

SURVEY ON ANXIETY RATES AND SOME RELATED FACTORS IN HYPERTENSION AT CAN THO TRADITIONAL MEDICINE HOSPITAL IN 2022

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ABSTRACT

Background: Anxiety disorder is one of the issue that affects the patient's physical and mental health and reduces the effectiveness of treatment. At the moment, patients with underlying conditions, particularly those with hypertension, are more likely to experience anxiety problems. This lessens quality of life, accelerates disease progression, exacerbates illness symptoms, and decreases treatment compliance rates. Additionally, patients who are mentally unstable might put more stress on family members and caregivers as well as raise the burden of mortality on society. Even though there are quick and easy ways to diagnose anxiety disorders, including the GAD-7 scale, this ailment is currently not given much attention by therapists. In order to assist doctors in their consultations and suggestions for more efficient patient care and treatment, our team conducted this study. **Objectives:** To access the anxiety rate based on the GAD-7 scale in hypertensive patients being treated at Can Tho Traditional Medicine Hospital and to survey the related factor of anxiety in patients with hypertension at this hospital. **Materials and method:** Cross-sectional study on 110 hypertensive patients at Can Tho Traditional Medicine Hospital from April 2022 to April 2023. **Results:** The proportion of hypertensive patients with anxiety accounted for 40%, the average was 4.1 points (SD: 4.19); mild anxiety got 29.1%; moderate anxiety got 9.1% and severe anxiety got 1.8%. There was a statistically significant correlation between sex ($p=0.033$; $OR=2,505$), education level ($p=0.01$; $OR=6.176$), drinking alcohol ($p=0.02$; $OR=0.295$), status sleep problems ($p=0.008$; $OR=3.316$) and anxiety. **Conclusions:** Anxiety in hypertensive patients was increasing and can have serious consequences for the patient. Therefore, the detection of anxiety should be carried out early to improve the overall quality of life for patients and contribute to reducing the burden of disease on society. Additionally, the GAD-7 was a useful tool for detecting anxiety, enabling doctors to treat hypertension patients more skillfully.

Keywords: hypertension; anxiety; GAD-7; Can Tho.

I. INTRODUCTION

In modern life, the disease of hypertension is widespread, it is the primary global contributor to disability. According to estimates, hypertension was responsible for 7.5 million fatalities, or 12.8% of all deaths globally. In the Vietnamese population, hypertension was a fairly prevalent issue. Each year, millions of individuals die as a result of hypertension, which results in sudden myocardial infarction, cerebral stroke, and cardiac failure. The prevalence of hypertension is increasing, while the average age of people who have it is decreasing [1]. Patients with hypertension were more likely to suffer from mental illnesses, such as anxiety disorders. In Afghanistan, anxiety accounted for 42.3% of hypertension patients, while Northeastern Brazil revealed that symptoms of anxiety and hypertension were present in 27.1% of patients [2], [3]. There is currently a dearth of research on anxiety in hypertension patients, especially in Can Tho City and Can Tho Traditional Medicine Hospital. Investigating the anxiety rate in hypertensive individuals is therefore necessary. Therefore, the study "Survey on anxiety rates and some related factors in hypertension at Can Tho Traditional Medicine Hospital in 2022" was conducted with the following two objectives:

1. Survey on anxiety rate based on GAD-7 scale for hypertension patients being treated at Can Tho Traditional Medicine Hospital.

2. Survey the related factor of anxiety in patients with hypertension at Can Tho Traditional Medicine Hospital.

II. MATERIALS AND METHODS

2.1. Study population

Study on 110 patients with hypertension at Can Tho Traditional Medicine Hospital from 04/2022 to 04/2023.

Sampling standard: The patients of Can Tho Traditional Medicine Hospital who were diagnosed with hypertension agreed to participate in the study and thoroughly answered the prepared questions.

Exclusion standard:

- Not providing enough details, as per the research questionnaire.
- Having a mental disorder might cause information to be fabricated.
- Using antipsychotics, anxiety, and depression medication for three months.
- Barriers by communication language.
- Did not complete the entire interview.

2.2. Study design

A cross-sectional descriptive study using a convenience sampling technique. According to the sampling criteria, a list of hypertension patients was compiled from Can Tho Traditional Medicine Hospital patients. Next conduct an interview with the patient using the available questions created using the variables and GAD-7 scale. The GAD-7 scale was an anxiety assessment tool created by Spitzer and colleagues. It was translated, calibrated, and standardised by The research team at Da Nang Psychiatric Hospital. The GAD-7, which asked seven questions regarding the previous two weeks, was based on the diagnostic standards outlined in the DSM-IV and employees were asked how frequently they experienced the issue during the last two weeks, and the score was derived by assigning them one of four levels (0, 1, 2, or 3) [4]. The result of the GAD-7 scale was the total score of all 7 questions (from 0 to 21 points). Anxiety levels were classified into four categories:

- 0 - 4 points: minimal anxiety.
- 5 - 9 points: mild anxiety.
- 10 - 14 points: moderate anxiety.
- 15 - 21 points: severe anxiety.

