

CHRONIC DISEASE AND MENTAL HEALTH PERCEPTION

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The sociodemographic characteristics of individuals with chronic disease(s) and the presence of impaired mental health need further attention as indicated by WHO. This is particularly relevant in primary settings and for specific populations as those with an ageing condition. The purpose of this study was to examine the self-assessed perceptions of mental health status of participants who visited a Health Centre. A quantitative study was conducted. A purposive sample (n=1336) of users attending a Portuguese Health Centre were asked to complete a series of questionnaires. One on socio-demographic information, one on the presence of chronic disease(s), one on self-perception of wellbeing, plus Goldberg's (1979) General Health Questionnaire (GHQ-28). Data was analyzed using the Statistical Package for Social Sciences (SPSS V20). Multiple analyses were conducted. Of the 1336 participants, 63.5 % were female. The average age of the total sample was 52 (sd: 17.77) and 929 presented with 1 or more chronic illnesses (mean: 1.47 in women and 1.34 for men). The variables associated with a greater likelihood of self-reported mental health and chronic disease were female gender (63%), recurring visits (4 or more) to their GP during the past year (48.4%) and presence of 2 or more chronic diseases. Inferential analysis showed a statistically significant association with the GHQ-28 scores. The study findings suggest that chronic diseases and mental health self-perception appear to be associated. Better strategies to facilitate early identification of compromised mental health in chronic patients should be implemented. Further research on this topic is suggested.

Keywords: Chronic disease(s), Mental health.

Introduction

Chronic diseases are the leading cause of mortality and morbidity in Europe. Research suggests that complex diseases such as diabetes and depression will be a big burden in the future. The genesis of chronic disease is multifactorial, tends to progress slowly and may recur, and in most cases is not transferable, generates some level of disability and requires special care over a long period of time (Dias & Paixão, 2010).

Every individual has the ability to consciously assess their state of health. Although this measure has a subjective nature, it is of real interest when seeking to address the perception of oneself in relation to health. The perceived mental health status is essential for effective planning in health, not only as its role as a determinant of health, but also for its relationship with the adoption of health promoting behaviors (Araújo, Ramos, & Lopes, 2011).

Self-perception of ones' health status, as a subjective indicator complements more objective indicators of the health status as mortality and morbidity. The self-perception of ones' health status is thus recognized as a very important indicator of the people health status because it measures the subjective perception of the physical and mental state, is independent of the medical interpretations of symptoms and is also an important predictor of mortality and of the use of health services (Vintém, 2008).

According to WHO data, there has been, in recent years, a substantial increase in people who complain of symptoms that could be characterized as typical of mental illnesses, including anxiety and depression (Gouveia, Chaves, Oliveira, Dias, Gouveia, & Andrade, 2003).

Based on epidemiological data collected in the last decade, it is clear today that psychiatric disorders and problems related to mental health have become the leading cause of disability and a major cause of morbidity and premature death, primarily in industrialized Western countries (Direção Geral de Saúde [DGS], 2012).

In addition to its specific and direct contribution to the global burden of disease, psychiatric disorders also have an indirect effect on the existence of a complex interaction of dysfunctional life styles, such as cardiovascular disease, metabolic diseases, consumption of substances, traffic accidents and industrial accidents.

The National Study of Mental Health (Xavier, Baptista, Mendes, Magalhães, & Caldas-de-Almeida, 2013), recently held under the World Mental Health Survey Initiative, demonstrated unequivocally the importance of the National Mental Health Plan: Portugal has a higher prevalence of mental disorders among European countries; A significant percentage of people with severe mental illness still does not have access to mental health care; Many who have access to mental health care do not benefit from models of intervention (treatment programs and psychosocial rehabilitation) today considered essential.

In addition to the people who have a diagnosable disorder, many have mental health problems that may be considered "subliminal", ie, that do not meet diagnostic criteria for psychiatric disorder, although they are in pain and therefore should benefit from interventions.

The number of people in contact with public services (168 389 people in 2005), shows that only a small proportion of the ones that have mental health problems, are able to access to specialist public mental health services. The number of contacts (1.7% of the population) is still extremely low compared to what you would expect (at least 5-8% of the population suffers from a psychiatric disorder of some gravity in each year). Hospitalization of patients continues to consume the majority of resources (83%), when all the scientific evidence shows that community-based interventions are the most effective (Coordenação Nacional para a Saúde Mental [CNSM], 2008).

