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Research Article

# Prevalence and Determinants of Non-psychotic Mental Illness among Primary Health Care Centers Attendees in Doha, Qatar

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## Abstract

**Background:** Mental illness places a severe physical and social burden on an individual and the whole Family. Undetected mental illness is a serious health problem at PHC level, often leading to waste of resources. **Objective:** This study aimed to measure the prevalence of non-psychotic-mental illness among PHC centers attendees in Qatar, to identify the determinants of non-psychotic mental illness, and to assess factors affecting patients' disclosure of their psychological problems. **Results:** This study showed a prevalence of 26.7% for non-psychotic mental illness among primary health care attendees in Qatar. A statistically significant relations were determined between gender, education, occupation, and marital status. Furthermore, about two thirds (65.6%) of diabetics, (57.5%) and (51.9%) of hypertensive and asthmatic individuals respectively had non-psychotic mental illness. More than two third of the studied group (68.5%) stated that general practitioners are not the appropriate persons to discuss their psychological problems. Conformingly, (63.5%) of them also think that general practitioners deal only with physical conditions. **Conclusion:** need for raising public awareness regarding the importance of mental health, development of effective and focused community-based mental health program as an integral part of comprehensive PHC care and deliver of psychiatric training to primary care physicians and patients should be encouraged.

**Keywords:** Non-psychotic mental illness; Primary health care; Chronic diseases; Mental health

**Abbreviations:** Dm: Diabetes Mellitus; GH: General Health Questionnaire; HMC: Hamad Medical Corporation; HTN: Hypertension; NPMI: Non-Psychotic Mental Illness; PHC: Primary Health Care; WHO: World Health Organization

## Introduction

Mental health is the foundation for well-being and effective functioning for an individual and community [1]. Since its inception, World Health Organization (WHO) has included mental well-being in the definition of health. World Health Organization famously defines health as: a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [2].

Mental health disorders make a sizeable contribution to the global burden of disease, affecting some (450) million people worldwide, yet the resources devoted to mental health problems in most parts of the world are grossly inadequate [3].

Recently there are courageous moves that try to move the psychiatric services from the institutions toward more community-based services such as Primary Health Care (PHC). Nowadays the psychiatric services are provided in the PHC setting by the family physicians themselves [4].

Worldwide epidemiological studies have produced solid evidence of significant psychiatric morbidity among PHC patients. Undetected mental illness is a serious health problem at PHC level, often leading to waste of resources. More work is needed to improve the psychiatric knowledge and skills of primary care doctor to enhance patient disclosure of their psychological problems to doctors in PHC.

## Aim and Objective

The main two objectives for the current study are; (1) to measure the prevalence of Non-Psychotic Mental Illness (NPMI) among PHC centers attendees. (2) To identify the risk factors of NPMI among PHC centers attendees aged (18 to 65) years in Qatar.

## Methods

### Study Settings and Design

This is a cross sectional study aiming to determine the prevalence and determinants of NPMI among PHC centers attendees in Qatar. The study was conducted in (12) PHC centers in Qatar.

### Study Population

These including all patients attending PHC centers aged (18-65) years old. The sample was also included both gender of Qataris and non-Qataris.

### Sample Size and Sampling Technique

Sample size was calculated using open epi info to have power of (80%). A (95%) level of confidence and a (0.05) significance level to detect prevalence of (26 %) were used [5,6]. The equation used for the calculation of the sample size was as following [7]:

$$n = [DEFF*Np(1-p)]/ [(d2/Z21-\alpha/2*(N-1) +p*(1-p)].$$

n= Sample Size, N= Total Population, Z= Z statistic for level of confidence, for the level of confidence of (95%). Z value is (1.96), P= Expected proportion in the population, d= Precision, it was set at (0.05). Where: Population size is (587000) persons [8]. Sample size was determined to be (323) individuals. The sample size calculated was multiplied by a (15%) in order to compensate for the response rate. Hence, the final sample calculated was inflated to (371) individuals.