2.3. Statistical analysis

All of the data obtained from the research were processed with SPSS 20.0 software according to the medical statistics method. We compared the differences between the non-anxious group and the anxiety group, with 95% confidence interval (CI), Chi-square test (χ^2), odds ratio (OR). The outcomes were statistically significant if the p-values were ≤ 0.05 .

2.4. Ethical clearance

Ethical issues for this study were approved by the Scientific Review Committee of Can Tho University of Medicine and Pharmacy (approval number: 22.009.SV/PCT-HDDD/QD-DHYDCT in 2022). Participants were informed of the purpose and procedure of the study and voluntarily signed an informed consent form.

III. RESULTS

3.1. Characteristics of the participants

Table 1. sociodemographic characteristics of participants

| | Variable | Frequency (n) | Percentage (%) |
|-------------------------|---------------------------------------------|---------------|----------------|
| Age | 40 – 49 | 9 | 8.2 |
| | 50 – 59 | 25 | 22.7 |
| | 60 – 65 | 18 | 16.4 |
| | Over 65 years old | 58 | 52.7 |
| | The average age: 63.98 ± 9.79 years old | | |
| Sex | Female | 72 | 65.5 |
| | Male | 38 | 34.5 |
| Educational level | Below high school | 93 | 84.5 |
| | Above high school | 17 | 15.5 |
| Occupation | Manual labor | 42 | 38.2 |
| | Mental labor | 6 | 5.5 |
| | Others | 62 | 56.4 |
| Family category | Poverty and near-poverty | 1 | 0.9 |
| | Not poor | 109 | 99.1 |
| Duration of the disease | < 3 years | 35 | 31.8 |
| | ≥ 3 years | 75 | 68.2 |
| Marital status | Single | 3 | 2.7 |
| | Married | 95 | 86.4 |
| | Divorced | 2 | 1.8 |
| | Widow | 10 | 9.1 |
| Physical activity | Yes | 71 | 64.5 |
| | No | 39 | 35.5 |
| Smoking | Yes | 26 | 23.6 |
| | No | 84 | 76.4 |
| Drinking alcohol | Yes | 25 | 22.7 |
| | No | 85 | 77.3 |
| Sleep problems | Yes | 74 | 67.3 |
| | No | 36 | 32.7 |

The study was conducted on 110 hypertension patients. Which, the age over 65 years old accounted for the highest proportion with 52.7%, and the average age was 63.98 ± 9.79 years old. Most of them were women, accounting for 65.5%; the education level was still below high school with 84.5%; other occupations (housewife, retired, etc...) accounted for the highest percentage of 56.4%; 99.1% were non-poor families; the numbers of years with hypertension mainly over 3 years accounted for 68.2%; the highest marriage status accounted for 86.4%; the majority of patients with exercise accounted for 64.5%; no smoking was 76.4%, not drinking alcohol was 77.3%; having sleep problem was 67.3%.

3.2. Anxiety in patients with hypertension

Table 2. level of anxiety severity GAD-7 scale score

| Characteristic | Frequency (n) N = 110 | Percentage (%) |
|-------------------------------|--------------------------|----------------|
| GAD-7 0-4 points (minimal) | 66 | 60 |
| GAD-7 5-9 points (mild) | 32 | 29.1 |
| GAD-7 10-14 points (moderate) | 10 | 9.1 |
| GAD-7 15-21 points (severe) | 2 | 1.8 |

In this study, 40% of patients exhibited anxiety ($GAD-7 > 4$), including 29.1% with mild anxiety (5-9 points), 9.1% with moderate anxiety (10-14 points), and 1.8% with severe anxiety (15-21 points).

3.3. Factors associated with anxiety

Table 3. factors associated with anxiety

| Variable | GAD-7 > 4 | | GAD-7 ≤ 4 | | p | OR (95% CI) |
|------------------|-----------|------|-----------|------|----------------|---------------------------|
| | n | % | n | % | | |
| Sex | | | | | | |
| Female | 34 | 47.2 | 38 | 52.8 | p=0.033 | 2.505 (1.063 – 5.906) |
| Male | 10 | 26.3 | 28 | 73.7 | | |
| Education level | | | | | | |
| Below THPT | 42 | 45.2 | 51 | 54.8 | p=0.01 | 6.176 (1.336 – 28.549) |
| Above THPT | 2 | 11.8 | 15 | 88.2 | | |
| Drinking alcohol | | | | | | |
| Yes | 5 | 20 | 20 | 80 | p=0.02 | 0.295 (0.101- 0.859) |
| No | 39 | 45.9 | 46 | 54.1 | | |
| Sleep problems | | | | | | |
| Yes | 36 | 48.6 | 38 | 51.4 | p=0.008 | 3.316 (1.337- 8.224) |
| No | 8 | 22.2 | 28 | 77.8 | | |