The importance of analyzing the perception that people have of their health has been highlighted in the research as it clearly allows a better view of the real needs of people and, therefore, a more assertive intervention on the part of health professionals.

Thus, the objectives proposed for this study are: To determine the prevalence of chronic diseases of the users of the health centre (HC); To determine the perception of the mental health status of customers of the HC; Analyze the influence of socio-demographic variables and clinics in the perception of the state of mental health of users of HC.

Material and Methods

The study in question has the following characteristics: cross-sectional and descriptive / correlational. We opted for a non-probability sampling method for convenience, consisting of 1336 users of a health center in the interior of Portugal

The data collection instrument used was the questionnaire, with the inclusion of questions of sociodemographic, clinical and General Health Questionnaire (GHQ-28 items version).

The General Health Questionnaire was designed to detect nonpsychotic psychiatric disorders and affective disorders in the community. It was not designed to provide a diagnosis or an assessment of severity. The GHQ-28 has been used to estimate the prevalence of affective disorders and estimate the severity. Although originally designed to be used in population surveys on psychiatric morbidity, it has been used extensively as a screening tool in clinical practice as an aid in the clinical teaching and assessment of unfulfilled needs for mental health care. It is particularly adapted for use in patients consulting general practitioners and other professionals in primary care.

The GHQ-28 is a self completion questionnaire divided into four sub-scales, each with seven questions that assess: somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. The scores can be interpreted as indicating the severity of the psychological disturbance on a continuum. But the most common use is in screening cases using thresholds / intersection points. For the 28-item version the point of interception recommended in the initial validation study is the 4/5 for use in English populations in Primary Health Care (Goldberg & Hillier, 1979). This version also allows independent score for the four sub-ranges, to select specific cases with high scores in somatic symptoms, anxiety and insomnia, depression and social dysfunction.

Each sub-scale note varies between "0" and "21" and the total score of the questionnaire varies between "0" and "84". The higher values in the questionnaire correspond to a worse perception of the mental health. A total value in the questionnaire over 62 is an indicator of psychiatric problems.

With the permits issued by the authorities in the institutions, the implementation of the questionnaire protocol in the waiting rooms of different sections of the Health Centre, was started. The target population was constituted by patients enrolled in the HC. The questionnaire protocol was applied with full knowledge and free consent, without physical, mental, moral or misleading coercion practices, that hamper free expression of personal will of the patients that adhered to the study. Thus, in order to respect issues of ethics and moral character while conducting this study, it was explained to the Health Centre users, the anonymous nature of the data collection instrument, as well as obtaining informed consent orally before delivery questionnaire. During the implementation / completion of the same, the privacy of individuals surveyed, as well as the expressed desire for assistance was respected.

In 2011 the evaluation protocol was applied for users who met the following inclusion criteria: Individuals registered as users of a Health Centre; Age equal or above 18 years; Absence of visible changes of mental state. Excluded from the study were users who did not wish to cooperating and questionnaires with void answers void for their lack of congruence.

After collection, the data was uploaded and processed in the statistical program SPSS (Statistical Package for Social Sciences) version 21.0 (2012) for Windows.

Results

Highlighted as predominant feature is the gender – females correspond to 63.5 % of the sample. In average, the sample population is 51.97 year old, with the men being older than women (56.56 and 49.33 years, respectively); the age group with the highest frequencies is 55-64 year old, with 19.8 % of the sample and the age group with lower frequencies corresponds to the users with 85 years or more (1.3%); As for family 71.3 % of respondents have a companion and 28.7 % do not have a companion. Taking into account literacy, most respondents present a low level of literacy (46.2 %), with males (55.9 %) showing a greater predominance than females (40.6 %). On the other hand, the lowest percentage corresponds to the users with a high level of literacy (9.9 %) with the females in this group more prevalent than males (11.1% and 7.8 %, respectively). Considering the employment status the highest percentage corresponds to users that are inactive /not working (59.7 %).