### Research Instruments

Data Collection was conveyed through a questionnaire including three parts: The first part included sociodemographic data including: the age, gender, nationality, marital status, educational level, occupation, history of chronic diseases. The second part was the General Health Questionnaire 12 (GHQ12). The general health questionnaire was developed in (1972) by David Goldberg as a self-administered screening tool that would detect non-psychotic psychiatric cases in community or PHC setting [9].

The GHQ ask whether the respondent has experienced a particular symptoms or behavior recently. Each item is rated on a four-point scale less than usual, no more than usual, rather more usual or much more than usual.

The GHQ was translated into Arabic language and validated by El-Rufaie. In 2001 the validated researcher validated the GHQ-12, and the best cut-off was (15/16) with a sensitivity of (0.88) and specificity of (0.84) [10]. Scoring of the GHQ was through a Likert Scale (0, 1, 2, 3) from left to right. (12) items, (0 to 3) each item Score ranging from (0 to 36). Score more than (15) point to evidence of NPMI. The third part included questions about patient's barriers of disclosure of their psychological problems from family physicians.

### Quality Measures of Questionnaire

The study used a validated questionnaire (GHQ12). Translation was done by authorized party at Hamad Medical Corporation (HMC) from English to Arabic, and then back re-translated. A professional review of the questionnaire was conducted. Prior to data collection, the questionnaire was pre-tested on a convenient sample of PHC attendees to ensure the clarity, time and ease of administration. Amendments were made on the basis of feedback received.

### Ethical Considerations

The assigned research committee approval was taken as the procedure and policy in PHC and HMC. Informed consent was taken from the participants voluntary prior the interview. Study was thoroughly explained to the participants prior to the interview. Data was confidential and saved in a password secured computer, with the only access being for the primary investigator. All collected data were only used for research purposes and any hard copies of data were kept in locked file cabinets. Questionnaires used were anonymous concealing names of participants. Any client found in need for any medical assistance were directed to have scheduled appointment with the specialized physician.

## Results

The aim of the study is to estimate the burden of NPMI among (PHC) centers attendees in Qatar in order to improve the mental health services. Sample size was determined to be (323) individuals. A total of (372) patients were approached of which (356) agreed to participate in the study giving a response rate of (95.7%).

### Sociodemographic features of the participants

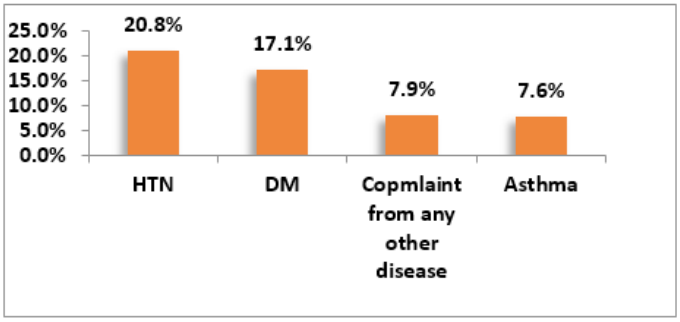
Regarding age almost one third of the studied sample (29.8%) lied in the age group of (30-39). Males and females almost attained equal frequencies; (49.2%) and (50.8%) respectively. A percent of (67.4%) of the studied sample were non-Qataris, while the rest were Qataris.

Concerning level of education, it was determined that the highest percentage was (44.7%) which represented the college graduates. Rest of the variables are listed in Table 1.

| Characteristics | Frequency | |
|---|---|---|
| | No. | % |
| **Age groups** | | |
| 18-29 | 94 | 26.4 |
| 30-39 | 106 | 29.8 |
| 40-49 | 81 | 22.7 |
| 50-65 | 75 | 21.1 |
| **Gender** | | |
| Male | 175 | 49.2 |
| Female | 181 | 50.8 |
| **Nationality** | | |
| Qatari | 116 | 32.6 |
| Non-Qatari | 240 | 67.4 |
| **Education** | | |
| Not educated | 7 | 2.0 |
| Primary | 35 | 9.8 |
| Secondary | 124 | 34.8 |
| College graduate | 159 | 44.7 |
| Post-graduate | 31 | 8.7 |
| **Occupation** | | |
| Professional | 63 | 17.7 |
| Clerical | 135 | 37.9 |
| Skilled worker | 7 | 2.0 |
| Manual worker | 4 | 1.1 |
| Housewife | 97 | 27.2 |
| Not working | 50 | 14.0 |
| **Marital status** | | |
| Single | 49 | 13.8 |
| Married | 268 | 80.3 |
| Divorced | 12 | 3.4 |
| Widow | 9 | 2.5 |