Variables that had an association with anxiety were sex ($p=0.033$, $OR=2.505$, 95% $CI=1.063 - 5.906$), education level ($p=0.01$; $OR=6.176$; 95% $CI=1.336 - 28.549$), drinking alcohol ($p=0.02$; $OR=0.292$; 95% $CI=0.101- 0.859$) and sleeping problems ($p=0.008$; $OR=3.316$; 95% $CI=1.337- 8.224$). According to the result, people with hypertension who have female sex, an education level below high school, do not drink alcohol, and have difficulty sleeping have an increased risk of anxiety disorders.

IV. DISCUSSION

Based on the GAD-7 scale, the study gathered data from 110 patients with 40% of individuals with hypertension reporting feeling anxious ($GAD-7>4$), including 29.1% with

mild anxiety (5-9 points), moderate anxiety 9.1% (10-14 points) and severe anxiety 1.8% (15-21 points). Additionally, this rate is comparable to those seen in other international research. Similar findings were obtained by AlKhathami's research, which had a 38.4% anxiety rate as measured by the GAD-7 scale, wherein mild anxiety accounted for 65.5%, moderate anxiety for 23%, and severe anxiety for 11.5% [5]. A meta-analysis of anxiety rates in hypertension patients in Somaili's study found a range of 4.1% to 42.3% [6]. However, we discovered a discrepancy with the study of author Le Minh Hoang (2022), when anxiety levels were 55.22% [7]. This anxiety rate was a little higher than in our study, which may be because of variations in the location, time, and sample size used for COVID-19. According to our research, anxiety differs by sexuality. Compared to men, women had a 2.5-times greater rate of anxiety among hypertension patients ($p=0.033$). Mebratu Aberha's research also revealed that women experience anxiety at a rate that was 2.57 times greater than that of men [8]. Another study conducted in Afghanistan by the author, Hamrad, revealed that 4.25 times more women than men ($p<0.001$) had hypertension and anxiety [2]. This discrepancy may be because women frequently experience hormonal changes, and also experience psychosocial factors that enhance their risk of anxiety (role in the family, society, less social support, etc.). After performing the study, we discovered that the level of anxiety was higher among the patients who did not consume alcohol than it was among those who did ($p=0.02$). Some studies demonstrated that those who struggle with anxiety often use alcohol as a form of reward, which heightens emotions of nerve stimulation and consequently lowers concern about the issues that need to be resolved in society [9], [10]. Contrary to the Ethiopian study's findings, the group that consumed alcohol had a higher rate of anxiety than the group that did not [11]. This could be because most of the participants in our study were women and in fact, more female patients than male patients were seen for examinations and inpatient care at the Traditional Medicine Hospital in Can Tho City [7]. Women were much less likely than men to drink alcohol as a percentage of the population [12]. This relates to the earlier discussion of sex-specific differences in anxiety. Additionally, the research also discovered that education is correlated with anxiety. Compared to those who had completed high school, those below high school had an anxiety rate of 6.716 times higher ($p=0.01$). This outcome resembles that of author Edmealem, where the literate had higher anxiety than the educated group with a diploma or higher ($p=0.001$) [11]. This may explain the limited access to health information among groups below high school. In terms of the association between anxiety and sleeping problems, anxiety levels were 3.316 times greater in the group with sleeping problems than in the group without ($p=0.008$). In the study of author Dang Thi Hien (2018), people with non-communicable diseases frequently experience sleeplessness, with an insomnia rate of more than 60%, the bulk of whom have frequent insomnia [13]. In addition, the group of patients with insomnia had a 2.05 times greater rate of anxiety (95%CI=1.61-2.61) than those with no sleep disturbances, according to the author AlKhathami's study of people with chronic diseases (hypertension or diabetes) and the difference was statistically significant ($p<0.001$) [5]. This showed that anxiety was impacted by sleep disturbances and that hypertensive individuals may have worsening sleep issues as a result of insufficient sleep [14]. Our investigation also looked at the connection between anxiety and factors including smoking, exercise, marital status, and how long an illness has been present. But this distinction was not significant statistical.

V. CONCLUSIONS

After studying 110 hypertension patients at Can Tho Traditional Medicine Hospital, we identified 44 out of 110 hypertension patients had anxiety (40%) based on the GAD-7 scale. Mild anxiety affected most hypertension patients (29.1%), while severe anxiety affected the fewest individuals (1.8%). According to the aforementioned findings, anxiety was associated with women's sexuality, poor education level, alcohol usage, and trouble falling asleep. Given the increased prevalence of anxiety in those with hypertension, it was crucial to identify symptoms early, take action quickly, and treat patients' anxiety to enhance their quality of life.

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