Regarding the clinical situation, the number of times that the users visited the GP (general practitioner - Family Doctor) in the previous 12 months, ranged from 0 to 96 visits, and on average, the sample shows 5.95 trips to the family doctor. In terms of gender, men are, on average, the ones who make more visits (6.06 and 5.89, respectively); the highest percentage of respondents went to the doctor for 4 or more times in last 12 months (48.4 %), with the females (49.9%) more predominant compared to males (45.7 %). Users with lower percentage are the ones with no consultations (8.1%), and in this group men (8.8%) are more prevalent than women (7.7%); As for the general health status, the highest percentage of users (50.6 %) rated their health as "fair" and the difference between men and women does not show great variation (51.0 % and 50.4 %, respectively). The lowest frequency (3.2%) corresponds to users who rated their health as "excellent / very good", within which women (3.7%) showed a higher occurrence than men (2.5%)

Considering the chronic diseases mentioned, we find that osteoarticular diseases are the most common (31.5 %), and those who suffer more from these diseases are women, compared to men (35.0 % and 25.4 % , respectively) as described in Table 1. In second place is Hypertension (27.4 %), with men (31.1 %) suffering more than women (25.2 %). A total of 16.1 % include users with Heart Diseases, and once again, the males predominate compared to females (18.6% and 14.6 %, respectively). With regard to diabetes, like the previous ones, there is a higher incidence in males (20.5 %) compared to females (12.5 %), with this disease affecting 15.4% of the population surveyed. 12.6% reported having Chronic Digestive Problems, where women are the most prevalent (14.3%) compared to men (9.6%). Migraines or other chronic and strong headaches are present in 10.3% of respondents, and this time, the most affected are females compared to males (14.2% and 3.5 %, respectively). Of the respondents, 9.7 % report suffering from psychiatric disease, the most prevalent being female (12.9%) compared to males (4.3%). Regarding asthma or other respiratory diseases there is similarly a higher incidence in females (7.9%) compared to males (7.4%), reported by 7.7% of the population. In the parameter Other Chronic Diseases, only 5.8 % of respondents are included, and men have a higher

incidence (6.6%) compared with women (5.4%). Regarding Malignant Diseases, these are mentioned by 3.6% of interviewed users, and more frequent in men than in women (3.9% and 3.4 %, respectively). In the entire sample, the chronic disease with the lowest percentage is of users who reported having experienced CVA (cerebrovascular accident) (2.1%), the most affected being males (2.7 %) compared to females (1.8%).

Regarding gender, we found that the highest percentage of males suffer from Hypertension (31.1%) and in relation to women, the highest percentage reported chronic osteoarticular diseases (35.0%).

Table 1. Chronic Diseases according to Gender.

Chronic Diseases \ Gender	Male		Female		Total	
	N	%	N	%	N	%
Diabetes	100	20.5	106	12.5	206	15.4
Asthma and other respiratory diseases	36	7.4	67	7.9	103	7.7
Heart Diseases	91	18.6	124	14.6	215	16.1
CVA – cerebrovascular accident	13	2.7	15	1.8	28	2.1
Hypertension	152	31.1	214	25.2	366	27.4
Chronic digestive problems	47	9.6	121	14.3	168	12.6
Osteoarticular chronic diseases	124	25.4	297	35.0	421	31.5
Migraines or other chronic strong headaches	17	3.5	120	14.2	137	10.3
Psychiatric illness	21	4.3	109	12.9	130	9.7
Malignant disease	19	3.9	29	3.4	48	3.6
Other chronic diseases	32	6.6	46	5.4	78	5.8

The total number of chronic diseases surveyed ranges from 0-8 diseases, and an average of the sample is 1.42 chronic diseases. Regarding gender, women have on average more chronic diseases compared to men (1.47 and 1.34 respectively, Table 2).

Table 2. Total Chronic Diseases according to Gender.

