# Relationship of Depression, Anxiety and Stress with Medication Non-adherence among Primary Care Patients with Hypertension in Port Said Governorate

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**Abstract:**

**Background**: There is debate about the associations of adherence to antihypertensive medications with anxiety, depression, and stress. Studies on the relationship between depression, anxiety, and stress with antihypertensive medication adherence among primary health care (PHC) patients in Egypt are limited. **Objective**: To assess the relationship between depression, anxiety, and stress with antihypertensive medications adherence among hypertensive patients attending PHC settings in Port Said governorate. **Methods**: This cross-sectional study included 477 hypertensive patients. Data was collected by using a questionnaire that consists of 6 parts: socioeconomic characteristics, disease profile and blood pressure control, the Patient Health Questionnaire 9 (PHQ-9), the 7-item Generalized Anxiety Disorder Scale (GAD-7), the 10-item Perceived Stress Scale (PSS-10), and the 8-item Morisky Medication Adherence Scale (MMAS-8). **Results**: The prevalence of depressive symptoms was 33.8%, while the prevalence of generalized anxiety symptoms was 28.9%. High adherence was demonstrated in 25.8% of the participants, and the mean of perceived stress symptoms was 18.51 ± 6.647. Adherence to antihypertensive medication had weak negative correlations with symptoms of depression, anxiety, and perceived stress (rho= -0.218, rho= -0.269, rho= -0.396, p<0.001, respectively). Logistic regression analysis found that medication adherence was positively associated with controlled hypertension (OR 1.961, p=0.002), absent depressive symptoms (OR 2.539, p=0.001), and lower PSS10 total score (OR 0.823, p<0.001). **Conclusion**: Antihypertensive medication adherence was inversely associated with symptoms of depression and perceived stress. Longitudinal research is needed to assess the causal relationship between these issues in Egypt.

**Keywords:** Adherence, Anxiety, Depression, Hypertension, Perceived stress.

## Introduction:

Hypertension (HTN) is a common non-communicable disease in high-income and low- and middle-income countries.[1] Egypt aims to achieve a 25% relative reduction in the prevalence of raised blood pressure (BP) by 2025 to be 30%.[2] Suboptimal adherence to antihypertensive medications is a common health problem. A meta-analysis revealed that 45.2% of hypertensive patients had suboptimal adherence to antihypertensive medications.[3]

An Egyptian study showed that 39.66% of elderly PHC patients had suboptimal adherence to antihypertensive medications compared with 70.97% of adult patients.(4) In another Egyptian study, 61.1% of the participants had suboptimal adherence to antihypertensive medications.[5] Suboptimal adherence to antihypertensive medications is associated with adverse outcomes, e.g., uncontrolled HTN,[3] hypertensive crises, left ventricular hypertrophy (LVH), acute coronary syndromes, stroke, transient

ischemic attack, chronic heart failure, CKD, increased healthcare costs, decreased work productivity and reduced quality of life as well as mortality.[6]

Symptoms of depression, anxiety, and stress are prevalent in patients with HTN. A meta-analysis revealed that the prevalence of depression among hypertensive patients was 26.8%.[7] Depressive symptoms have been observed in 39.8% of hypertensive patients attending the family medicine outpatient clinics at Suez Canal University Hospitals[8].

The prevalence of anxiety symptoms was 38.4% among PHC patients with HTN in Saudi,[9] while it was 13.3% among older PHC patients with HTN in Malaysia[10]. Psychosocial factors such as depression, anxiety, and stress are identified as risk factors for developing CVD, they also act as barriers to treatment adherence[11].

Previous studies found significant associations of anxiety, depression, and stress with suboptimal adherence to antihypertensive medications, but some studies showed the contrast of results[12].

In the light of the burden of hypertension and the suboptimal adherence to antihypertensive medication globally and in Egypt, and the limited research on the relationship between depression, anxiety, stress, and antihypertensive medications adherence among PHC patients in Egypt, this study was conducted to assess the relationship between these symptoms and medication adherence among hypertensive patients attending PHC settings in Port Said governorate.