**Table 1:** Frequency distribution of the studied sample according to socio-demographic characteristics (n=365).

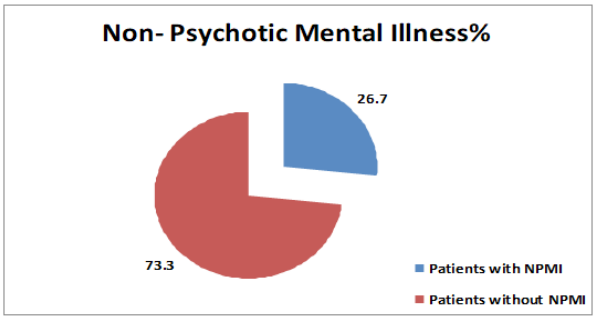
Figure 1 is a bar chart representation of the distribution of chronic diseases among the studied PHC attendees. It was shown that (20.8%) of the studied sample were suffering from hypertension while (7.6%) suffered from asthma.




HTN: Hypertension, DM: Diabetes Mellitus

**Figure 1:** Frequency distribution of chronic diseases among the PHC attendees (n=365).

Figure 2 shows the prevalence of non-psychotic mental illness among PHC attendees, which was (26.7%).




**NPMI:** Non-psychotic Mental Illness

**Figure 2:** Prevalence of Non-Psychotic Mental Illness among Primary Health Care attendees (n=365).

Table 2 shows the distribution of NPMI according to gender, age and nationality. Regarding gender, a statistically significant relation was determined between gender and NPMI, showing that a higher percent of females (35.9%) had NPMI, while only (17.1%) of males suffered from the problem.

| Variable | Non-Psychotic Mental Illnesses | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | No. | % | No. | % |
| **Gender** | | | | |
| Male | 30 | 17.1 | 145 | 82.9 |
| Female | 65 | 35.9 | 116 | 64.1 |
| **$\chi^2$=1.602, df =1, P <0.001** | | | | |
| **Age group** | | | | |
| <30 | 17 | 18.1 | 77 | 81.9 |
| 30-39 | 20 | 18.9 | 86 | 81.1 |
| 40-49 | 18 | 22.2 | 63 | 77.8 |
| >50 | 50 | 53.3 | 35 | 46.7 |
| **$\chi^2$=3.491, df =3, P <0.001** | | | | |
| **Nationality** | | | | |
| Qatari | 37 | 31.9 | 79 | 68.1 |
| Non-Qatari | 58 | 24.2 | 182 | 75.8 |
| | **χ2=2.388, df =1, P=0.122** | | | |
| df: degree of freedom | | | | |

**Table 2:** Distribution of Non-psychotic Mental Illness according to gender, age and nationality of the studied sample (n=356).

| Variable | Non-Psychotic Mental Illnesses | | | |
|---|---|---|---|---|
| | Yes | | No | |
| | No | % | No. | % |
| **Education** | | | | |
| Not educated | 3 | 42.9 | 4 | 57.1 |
| Primary | 11 | 31.4 | 24 | 68.6 |
| Secondary | 43 | 34.7 | 81 | 65.3 |
| College graduate | 31 | 19.5 | 128 | 80.5 |
| Post-graduate | 7 | 22.6 | 24 | 77.4 |
| | χ2=9.835, df =4, **P=0.043** | | | |
| **Occupation group** | | | | |
| Professional | 10 | 15.9 | 53 | 84.1 |
| Clerical | 26 | 19.3 | 109 | 80.7 |
| Skilled worker | 2 | 28.6 | 5 | 71.4 |
| Manual worker | 0 | 0 | 4 | 100 |
| Housewife | 31 | 32.0 | 66 | 68.0 |
| Not working | 26 | 52.0 | 24 | 48.0 |
| | χ2=2.679, df =5, **P <0.001** | | | |
| **Marital status** | | | | |
| Single | 16 | 32.7 | 33 | 67.3 |
| Married | 61 | 21.3 | 225 | 78.7 |
| Divorced | 10 | 83.3 | 2 | 16.7 |
| Widow | 8 | 88.9 | 1 | 11.1 |
| | χ2=4.257, df =3, **P <0.001** | | | |
| df: degree of freedom | | | | |