Total Chronic Diseases \ Sexo	N	Mean	Min	Máx	SD	CV%
Male	488	1.34	0	6	1.24	92.54
Female	848	1.47	0	8	1.49	101.36
Total	1336	1.42	0	8	1.41	99.30

Of the 1336 respondents, only 929 users have chronic diseases. Within these, the highest frequency corresponds to the group which shows one chronic disease (44.8%) and the greater the number of conditions in each user, the smaller the allocated percentage. The lowest frequency, with respect to respondents who have 5 or more chronic diseases (5.2%), in all age groups except for the age group equal or over 85 years, most often corresponds to users who have one chronic illness (44.8%). In turn, the users aged 85 or more years, most often have two chronic illnesses. Within the family situation, whether with a partner or without partner, the highest percentage corresponds to users who have one chronic illness (45.8% and 42.0%, respectively). Correspondingly, the lowest percentage refers to respondents who have 5 or more chronic diseases, in both groups, with a companion (4.8%), without a companion (6.2%). In the three levels of literacy (low, intermediate and high), the highest frequency corresponds to users who have one chronic disease (33.8%, 42.0% and 80.6%, respectively). However, the lowest

percentage refers to the users who have 5 or more chronic conditions in all literacy levels (6.7%, 6.2% and 1.6%, respectively); Within the respondents who have chronic diseases, the highest percentage shows up on users who had 4 or more visits in the past 12 months (519 users), and the lowest percentage refers to users who did not have appointments (50 users).

The results for the GHQ, the score assigned to the subscale somatic symptoms ranged from 0-19 and had on average 6.43 points. The subscale anxiety and insomnia ranged from 0-21, and had on average 6.67 points. The social dysfunction subscale ranged between 0-19 and had on average 6.93 points (highest). Severe depression ranged from 0-21, and showed a mean of 3.08 (lower); the total scale (sum of the four subscales) showed a minimum value of 0, which indicates that there have been 0 respondents to answer all questions in each subscale and a maximum value of 70, signifying that there are users with indicators of psychiatric problems. On average, the total scale was 23.10 points; Of the 1336 users, the highest percentage corresponds to respondents without indicators of psychiatric problems (99.5 %), with males (99.8 %) in greater prevalence compared to females (99.3 %). On the other hand, 0.5 % of users presented indicators of psychiatric problems, the females with a higher occurrence than males (0.7% and 0.2%, respectively).

The analysis of the significant effect of gender on the perception of the mental health status of the users in the Health Centre, was performed by using the t - Student test for independent samples (Table 3). The Levene test reveals homogeneity of variances in the subscales somatic symptoms, anxiety and insomnia and social dysfunction, as it has ($p > 0.05$). In turn, it demonstrates that the severe depression subscale and overall value have no homogeneity of variance ($p < 0.05$). Regarding the mean values between the two sexes, we can verify that these are higher for females in all subscales and the total scale of the GHQ.

Regarding the level of the differences, they may be statistically significant ($p < 0.05$), as shown in all subscales and full scale except in the subscale social dysfunction that presents statistically not significant differences ($p \geq 0.05$). We conclude that there is significant effect between gender and perceived mental health status of users of the Health Centre in all subscales and the total scale, except in subscale social dysfunction, in which we may assume that there is no significant effect between gender and perceived mental health status

Table 3. Student t-test of the Mental Health status according to gender.

Mental Health \ Gender	Male		Female		Levene (p)	T	p
	Mean	SD	Mean	SD			
Somatic Symptoms (A)	5.60	3.46	6.91	3.92	0.141	6.105	0.000
Anxiety and insomnia (B)	5.62	4.94	7.27	4.94	0.324	6.040	0.000
Social dysfunction (C)	6.73	2.62	7.04	3.10	0.084	1.899	0.058
Severe depression (D)	2.26	3.70	3.54	4.74	0.000	5.474	0.000
Total Scale	20.22	11.26	24.76	13.36	0.000	6.629	0.000

Through the analysis of Table 4, it appears that the value of the higher mean ranking corresponds to the total range in the age group 75-84 years (806.52), followed by the age group of 75-84 years in subscale somatic symptoms (797.77). On the other hand the value of the lowest mean ranking concerns the subscale anxiety and insomnia in the age group 18-24 years (513.95).

Regarding the differences, they are statistically significant in all subscales and full scale, and all had $p < 0.05$. It is noteworthy that the severe depression subscale show a higher value than the remaining subscales ($X^2 = 15.273$, $p = 0.033$)

Given these results we deduce that there is significant effect between age and perception of the mental health status of the users of the Health Centre in all subscales and the total scale.