**Methods:**

This cross-sectional study was carried out in five PHC settings affiliated with the General Authority of Healthcare in Port Said governorate. The following formula was used for calculating the sample size: $N = ([Z_\alpha+Z_\beta]/ 1/2 \log[(1+r)/(1-r)])^2 + 3$, **n** = sample size, $\mathbf{Z_{\alpha/2}} = 1.96$ (The critical value that divides the central 95% of the Z distribution from the 5% in the tail), $\mathbf{Z_\beta} = 0.84$ (The critical value that separates the lower 20% of the Z distribution from the upper 80%), **r** = correlation between depressive symptoms and antihypertensive medication adherence = 0.301[13].

The sample size was 477 participants after adding 10% for non-response. A convenient sampling technique was used. We included primary care patients aged 18 years or older with essential HTN and who were on antihypertensive medications for more than one year, however pregnant women, and individuals with severe mental disorders that interfere with communication were excluded.

**Tools of the study:** The first author collected the data using face-to-face

interviews between November 2020 and August 2021. The questionnaire consists of 6 parts:-

**(1) Socioeconomic characteristics** include age, sex, marital status, educational level, employment status, and income.

**(2) Disease profile** includes the duration of HTN (years), smoking status, regular physical activity, hypertension-related complications, current antihypertensive medications, several other medications, and family history of HTN. The measurements included BP and Body Mass Index (BMI). BP control was < 140/90 mmHg, according to the 2018 European Society of Cardiology and the European Society of Hypertension Guidelines[14].

**(3) The PHQ-9** is consisting of 9 items. Each of the 9 items can be scored from 0 (not at all) to 3 (nearly every day), based on how much a symptom has bothered them over the last 2 weeks (score from 0 to 27). A score of ≥10 on the PHQ-9 had a sensitivity of 88% and a specificity of 88% for the presence of major depression. The tool is valid and reliable, Cronbach's α of the PHQ-9 was 0.89.[15] The translated Arabic version of the PHQ-9 is valid and reliable (Cronbach's α was 0.857)[16].

**(4) The GAD-7** is a valid and reliable screening tool for GAD-7 and assessing its severity in PHC (score from 0 to 21). A score of ≥10 on the GAD-7 represents a reasonable cut point for the presence of GAD with a sensitivity of 89% and a specificity of 82%. Cronbach's α of the GAD-7 was 0.92 (excellent). Test-retest reliability was also good (intra-class correlation=0.83)[17]. The translated Arabic version of the GAD-7 showed satisfactory validity and reliability[16].

**(5) The PSS-10** is a measure of the degree to which situations in one's life are appraised as stressful over the past month.[18] All 10 items are rated on a 5-point Likert-type scale, ranging from 0 (never) to 4 (very often). The answers to each positively stated item (items 4, 5, 7, and 8) are reverse scored. All item scores must be combined to produce a total score in the range 0–40. A high score indicates a high degree of perceived stress, and no cut-offs were predefined. The scale is valid and reliable (Cronbach $\propto = 0.78$).[17] The Arabic version of the PSS-10 is valid and reliable in a previous validity study[19].

**(6) The MMAS-8** is used to measure medication adherence. It is a valid single-dimension measure that comprises 8 items. Each item is attached

to a yes or no response, except for the last item, which has a five-level Likert-type response. A score of 8 indicates high adherence, a score of 6 and above but less than 8 indicates moderate adherence, whereas a score below 6 indicates low adherence. [20] A cross-sectional study showed that the Arabic MMAS-8 is valid and reliable with adequate internal consistency (Cronbach $\alpha = 0.70$)[21].

## Data mangement:

Data were analyzed by version 26 of the statistical package for social sciences (SPSS). All categorical variables were summarized as frequencies and percentages (%). The distributions of continuous variables were tested for normality with the Shapiro-Wilk test.