**Table 3:** Distribution of Non-psychotic Mental Illness according to education level, occupation and marital status of the studied sample (n=356).

More than half of the attendees aged more than (50) years suffered from NPMI. The relation between NPMI and age was proven to be of statistical significance.

The mean age ± standard deviation of attendees suffering from NPMI is (42.7±12.0) (Standard Error of the Mean (SEM) =1.2), while the mean age ± standard deviation of attendees not suffering from NPMI was (36.8±10.3) (SEM=0.6). This difference was not proven to be of statistical significance. Concerning nationality; there wasn't any statistical significance detected when relating it to NPMI.

Distribution of NPMI according to level of education, occupation and marital status among the studied group was presented in Table 3. Regarding education, it was determined that (42.9%) of non-educated individuals had NPMI, while (19.5%) of college graduates had NPMI, this relation was proven to be of statistical significance.

For occupation, the attendees who were currently not working (52.0%) suffered from NPMI representing the highest percentage, while no manual workers at all had the problem. The relation was found to be statistically significant.

Another statistically significant relation was detected among marital status and the presence of NPMI. Among widows, (88.9%) were detected with NPMI representing the highest percentage. On the other hand, least, percentages were among the married individuals (21.3%).

Table 4 presents the distribution of NPMI according to chronic diseases among the PHC attendees. Chronic diseases that were studied included diabetes mellitus, hypertension, asthma and others like peptic ulcer diseases, osteoarthritis, irritable bowel syndrome, hypercholesteremia and migraine. Among the studied diabetics, about two thirds (65.6%) had NPMI. This relation was of statistical significance. The least percentage (9%) of attendees having other conditions such as peptic ulcer diseases, osteoarthritis, irritable bowel syndrome, hypercholesteremia and migraine, also suffered from NPMI. However, there was no statistical significance.

| **Chronic Disease** | | **Non-Psychotic Mental Illnesses** | | | |
|---|---|---|---|---|---|
| | | **Yes** | | **Yes** | |
| | | **No.** | **%** | **No.** | **%** |
| **Dm** | | | | | |
| | Yes | 40 | 65.6 | 21 | 34.4 |
| | No | 55 | 18.6 | 240 | 81.4 |
| | | $\chi^2$=5.69, df =1, **P <0.001** | | | |
| **HTN** | | | | | |
| | Yes | 42 | 57.5 | 31 | 42.5 |
| | No | 53 | 18.7 | 230 | 81.3 |
| | | $\chi^2$=4.46, df =1, **P <0.001** | | | |
| **Asthma** | | | | | |
| | Yes | 14 | 51.9 | 13 | 48.1 |
| | No | 81 | 24.6 | 248 | 75.4 |
| | | $\chi^2$=9.45, df =1, **P=0.002** | | | |
| **Other diseases** | | | | | |
| | Yes | 9 | 32.1 | 19 | 67.9 |
| | No | 86 | 26.2 | 242 | 73.8 |
| | | $\chi^2$=0.463, df =1, P=0.496 | | | |
| **Dm: Diabetes mellitus, HTN: Hypertension, df: degree of freedom** | | | | | |

**Table 4:** Distribution of Non-psychotic Mental Illness according to chronic diseases among the studied sample (n=356).

More than half (57.5%) and (51.9%) of hypertensive and asthmatic individuals respectively had NPMI. Both relations were proven to be of statistical significance.

