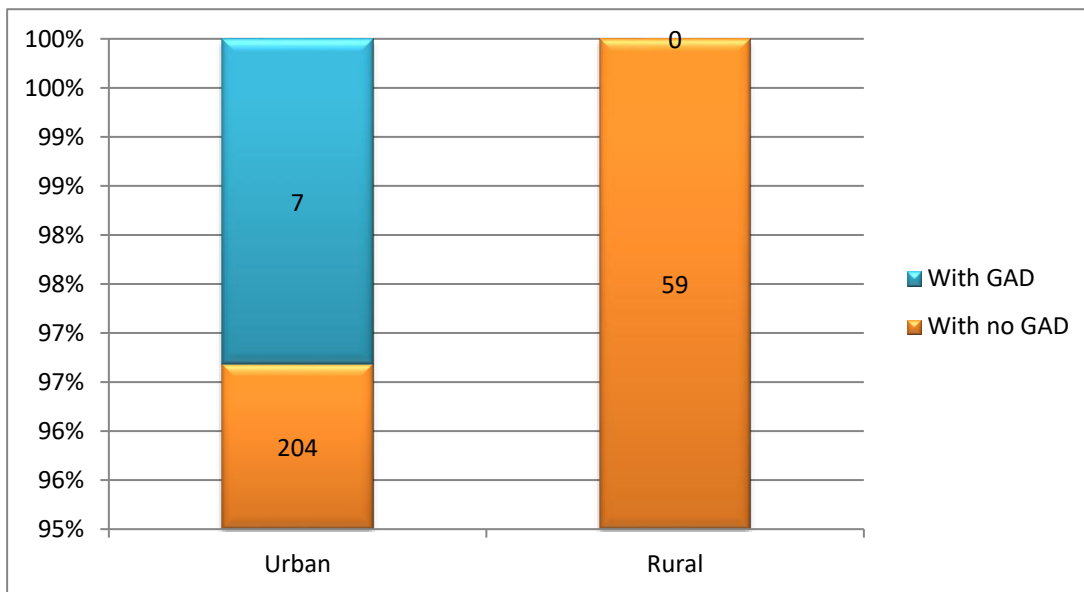


Figure 6: Sample distribution according to Residency

Clinical variables: In the current study all the participants had suffered from some symptoms seen in GAD, 157 (57.1749%) of the participants had restlessness but only 7 (2.6%) met the diagnostic criteria for GAD, 143 (54.3726%) of members in the study had fatigability, while just 5 (1.90%) of them diagnosed as having GAD, 149 (56.6539%) of participants suffered from difficulty concentrating or mind going blank, only 4 (1.52%) individuals met the criteria for GAD, 129 (49.049%) of participants had symptoms of muscle tension and 4 (1.52%) met the criteria for GAD. Lastly sleep disturbance had the biggest share, 189 (71.8631%) among the participants, but only 2 (0.76%) did meet the criteria to diagnose GAD.

Table 7: clinical variables and characteristics of Generalized Anxiety disorder

Clinical symptoms	<i>n.</i> (%)	Frequency Among Patients with GAD	Percentage %
Restlessness or feeling keyed up or on edge	157 (57.17%)	7 (2.66%)	100%
Being easily fatigued	143 (54.37%)	5 (1.90%)	71.42%
Difficulty concentration or mind going blank	149 (56.65%)	4 (1.52%)	57.14%
Irritability	168 (63.87%)	7 (2.66%)	100%
Muscle tension	129 (49.04%)	4 (1.520%)	57.14%
Sleep Disturbance	189 (71.86%)	2 (0.76%)	28.57%
Total	263 (100%)	7 (2.6%)	100%

Other mental comorbidities: The vast majority of patients in the current study diagnosed with GAD had comorbid depression, six out of seven (85.71%), another two patients with GAD (28.57%) had comorbid substance use disorder (one of them had alcohol use disorder and the other one had polysubstance use disorder) and only one out of seven (14.28%) had either personality disorder (cluster A) or other anxiety disorder.

Table 8: mental comorbidities with GAD

Comorbidities	Patient with GAD and comorbid illness	Percentage
Mixed anxiety and Depression	6 of 7	85.71%
Other anxiety disorder	1 of 7	14.28%
Substance use disorder	2 of 7	28.57%
Personality disorder cluster	1 of 7	14.28%

DISCUSSION

The main aim of the study was to identify the percentage of patients with GAD who attend psychiatry clinic which has shown to be around 2.6% of all patients, in comparison to a study done in the USA in 2014 by M. Burstein et al.⁴¹(3.03%), and what found in western countries such as Canada 8.7%⁴², this difference may be due to smaller sample size, timing of sample collection which was during COVID 19 pandemic, differences in cultural aspects, stigma

associates psychiatric illnesses, predomination of physical symptoms in anxiety disorders, misinterpretation of psychological symptoms for physical ones, lower psychological awareness in our culture, faulty referral systems among primary health centres, hospitals and among the clinics, and many patients are chronic visitors for psychotic disorders.

The study has shown no significant differences in gender, (1.52%) for men and (1.14%) for women in comparison to a study done in Canada in 2016 by Rita A. Watterson et al.⁴², which found that 3.2% of GAD patients were women and 2% were men, this showed almost double proportion of GAD among women than among men, which is the case in the literature too, this differences in the current study mostly due to almost equal number of male and female contributors to the study, partially may be due to the discrimination for the illness noted more for women than men in our society, partially may be due to the discrimination for the illness noted more for women than men in our society.