The median and interquartile ranges were used for the not-normally distribution variables. The chi-squared or Fisher exact tests as appropriate were used to compare categorical data. Spearman test was performed to estimate the correlation between depressive symptoms, anxiety symptoms, and stress with medication adherence among hypertensive patients.

Bivalent logistic regression analysis was used to assess the predictors of medication adherence. P values $< 0.05$ were considered significant in all statistical analyses.

## Ethical consideration:

All the procedures of the study were approved by the family medicine department, Suez Canal University. The study protocol was approved by Research Ethics Committee at the Faculty of Medicine, Suez Canal University (Ref. number 4113 in 16/2/2020). Relevant authorities were contacted for permission to conduct the study in PHC settings. Informed consent was obtained from participants.

## Results:

The range of age of the patients was between 33 to 77 years and 52.4% of them were between 50 to 64 years. Near one-fourth (22.6%) of the participants were housewives or unemployed. The most frequent educational level they reached was intermediate education (44.9%) and high education (20.5%) and about 21.4% of the patients perceived their income as unsatisfactory.

About 46.5 % of the participants were practicing regular physical activity and 12.4% were smokers. Above two-fifths, (41.9%) of the participants had diabetes duration $\geq 10$ years.

A family history of hypertension were present in 73.4% of the sample. Nearly half (49.1%) of the participants had target organ damage, 45.3% of the participants had

diabetes, and 49.1% of them had dyslipidemia. Near two-fifths (39%) of the participants were on dual therapy, while 31.7% of them were on monotherapy.

Controlled blood pressure was present in 38.6% of the participants. 25.8% of the participants had high adherence to antihypertensive medications, 29.4% had moderate adherence, and 44.9% had low adherence.

Table (1) shows that medication adherence among the participants was significantly associated with gender (p<0.001), and education level (p=0.003).

Table (2) shows that medication adherence among the participants was significantly associated with BMI (p=0.002), retinal hemorrhage (p=0.013), controlled hypertension (p<0.001), and lower symptoms of depression. anxiety and perceived stress (p=0.002, p<0.001, p<0.001, respectively).

Table (3) shows that there are significant negative weak correlations between antihypertensive medication adherence with depressive, anxiety, and perceived stress symptoms (p<0.001).

In Table (4), logistic regression analysis reveals that optimal medication adherence was significantly associated with controlled hypertension (OR 1.961, p=0.002), lower depressive symptoms (PHQ-9<10) (OR

2.539, p=0.001) and less perceived stress (OR 0.823, p<0.001).

**Discussion:**

To our best knowledge, this was the first study to evaluate the relationship of medication adherence with symptoms of depression, anxiety, and stress, simultaneously among hypertensive patients treated in urban PHC setting during era of universal health coverage in Egypt.

The present study found that optimal medication adherence to antihypertensive therapy was positively associated with lower symptoms of depression and anxiety.

The current study reported a significant negative association between higher depressive symptoms and optimal adherence to antihypertensive medication, this finding was congruent with a finding of Krousel-Wood et al.[22] and Schoenthaler et al.,[23] while Kretchy et al.,[12] Hashmi et al.,[24] Golshiri et al.,[25] and Maguire et al.[26] reported no significant association between depression and medication adherence among hypertensive patients. Lor et al.[27] reported that as depression increased, adherence scores increased and may be explained by the limited variability in adherence scores among study participants and symptom scores that were slightly below the mean for the patient-reported outcome measurement information system (PROMIS) measures reference population[27].

The logistic regression analysis in the current study reported that anxiety symptoms were not significantly associated with antihypertensive medication adherence which is congruent with Kretchy et al.[12] Golshiri et al.[25] reported that patients with anxiety symptoms were more non-adherent to antihypertensive therapy.

However, Lor et al. reported that as anxiety increased, adherence scores increased. They also explained that as a result of the limited variability in adherence scores among the participants and symptom scores that were slightly below the mean for the PROMIS measures reference population[27].

The present study showed that high-perceived stress scores were significantly associated with low adherence, which is congruent with Kretchy et al.[12] and Krousel-Wood et al.,[22] while Golshiri et al.[25] reported that stress was not a significant predictor for predicting patients' adherence to antihypertensive treatment.