Table 5 shows factors affecting patients' disclosure of their psychological problems from the general practitioners in PHC centers. More than two thirds of the studied group (68.5%) stated that general practitioners are not the appropriate persons to discuss their psychological problems. Conformingly, (63.5%) of them also think that general practitioners deal only with physical conditions. Also, a percent of (58.7%) of the patients, agree that general practitioners are not qualified to provide mental health care to their patients.

| Factors | Frequency | | | |
|---|---|---|---|---|
| | **Yes** | | **No** | |
| | **No.** | **%** | **No.** | **%** |
| General practitioner are the appropriate persons to discuss patients' psychological problems | 112 | 31.5 | 244 | 68.5 |
| Think that the General practitioner deal with physical conditions only | 226 | 63.5 | 130 | 36.5 |
| General practitioners are qualified to provide mental health care to their patients | 147 | 41.3 | 209 | 58.7 |
| patients concern about the treatment for psychological problems that is provided in the primary care by the General practitioner | 168 | 47.2 | 188 | 52.8 |
| Doctor gender affect patients' consultation about their psychological problems | 200 | 56.2 | 156 | 43.8 |
| patients' relation with the General practitioner is not good enough to allow you to discuss your psychological problems | 162 | 45.2 | 195 | 54.8 |
| patients feel shameful to discuss their psychological problems with General practitioner | 136 | 38.2 | 220 | 61.8 |
| patients have concerns about confidentiality if they discuss their psychological problems with the General practitioner | 125 | 35.1 | 231 | 64.9 |
| Mental health problems are the patient's own responsibilities | 132 | 37.1 | 224 | 62.9 |
| patients think that consulting doctors about psychological problems in PHC is a waste of their time | 87 | 24.4 | 269 | 75.6 |
| Presence of other barriers preventing patients from discussing their psychological problem with the General practitioner | 32 | 9.0 | 324 | 91.0 |

**Table 5:** Factors affecting patient's disclosure of their psychological problems from the general practitioners in primary health care centers.

Patients concern about the treatment for psychological problems that is provided by the general practitioners was also assessed, showing that (47.2%) of the studied group had concerns. Regarding gender as barrier of disclosure, more than half (56.2%) of the sample stated that doctor gender affects their consultation about their psychological problems.

Almost half of the patients (45.2%) that were studied affirmed that their relationship with the general practitioner is not good enough to allow them to discuss their psychological problems. Consistently, (38.2%) and (37.1%) of them feel shameful to discuss their psychological problems with the general practitioner and think that mental health problems are patients own responsibilities, respectively.

Almost the same number of patients (35.1%) had concern about confidentiality if they discussed their psychological problems with the general practitioner. Only about one quarter (24.4%) of the studied group, think that consulting doctors about psychological problem in PHC is a waste of time, while the rest think it is not.

Nine percent of the patients mentioned other barriers preventing them from discussing their psychological problems with the general practitioner. These barriers include that the general practitioner had no sufficient time to discuss with them their psychological problems (3.9%), and 5.1% stated that general practitioners were not specialized in psychiatry, in other words they are not psychiatrists.

Table 6 shows the distribution of NPMI according to several barriers of patient's disclosure of NPMI from their doctors. There was statistical significance for both doctor gender affecting consultation about psychological problems and that relation with the general practitioner is not good enough to allow them to discuss their psychological problems with NPMI, percentage being (34%) and (36%) respectively ($P<0.001$). Other barriers were not proven to be of statistical significance when related to NPMI.