Table 4 – Kruskal-Wallis test on Mental Health status according to age groups.

Mental Health \ Age	18-24	25-34	35-44	45-54	55-64	65-74	75-84	≥ 85	χ^2	P
	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank		
Somatic Symptoms (A)	517.83	526.67	630.27	764.37	669.98	728.55	797.77	652.97	75.087	0.000
Anxiety and insomnia (B)	513.95	559.92	669.79	737.16	690.04	685.19	790.27	541.78	51.899	0.000
Social dysfunction (C)	584.47	555.14	652.54	668.06	683.59	724.96	795.42	669.58	46.892	0.000
Severe depression (D)	631.74	619.88	681.84	685.72	639.73	691.71	752.15	609.11	15.273	0.033
Total Scale	523.72	533.88	651.61	740.16	677.67	715.26	806.52	594.61	63.887	0.000

From the analysis of Table 5, we see that mean rank higher values correspond to the users who had 4 or more visits in the last 12 months, on all subscales and total scale including. In turn, the lower mean rank values concern to respondents who did not have appointments

Regarding the differences, they are statistically significant in all subscales and full scale, and all had $p < 0.05$. It should be noted that the subscales social dysfunction ($X^2 = 11.675$, $p = 0.033$) and severe depression ($X^2 = 14.067$, $p = 0.001$), evidenced a higher value than the remaining subscales.

We inferred that there is significant effect between the number of consultations and the perception of the mental health status of users of the Health Centre in all subscales and the total scale.

Table 5. Kruskal Wallis test on Mental Health status in relation to the number of consultations.

Mental Health \ Consultations	No Consultation	1-3 Consultation	≥ 4 Consultation	χ^2	p
	Mean Rank	Mean Rank	Mean Rank		
Somatic Symptoms (A)	584.08	601.65	742.84	47.186	0.000
Anxiety and insomnia (B)	589.82	623.07	722.59	25.585	0.000
Social dysfunction (C)	595.07	646.78	700.34	11.675	0.003
Severe depression (D)	612.28	637.70	705.65	14.067	0.001
Total Scale	579.84	615.50	731.07	33.709	0.000

Through observation of Table 6, we find that the higher mean rank values correspond to users who have poor health, in all subscales and including the total scale. Then again, the lower mean rank values concern to respondents who have shown excellent / very good health, except for the severe depression subscale (650.08).

Regarding the differences, these are statistically significant on all subscales and the total scale, all of which have $p < 0.05$ and answering the research question, we infer that there is significant effect between general health and the perceived state of mental health of users of the Health Centre in all subscales and the total scale.

Table 6. Kruskal-Wallis test Mental Health status in relation to general health status.

General Health Mental Health	Excelent / Great	Very Good	Good	Fair	Bad	χ^2	P
	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank		
Somatic Symptoms (A)	376.52	500.17	544.43	705.43	928.23	168.176	0.000
Anxiety and Insomnia (B)	454.97	475.39	580.40	703.38	864.08	109.368	0.000
Social Dysfunction (C)	504.26	576.26	602.23	684.60	823.49	61.513	0.000
Severe Depression (D)	650.08	604.38	630.10	666.90	787.73	27.411	0.000
Total Scale	447.44	487.65	561.31	701.59	901.30	132.873	0.000

Backed by Table 7, we can analyze the mean values of higher order correspond to users that have 5 or more chronic conditions in all subscales, and even in the total range, except in subscale social dysfunction where the value of higher average ranking corresponds to users that have 4 chronic diseases (548.06). In turn, the lower mean rank values concern respondents that show only one chronic illness, in all subscales and the total scale, except in severe depression subscale, where the lower mean rank value are for users who have two chronic diseases (426.78).

Regarding the differences, they are statistically significant in all subscales and full scale, and all had $p < 0.05$.

Given these results we infer that there is significant effect between the number of chronic diseases and perceived mental health status of users of the Health Centre in all subscales and the total scale.

Table 7. Kruskal-Wallis test between Mental Health status and Number of Chronic Diseases.