These differences between the results of present study and the results of the previous studies regard association of depression, anxiety, and stress with antihypertensive medication adherence may be due to different study design, study population, study settings, and sample size.

Among the primary care patients with suboptimal adherence to antihypertensive medications, family physician should perform screening of depression, and anxiety, and stress in them, additionally screening of these issues at their initial, monthly, and annually visits is also recommended.

Moreover, further clinical interventions regard depression, anxiety, stress, and adherence in hypertensive patients are recommended. The present study showed that 25.8% of participants had high adherence, 29.3% had medium adherence, and 44.9% had low adherence and these results are incongruent with the results of Kretchy et al., Hassanein, Krousel-Wood et al. and Ahmed et al. [12,28,22,5]

Hassanein reported better adherence rates: 41.3% of patients had high adherence, 26.2% had medium adherence, and 32.6% had low adherence[28].

Also, Krousel-Wood et al. reported 51.7% of high adherence. [22] The other two studies reported high levels of low adherence to antihypertensive medications: Kretchy et al. [12] and Ahmed et al. [5] reported that 80.75% and 61.1% of patients had low adherence respectively. These differences may be due to differences in the culture and study population.

Regarding the association of adherence with controlled hypertension, the current study reported that medication adherence was significantly found with controlled hypertension, which was in line with the finding of Hassanein[28]. Krousel-Wood *et al.* who reported that a decline in medication adherence was associated with uncontrolled blood pressure[22].

The current study found no significant association with gender, but Ambaw *et al.* reported that men were significantly less adherent than women[29]. In contrast, Krousel-Wood *et al.*[22] reported that females were less adherent.

The present study reported no significant association between medication adherence and education level, which was like Krousel-Wood *et al.*[22] while Hassanein found that higher level of education was significantly associated with a high adherence rate[28].

The current study and Hassanein's[28] reported no significant association between medication adherence and BMI. The present study found no significant association with retinal hemorrhage and no studies as far as we know mentioned retinal hemorrhage in their results.

Family physicians should use holistic approach when dealing with hypertensive patients and should also ensure and support adherence to the effective antihypertensive medications in every hypertensive patient especially in those with uncontrolled BP, having depressive symptoms and perceiving stress[30].

**Limitations of the study:** This study faced several limitations. First, the cross-sectional design cannot demonstrate a cause-and-effect relationship, and longitudinal research is needed to determine the causality.

Second, we cannot generalize the findings of this study for the entire population of Egypt due to limited randomization in our study and being representative of only urban PHC settings. Third, the use of a subjective measure of medication adherence may give wrong adherence estimations.

**Conclusion:** Symptoms of depression, anxiety, and perceived stress were prevalent among urban primary care patients with hypertension.

Optimal adherence to antihypertensive medication was negatively associated with uncontrolled BP, higher symptoms of depression, and perceived stress. Family physician should use a biopsychosocial approach when caring for hypertensive patients especially those with suboptimal adherence to their medications.

**Fund:** No fund was received.

**Conflict of interest:** There is no conflict of interest.

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**Table (1): Association of medication adherence with socio-demographic characteristics among the study participants.**