| Variable | | Non-Psychotic Mental Illnesses | | | |
|---|---|---|---|---|---|
| | | Yes | | No | |
| | | No. | % | No. | % |
| GPs are the appropriate persons to discuss your psychological problems | Yes | 28 | 25.0 | 84 | 75.5 |
| | No | 67 | 27.5 | 177 | 72.5 |
| | *$\chi^2$=0.237, df =1, P=0.626* | | | | |
| Think that the GPs deal with physical conditions only | Yes | 58 | 25.7 | 168 | 74.3 |
| | No | 37 | 28.5 | 93 | 71.5 |
| | *$\chi^2$0.330, df =1, P=0.566* | | | | |
| GPs are qualified to provide mental health care to their patients | Yes | 36 | 24.5 | 111 | 75.5 |
| | No | 59 | 28.2 | 150 | 71.8 |
| | *$\chi^2$=0.617, df =1, P=0.432* | | | | |
| Doctor gender affect your consultation about your psychological problems | Yes | 68 | 34.0 | 132 | 66.0 |
| | No | 27 | 17.3 | 129 | 82.7 |
| | ***$\chi^2$=1.248, df =1, P <0.001*** | | | | |
| Concerns about the treatment for psychological problems that is provided in the primary care by the GPs | Yes | 50 | 29.8 | 118 | 70.2 |
| | No | 45 | 23.9 | 143 | 76.1 |
| | $\chi^2$=1.539, df =1, *P*=0.215 | | | | |
| Your relation with the GP is not good enough to allow you to discuss your psychological problems | Yes | 58 | 36.0 | 103 | 64.0 |
| | No | 37 | 19.0 | 158 | 81.0 |
| | ***$\chi^2$=1.310, df =1, P<0.001*** | | | | |

Table 6: Distribution of Non-psychotic mental illness according to several barriers of patient's disclosure of Non-psychotic mental illness from the general practitioners.

## Discussion

### Prevalence of Non-psychotic Mental Illness

The first objective of this study was to measure the prevalence of non- psychotic mental illness among PHC centers attendees in Doha. The study showed a prevalence of (26.7%) for NPMI. This finding was found to be more or less similar to that reported internationally. As pointed out as part of the report of the WHO "Burden of Mental and Behavioral Disorders"; mental disorders are not the exclusive preserve of any special group; they are truly universal. Mental and behavioral disorders are found in people of all regions, all countries and all societies. The notion that mental disorders are problems of industrialized and relatively richer parts of the world is simply wrong. The belief that rural communities, relatively unaffected by the fast pace of modern life, have no mental disorders is also incorrect [2].

Epidemiological studies in PHC settings have been based on identification of mental disorders by the use of screening instruments, or clinical diagnosis by primary care professionals or by psychiatric diagnostic interview. The cross-cultural study conducted by WHO at (14) sites clearly demonstrated that a substantial proportion (24%) of all patients in these settings had a non-psychotic mental disorder. It was also concluded that there were no consistent differences in prevalence between developed and developing countries [11,12].

An early study conducted in the United Kingdom- that is also consistent with ours- had reported that general practitioners regarded (26% to 27%) of their patients as being psychiatrically ill [13]. A later study also in the UK stated that around (30%) of their patients would meet the criteria for psychiatric illness if seen by a psychiatrist [14]. A Greek study using a 28-item general health questionnaire estimated (32%) probable prevalence of mental health problems in primary care setting [15]. Concerning developing countries, a primary care survey in Nigeria estimated the prevalence of psychiatric morbidity at (21.3%) [16].

The volume of literature on primary care psychiatry in the Arabic speaking countries is quite scanty. This may explain the limited amount of pertinent work that can be retrieved electronically. However, several studies were conducted in Arabic countries. A PHC study carried out in northern Jordan using an Arabic translated version estimated the prevalence of psychiatric morbidity as (61%) [17].

Furthermore, the finding of the present study is in agreement with several studies conducted in the GCC countries. Screening of representative samples of PHC patients in Saudi Arabia, the United Arab Emirates and Bahrain revealed a prevalence of psychiatric morbidity of (26%, 27% and 27.1%), respectively [5,6,18].

This high prevalence can be attributed to the fact that the use of psychiatric screening scales in a language and culture other than that for which it was designed and developed may create considerable problems because of the influence of translation and other socio-culture factors. Some workers prefer to design new, culture-specific instruments [19,20]. Ideally, a screening scale should be developed in the cultural setting in which it is to be used. It would, however, be irrational to ignore well-established instruments developed in other cultures since many phenomena and concepts are common between cultures. A critical, careful approach is, therefore, vital when translating, modifying and validating psychiatric instruments before they are used cross cultures [21].