Patients with GAD showed highest proportion for age group 50-60 years old (42.8%) followed by young age group 30-39 years (28.5%) and this was relatively similar to a study done by Corey S. Mackenzie et al.⁴³ in 2011, which found that the highest proportion was for adults age 55 years or more while another study done by Katja Beesdo et al.⁴⁴ in 2015 in Germany, found that GAD was more common among individuals aged 34 years which is similar to what's seen in literature, differences in our study may partially be explained by that anxiety usually accompanied by many physical symptoms which are not specific so that individuals spend the early years of their illness attending medical, rheumatological, neurological, and other clinics, and not until several years they start to develop awareness to their illness and attend psychiatry clinic, or may be because of the faulty referral system as mentioned earlier, also the lower the educational level of the contributors the more they misinterpret psychological symptoms for physical ones.

Marital state of patients with GAD was highest for the divorced (42.8%), similar to what's found in Rita A. Watterson et al.⁴², while a study done in Singapore by Sherilyn Chang et al.⁴⁵ in 2019, showed higher proportion for married individuals (59%), this may be because of divorced status is stressful and may contribute to unresponsiveness to treatment.

While the educational level of most patient with GAD in Singapore was mainly university achievement (29.4%)⁴⁵, this study showed highest percentage among those who had secondary school education (42.8%), this may be due to increased number of those who cannot finish secondary school in our country because of poorer support and faulty educational system, lower educational level in our country, and partially may be due to people with secondary school achievements represents the majority of the participants in the study.

Nearly more than half of patients with GAD in this study were employed (57.1%), which is relatively similar to a study done by Sherilyn Chang et al.⁴⁵

All of those who met GAD criteria were living in urban areas and none have lived in rural areas, this is may be due to the location of the hospital is in the centre of the city, and the referral system between the primary care centres in the rural areas and the psychiatry clinic is not working at its finest, therefore; the visitors were from urban areas.

All the patients attending psychiatry clinic suffered from symptoms seen in GAD, but only 2.6% met the criteria of GAD, in the current study all patients with GAD had restlessness and irritability in comparison to what's found in M. Burstein et al.⁴¹, 71% of patients had restlessness and irritability, this might be due to the unspecificity of those symptoms which could be found in most psychiatric illnesses and might be associated with other medical disorders, sleep disturbance was the least compliant in our study (28,57%) in contrast to the proportion seen in M. Burstein et al.⁴¹, this is may be because most patients in the study were already on medication which partially improve sleep alongside other symptoms of GAD, and may be due to substance use that was presented in 2 out of the 7 patients who were diagnosed with GAD.

Comorbid mental disorders with GAD was high in the study, especially depression (85.7%) but other anxiety disorder was (14%), in comparison to Corey S. Mackenzie et al.⁴³ and KatjaBeesdo et al.⁴⁴ in which other anxiety disorder was as common as depression, another study Sherilyn Chang et al.⁴⁵, found 27% of patients with GAD also had comorbid depression, the difference might be explained as most of patients with other anxiety disorders complain of many physical symptoms, and in some patients physical symptoms become the main concern, which in turn result in attending clinics other than psychiatry, and the referral system is not working at its best leading to missing of some cases.

Comorbid substance use was in our study (28%) was similar to M. Burstein et al.⁴¹ which was (23%), but higher when compared to Corey S. Mackenzie et al.⁴³ (6.5%), this is due to smaller sample size in the study, lower academic achievements, social support, lower health awareness in the community, and mismanagement of patients.

Personality disorder was found in 14% of patients with GAD, which was lesser than what's seen in literature and in Corey S. Mackenzie et al.⁴³ because of smaller sample size, the lesser number of visits to make the diagnosis of personality disorder, and the time limit of this study. The limitations of the study can be abbreviated by the following points:

1. Data collection was obtained in the time when COVID 19 was pandemic and as a result of the fear from acquiring the infection, lead to fewer number of patients in the study.

2. The room of the interview was not comfortable and not private.
3. The findings in this study cannot be generalized neither to all Baghdad city nor all the country because it was conducted in a single hospital.
4. Small sample size for such study.

Financial support and sponsorship:

Nil.

Conflicts of interest:

There are no conflicts of interest.

CONCLUSION

1. This is the first study done to identify GAD proportion at psychiatry clinic in Baghdad Teaching Hospital.
2. The proportion of GAD is slightly lesser than other countries.
3. There are no significant differences in gender.
4. Higher proportion seen in older adults than the Youngers.
5. Symptoms seen in GAD are also seen in other psychiatric illnesses leading to misdiagnosing of the illness.
6. Mental comorbid disorders are high among patients with GAD, mainly mixed anxiety and depression.

RECOMMENDATIONS

The study highlighted a greater attention to the following concerns;

1. Increasing psychiatric awareness amongst population specifically for GAD.
2. Decrease the stigma about psychiatric illness.
3. Enhance the referral system between the clinics and among hospitals and primary health centres.
4. Doing researches and taking larger sample size on a broader time limit.
5. Including other psychiatric hospitals to have more precise representation for the city.
6. To do similar studies at primary health centres.
7. Doing a screening assessment for GAD using scales for most patients who attend the psychiatric clinics.

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