| Variables | All participants (n=477) | Medication adherence | | p-value |
|---|---|---|---|---|
| | | Non-adherent (n=214) | Adherent (n=263) | |
| **Age (years)** | | | | |
| ▪ <50 years | 112 (23.5%) | 51 (23.8%) | 61 (23.2%) | 0.976[a] |
| ▪ 50-64 years | 250 (52.4%) | 111 (51.9%) | 139 (52.9%) | |
| ▪ ≥ 65 years | 115 (24.1%) | 52 (24.3%) | 63  23.9%) | |
| **Gender** | | | | |
| ▪ Male | 162 (34.0%) | 50 (23.4%) | 112 (42.6%) | <0.001[*,a] |
| ▪ Female | 315 (66.0%) | 164 (76.6%) | 15157.4%) | |
| **Occupation** | | | | |
| ▪ Non-worker or housewife | 108 (22.6%) | 57 (26.6%) | 51 (19.4%) | 0.105[a] |
| ▪ Unskilled manual worker | 24 (5.0%) | 5 (2.3%) | 19 (7.2%) | |
| ▪ Skilled manual worker | 23 (4.8%) | 9 (4.2%) | 14 (5.3%) | |
| ▪ Trades | 42 (8.8%) | 18 (8.4%) | 24 (9.1%) | |
| ▪ Semi-professional | 108 (22.6%) | 50 (23.4%) | 58 (22.1%) | |
| ▪ Professional | 80 (16.8%) | 39 (18.2%) | 41 (15.6%) | |
| ▪ Retired | 92 (19.3%) | 36 (16.9%) | 56  21.3%) | |
| **Marital status** | | | | |
| ▪ Single | 5 (1.0%) | 1 (0.5%) | 4 (1.5%) | 0.707[b] |
| ▪ Married | 331 (69.4%) | 147 (68.7%) | 184 (70.0%) | |
| ▪ Divorced | 10 (2.1%) | 5 (2.3%) | 5 (1.9%) | |
| ▪ Widow | 131 (27.5%) | 61 (28.5%) | 70  26.6%) | |
| **Educational level** | | | | |
| ▪ Illiterate | 43 (9.0%) | 22 (10.3%) | 21 (8.0%) | 0.003[*] |
| ▪ Read and write | 35 (7.3%) | 10 (4.7%) | 25 (9.5%) | |
| ▪ Primary education | 29 (6.1%) | 14 (6.5%) | 15 (5.7%) | |
| ▪ Preparatory education | 31 (6.5%) | 16 (7.5%) | 15 (5.7%) | |
| ▪ Intermediate education | 214 (44.9%) | 112 (52.3%) | 102 (38.8%) | |
| ▪ High education | 98 (20.5%) | 34 (15.9%) | 64 (24.3%) | |
| ▪ Postgraduate studies | 27 (5.7%) | 6 (2.8%) | 21  8.0%) | |
| **Income** | | | | |
| ▪ Not enough | 102 (21.4%) | 49 (22.9%) | 53 (20.1%) | 0.064[a] |
| ▪ Hardly enough | 147 (30.8%) | 68 (31.8%) | 79 (30.0%) | |
| ▪ Enough for ordinary and emergent needs | 174 (36.5%) | 82 (38.3%) | 92 (35.0%) | |
| ▪ More than enough | 54 (11.3%) | 15 (7.0%) | 39 (14.9%) | |

[a]. Chi-square test.
[b]. Fisher exact test.

**Table (2): Association of medication adherence with disease characteristics and comorbid diseases among the study participants.**