In our study, we have used GHQ 12 to detect the prevalence of NPMI. It is probably the most widely used screening scale for mental disorders. It was selected by the World Health Organization (WHO) as the screening scale in a large multicenter primary care study because of its high sensitivity and specificity in various settings and cultures [22]. The shorter 12-item version has been shown to be equally effective as the longer 28-item version in screening for common mental disorders [23]. Tentatively, it was suggested that the GHQ-12 might be preferred, particularly where assessment of psychological morbidity across a wide age range, from younger to older adults, is required [24].

To wrap it up, epidemiological studies done in various parts of the world and using diverse methods and psychiatric instruments have furnished evidence of significant psychiatric morbidity (13%-60%) among the PHC population. Studies done in the Arabic-speaking countries show a generally similar prevalence for psychiatric morbidity.

### Determinants of Non-psychotic Mental illness

The findings reported in this study regarding gender differences and NPMI were expected. It was expected to find more females complaining of NPMI than do males. Our study showed significantly that the prevalence of NPMI among females was double that among males. Constantly a study done in Saudi Arabia to explore the mental illness among Saudi adult primary care patients in central Saudi Arabia showed a higher prevalence in women than men; (22.2% and 13.7%), respectively.

Also, in the study that was carried out in Northern Jordan, the highest prevalence of NPMI was encountered among females over 40 years of age as well as another research done in Italy [18,25].

It is likely that the differential impact on men and women of the rapid economic transition in many parts of the world, which includes increasing poverty and unemployment, is linked to gendered differences in social roles and expectations. Men who are faced with unemployment and economic crises in societies where their primary role is that of breadwinner and the primary role of women is that of homemaker are probably the main reason for the differences reported [3].

With regard to age and education, our result is similar to the finding of Al-Jaddou and Colleagues who found the highest rates of psychiatric illness among those aged (40) and over, compared to the younger groups and among the uneducated groups. In the Bahrain study, it was also documented that morbidity of NPMI was commonest in women aged (50-55) years [18,21].

Regarding occupation, we found that the highest prevalence of NPMI was among the unemployed group. This finding is analogous to many studies. The effects of unemployment and the relationship to symptoms of psychological distress were studied in Stockholm among men. One hypothesis was that unemployed men would report more symptoms of psychological distress than men who had employment. Another hypothesis concerned the relationship between the social-psychological functions of work according to the so-called "deprivation theory" and psychological distress as measured by the General Health Questionnaire. Results showed significantly more signs of psychological distress among the unemployed and also more distress among unemployed men with low access to the social-psychological functions of work compared to unemployed men with higher values. These results were consistent with the ones in our study [26].

Prevalence of common mental disorder was raised compared to the overall prevalence among clerical/secretarial jobs according to the standard occupation classification as addressed in the occupational and mental health: secondary analyses of the psychiatric morbidity survey of Great Britain [27].

Marital status is considered as one of the important determinants of NPMI. The finding in our study showed significantly that the single group has a higher prevalence than the married group (32.7% and 21.3%) respectively. We observed that the study undertaken in Bahrain was consistent with our finding namely, the high prevalence of mental illness morbidity among old women divorcees or widows [21].

One of the most consistent findings in research on social aspects of illness is that marital status and mental illness are related. In a comprehensive review of the literature, Gove reports that almost all studies show that the non-married have higher rates than the married, and that the findings hold for males and females alike. All studies show that the divorced (11 studies) and the widowed (8 studies) have higher rates than the married; (14) studies report comparisons between the married and never married, with the never married having higher rates in (13) studies for males and (11) studies for females. Thus, individuals who are affiliated in marriage are less apt to be mentally ill than individuals who are not. However, questions remain as to the interpretation of this relationship. Does marital status precede mental illness or do mental illness and the accompanying disruptive behavior precede marital disruption [28].

**Prevalence of non-psychotic mental illness in patients complaining of chronic diseases**

Apart from being a direct cause of disability, poor mental health is a risk factor for a variety of other health problems and conditions. Mental disorders often co-exist with other health problems and are known to worsen the outcomes of other medical conditions. For instance, depression increases the mortality rate associated with cardiac disease. Mental disorders are also associated with increased mortality. It is thus well documented that chronic disease increases the risk of having mental illness. A number of studies showed that people with chronic diseases have more risk to develop psychological distress. The probability of having mental distress is increase with patient complaining of high blood pressure, diabetes, arthritis, and migraine [29-37].