No. Chronic Diseases Mental Health	1	2	3	4	≥ 5	χ^2	p
	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank		
Somatic Symptoms (A)	388.55	457.02	553.58	636.81	642.30	102.199	0.000
Anxiety and Insomnia (B)	406.62	463.67	521.11	592.96	614.29	58.454	0.000
Social Dysfunction (C)	441.70	446.04	497.25	548.06	541.79	20.105	0.000
Severe Depression (D)	445.03	426.78	507.60	547.67	583.76	31.026	0.000
Total Scale	404.17	447.50	541.73	606.45	638.53	74.884	0.000

Conclusion

Of the 1336 subjects studied at the Health Centre the majority were female (63.5%), the most prevalent age groups were 55 to 64 years (19.8%) and from 65 to 74 years (19.4%) . The results of the clinical characterization showed that 48.4% of users had 4 or more visits in the last 12 months. Regarding their general health, we established that 50.6% of the subjects rated their general health as "Average". We found that the most prevalent chronic diseases are chronic osteoarticular diseases (31.5%), Arterial Hypertension (27.4%), heart disease (16.1%) and diabetes mellitus (15.4%).

We conclude that the chronic disease clinical variable, having been grouped according to the number of chronic diseases that the users submitted, our sample was reduced to 929 users, who

presented these chronic diseases. Thus, we found that 44.8% of respondents have only one chronic illness, especially if users were male (50.1%), extending in either men or women in the various age groups, with the exception of 85 or more year old.

With regard to perceived mental health status, we conclude that the 1336 users who responded to the questionnaire, the higher frequency corresponds to users with no indicators of psychiatric problems (99.5%), with the males having a higher percentage than females (99.8% and 99.3%, respectively). Users without indicators of psychiatric problems presented to all subgroups of chronic diseases, a higher frequency when compared with patients with indicators of psychiatric problems.

In the group of users with indicators of psychiatric problems, we conclude that the largest absolute frequency corresponds to those who presented two chronic diseases, a value corresponding to 50% of all clients with indicators of psychiatric problems.

With regard to the measurement results of the proposed hypothesis, we conclude that there is significant effect of gender, age, number of consultations, general health perception and mental health status of users of the health centre in almost all subscales and the total scale. The users who had 5 or more chronic conditions obtained the highest mean rank values in all subscales and the total scale, except in the social dysfunction subscale.

Finally, we believe that this work can be a starting point for consideration on the perception of mental health status of patients with chronic disease. However, this is a task that requires a collaborative work between health professionals and patients, always aiming for new approaches to education and health education practices.

Thus, we suggest the need to emphasize either health education or therapeutic education in order to provide men and women the necessary information to manage their own health. Hence, according to Rocha (2010), there are several steps, although not necessarily sequential, in the prevention of chronic disease. It is necessary, first, to quantify the impact of disease in the population (frequency, severity, and costs). To understand the underlying disease mechanisms that reveal the best ways to detect it, determine predictive factors and identify potential targets for intervention to reduce the occurrence and development. The next step will be to develop and test intervention strategies. We must then determine whether the interventions are relevant in terms of risks and cost/benefit. Finally, it is necessary to establish and implement guidelines to reduce the possibility of an individual developing chronic disease, and at the population level, to reduce the impact of the disease on the mental health status.

Therefore, it is also suggested that people should be informed and motivated, i.e., providing health education on early and late stages, including children and older people. These attitudes of health promotion help prevent chronic diseases and in the case of users that already suffer from them, they can help them maintain a mental health status which guarantees them a good quality of life. Health promotion can be a means to avoid the risk factors common to most prevalent non transferable chronic diseases, with a disabling and prolonged evolution. Thus, it is recommended a permanent awareness of the adoption of healthier life styles and the primary prevention of risk factors, attitudes and behaviors that may be in the etiology of chronic diseases.

In improving the delivery of healthcare, one measure of success is the extent to which health services can meet the needs and wants of the citizens.

Further implementation of the National Mental Health Plan is thus an absolute requirement in order to actually overcome the serious shortcomings of the mental health system in the country, identified in the Report of the Commission for Restructuring of Mental Health Services, proven by the results the National Survey of Mental Health and underlined in the assessment of WHO.

Strategies to reduce risk factors should undergo through the promotion of a collaborative approach, targeting increased awareness, providing and encouraging healthy, realistic and economically acceptable choices.

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