| Variables | All participants (n=477) | Medication adherence | | p-value |
|---|---|---|---|---|
| | | Non-adherent (n=214) | Adherent (n=263) | |
| **BMI** | | | | |
| ▪ Normal | 53 (11.1%) | 15 (7.0%) | 38 (14.4%) | |
| ▪ Overweight | 178 (37.3%) | 71 (33.1%) | 107 (40.7%) | 0.002* |
| ▪ Obesity | 246 (51.6%) | 128 (59.9%) | 118 (44.9%) | |
| **Practice exercise** | 222 (46.5%) | 104 (48.6%) | 118 (44.9%) | 0.416 |
| **Smoking** | | | | |
| ▪ Nonsmoker | 406 (85.1%) | 188 (87.9%) | 218 (82.9%) | |
| ▪ Smoker- passive smoker | 59 (12.4%) | 23 (10.7%) | 36 (13.7%) | 0.214 |
| ▪ Ex-smoker | 12 (2.5%) | 3 (1.4%) | 9 (3.4%) | |
| **Duration of hypertension** | | | | |
| ▪ < 5 years | 124 (26.0%) | 58 (27.1%) | 66 (25.1%) | |
| ▪ 5-9 years | 153 (32.1%) | 70 (32.7%) | 83 (31.6%) | 0.774 |
| ▪ ≥ 10 years | 200 (41.9%) | 86 (40.2%) | 114 (43.3%) | |
| **Family history of hypertension** | 350 (73.4%) | 151 (70.6%) | 199 (75.7%) | 0.210 |
| **Target organ damage** | 234 (49.1%) | 108 (50.5%) | 126 (47.9%) | 0.578 |
| ▪ Stroke | 28 (5.9%) | 12 (5.6%) | 16 (6.1%) | 0.826 |
| ▪ Retinal hemorrhage | 72 (15.1%) | 42 (19.6%) | 30 (11.4%) | 0.013* |
| ▪ Coronary artery disease | 159 (33.3%) | 72 (33.6%) | 87 (33.1%) | 0.896 |
| ▪ Heart failure | 61 (12.8%) | 32 (15.0%) | 29 (11.0%) | 0.202 |
| ▪ Chronic kidney disease | 30 (6.3%) | 11 (5.1%) | 19 (7.2%) | 0.351 |
| ▪ Peripheral arterial disease | 112 (23.5%) | 57 (26.4%) | 55 (20.9%) | 0.142 |
| **Comorbidities** | | | | |
| ▪ Dyslipidemia | 234 (49.1%) | 108 (50.5%) | 126 (47.9%) | 0.578 |
| ▪ Diabetes mellitus | 216 (45.3%) | 92 (43.0%) | 124 (47.1%) | 0.364 |
| **Depressive symptoms** (PHQ-9≥10) | 161 (33.8%) | 88 (41.1%) | 73 (27.8%) | 0.002* |
| **Anxiety symptoms** (GAD-7≥10) | 138 (28.9%) | 84 (39.3%) | 54 (20.5%) | <0.001* |
| **Blood pressure control** | 184 (38.6%) | 74 (34.6%) | 110 (41.8%) | <0.001* |
| **Antihypertensive medications** | | | | |
| ▪ Monotherapy | 151 (31.7%) | 70 (32.7%) | 81 (30.8%) | |
| ▪ Dual therapy | 186 (39.0%) | 87 (40.7%) | 99 (37.6%) | 0.062 |
| ▪ Triple therapy | 86 (18.0%) | 42 (19.6%) | 44 (16.7%) | |
| ▪ Quadruple therapy | 54 (11.3%) | 15 (7.0%) | 39 (14.8%) | |

BMI, body mass index; GAD-7, the 7-item Generalized Anxiety Disorder Scale; PHQ-9, the Patient Health Questionnaire 9.

*. The Chi-square statistic is significant at p level < 0.05.

**Table (3): Correlation of antihypertensive medication adherence with depressive, anxiety, and perceived stress symptoms among the study participants**

| Variables | MMAS-8 score | |
|---|---|---|
| | Correlation coefficient | p-value |
| PHQ-9 score | -0.218 | < 0.001* |
| GAD-7 score | -0.269 | < 0.001* |
| PSS-10 score | -0.396 | < 0.001* |

GAD-7, the 7-item Generalized Anxiety Disorder Scale; MMAS-8, the 8-item Morisky Medication Adherence Scale; PHQ-9, the Patient Health Questionnaire 9; and PSS-10, the 10-item Perceived Stress Scale.

* P values are based on Spearman's rho correlation test as appropriate. Statistical significance at P < 0.01