Furthermore, a number of studies showed that psychological distress and lifestyle may associated with non-compliance with chronic diseases treatment. Also, the people who suffer of medical illness along with psychological distress can complicate the treatment of chronic diseases [38-42].

**Factors Affecting Patients' Disclosure of their Psychological Problems from the General Practitioners in PHC Centers**

As is the case for many healthcare systems across the world, PHC physicians in Qatar act as gatekeepers to secondary and tertiary care, including mental health care. However, many barriers of disclosure were detected through this study among the attendees of primary health care. To emphasize, our study showed that more than two third of the participating group stated that general practitioners are not the appropriate persons to discuss their psychological problems. This might be explained by cultural and social believes in which the people think that mental illness should only be managed in psychiatric hospitals.

In consistent to our findings a study was done in New Zealand to explore reasons why patients choose not to disclose psychological problems to the general practitioners. This study discovered that about third of the patients stated that general practitioners are also not the right persons to talk to about mental illness. Approximately a quarter of the patients in this study with psychological symptoms reported feeling that mental health problems should not be discussed with anyone at all. Limitations in mental health literacy may cause problems in communicating with health practitioners and the presentation of psychological concerns [43-45]. Conformingly, half of the patients also think that general practitioners deal only with physical conditions and, agreed that general practitioners are not qualified to provide mental health care to their patients.

As the family medicine physician is the most accessible person to discuss mental health problems with it is of concern that many patients did not see them as an appropriate resource.

Addressing this would involve public education to enhance mental health literacy and to inform people about the role of the family medicine physician. Mental health literacy refers to 'knowledge and beliefs about mental disorders which aid their recognition, management or prevention and includes knowledge and beliefs about professional help available and attitudes that facilitate recognition and appropriate help-seeking [46,47].

Concerning the treatment for psychological problems that is provided in the primary care by the General practitioner our study showed that about half of the patients had concern about this issue probably because of their believe about the psychological drugs and their side effects. Some people might think that those types of drugs should be only prescribed by psychiatrist.

Regarding doctor gender and if its affect patient's consultation about their psychological problems, more than half of the patients stated that they have this problem. This can be explained by the fact that our community and culture and a lot of other Arab communities are conservative thus discussing such sensitive issues with the opposite sex might constitute a barrier and for many PHC centers attendees.

Almost half of the patients that were studied affirmed that their relationship with the general practitioner is not good enough to allow them to discuss their psychological problems. This fact demonstrates the importance of establishing good and close relation between general practitioner and patients in order to reach the true diagnosis and provide the proper management.

In a US study, only one fifth to one third of patients with mental disorders who believed it was appropriate to discuss psychosocial problems with family medicine physicians had actually discussed these problems with their family medicine physician [48,49].

More than third of the patients in our study feel shameful to discuss their psychological problems with the general practitioner and think that mental health problems are patients own responsibilities. Some of the patients think that mental illness is stigma and thus feel shameful to disclose them with general practitioners. In a UK study the majority of the public reported they would be embarrassed to consult a family medicine physician for depression because the family medicine physician may see them as unbalanced or neurotic. Stigma may extend to concerns about the questions asked in screening questionnaires [50-52].

Some of the studied group also indicated that general practitioners were not expert in psychiatry; in other words, they are not specialized psychiatrists, thus constituting a hurdle of communication between them and the physicians. In relating NPMI to patient's barriers, our study reported significantly both doctor gender affecting consultation about psychological problems and that relation with the general practitioner is being not good enough to allow them to discuss their psychological problems [53-55].

## Conclusions

The prevalence of NPMI among PHC attendees was (26.7%) attaining a similar burden as many as the countries of our region. Gender, educational level, unemployment and suffering from some chronic diseases had shown significant relation with NPMI. The study recommended the following:

- Raising public awareness regarding the importance of mental health
- Development of effective and focused community-based mental health program as an integral part of comprehensive PHC.
- Psychiatric training should be supported in the continuing education of primary care physicians and patients should be encouraged to report psychological complaints to family physicians.

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