**Table (4): Logistic regression analysis for predicting medication adherence in the study participants**

| Variables | B | S.E. | P-value | OR | 95% C.I. | |
|---|---|---|---|---|---|---|
| | | | | | Lower | Upper |
| **Gender** (Female vs. Male) | -0.311 | 0.244 | 0.204 | 0.733 | 0.454 | 1.183 |
| **Education** (Educated vs. Illiterate/read and read and write) | -0.326 | 0.291 | 0.262 | 0.722 | 0.408 | 1.276 |
| **BMI** (kg/m$^2$) | 0.016 | 0.018 | 0.352 | 1.016 | 0.982 | 1.052 |
| **Controlled hypertension** (Controlled vs. Uncontrolled) | 0.673 | 0.212 | 0.002* | 1.961 | 1.293 | 2.972 |
| **Retinal hemorrhage** (Present vs. Absent) | -0.455 | 0.291 | 0.118 | 0.635 | 0.359 | 1.122 |
| **Depression symptoms** (Absent vs. present) | 0.932 | 0.293 | 0.001* | 2.539 | 1.430 | 4.507 |
| **Generalized anxiety symptoms** (Absent vs. present) | 0.134 | 0.309 | 0.665 | 1.143 | 0.624 | 2.092 |
| **PSS-10 total score** | -0.181 | 0.027 | <0.001* | 0.835 | 0.792 | 0.880 |

BMI, body mass index; CI: Confidence interval; OR: Odds ratio; PSS-10, the 10-item Perceived Stress Scale

Binary logistic regression model: Omnibus Tests for Model fit (p < 0.001), Hosmer and Lemeshow $\chi^2$ (df) = 8, p = 0.001; Negelkerke R Square = 0.267; Overall correct classification =70.6%

Dependent Variable: (Medication adherence); Reference categories were male gender, illiterate and read and write, uncontrolled hypertension, absent retinal hemorrhage, present of depressive symptoms, and anxiety symptoms in addition to the PSS-10 total score.

**الملخص العربي**

**علاقة الاكتئاب والقلق والإجهاد المدرك مع عدم الالتزام بالعلاج بين مرضى الرعاية الأولية المصابين بارتفاع ضغط الدم في محافظة بورسعيد**

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**الخلفية:** هناك جدل حول ارتباط الالتزام بالأدوية الخافضة للضغط مع القلق والاكتئاب والتوتر. الدراسات المتعلقة بالعلاقة بين الاكتئاب والقلق والإجهاد المدرك مع الالتزام بالأدوية الخافضة للضغط بين مرضى الرعاية الصحية الأولية في مصر محدودة. **الهدف:** تقييم الإرتباط بين الاكتئاب والقلق والتوتر مع الالتزام بالأدوية الخافضة للضغط بين مرضى ارتفاع ضغط الدم الذين يحضرون مراكز الرعاية الصحية الأولية في محافظة بورسعيد. **الطريقة:** اشتملت هذه الدراسة المقطعية على 477 مريضاً بارتفاع ضغط الدم حضروا خمسة مراكز للرعاية الصحية الأولية في محافظة بورسعيد من نوفمبر 2020 إلى أغسطس 2021. تم جمع البيانات باستخدام استبيان يتكون من 6 أجزاء: الخصائص الاجتماعية والاقتصادية، ملف المرض والتحكم في ضغط الدم، استبيان صحة المريض المكون من 9 عناصر، ومقياس اضطراب القلق العام المكون من 7 عناصر، ومقياس الإجهاد المدرك المكون من 10 عناصر، ومقياس موريسكي للالتزام بالأدوية المكون من 8 عناصر. **النتائج:** بلغ معدل انتشار أعراض الاكتئاب 33.8٪، بينما بلغ انتشار أعراض القلق العام 28.9٪. تم إثبات التزام عالٍ بأدوية ارتفاع ضغط الدم في 25.8٪ من المشاركين، وكان متوسط أعراض الإجهاد المدرك 18.51 ± 6.647. كانت هناك ارتباطات سلبية ضعيفة بين التقيد بالأدوية الخافضة للضغط مع الاكتئاب والقلق وأعراض الإجهاد المدرك. وجد تحليل الانحدار اللوجستي أن الالتزام بالأدوية كان مرتبطًا بارتفاع ضغط الدم المتحكم به، وغياب أعراض الاكتئاب، وانخفاض مجموع نقاط مقياس الإجهاد المدرك المكون من 10 عناصر. **الخلاصة:** ارتبط التقيد بالأدوية الخافضة للضغط عكسيا بالاكتئاب والقلق وأعراض الإجهاد المدرك.