



Anxiety disorders in elderly in primary care of Primorsko-goranska County

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INTRODUCTION

Anxiety disorders represent a group of diverse medical conditions that are dominated by worry, fear, anxiety, tension, unrest and many others such as conversion and somatization symptoms (1, 3, 4). Anxiety disorder often occurs as a situational disorder and observation allows differentiation of normal, neurotic and psychotic anxiety. They belong to a group of disorders that are, according to MKB 10 (5) and DSM-IV (6) classifications, called **Neurotic, stress-related and somatoform disorders**. Anxiety symptoms of the NSS disorders are clinically significant, inappropriate and inadequate respecting the degree and manifestation, given the state of the person (1). Anxiety disorders are primarily defined and diagnosed as a stand-alone, regarding the time when they are not a part of the symptoms of other mental illness. Although anxiety and anxiety disorders are often accompanied by mental illnesses such as depression, addiction, etc., anxiety disorder is posted as primary diagnosis only when these diseases are excluded or the anxiety disorder preceded and caused some other disorder, such as drug abuse. Basic diagnostic rule for the diagnosis of one of the NSS disorders comes down to determining the occurrence of symptoms and conditions under which it occurs. Psychopharmacotherapy represents the basis of successful treatment of anxiety disorders, but without psychoeducation of the patients and their families, as well as the cognitive-emotional-behavioral therapy, lifestyle changes and basic beliefs of the patients, it is often impossible to cure (6, 7).

Research shows that, at the level of group disorders, the most common disorders are anxiety disorders, followed by mood and somatoform disorders. At the level of individual disorders, the most common ones are the depressive disorders and specific phobias. In the group of anxiety disorders, studies suggest that prevalence is the highest for the phobias and the lowest for the obsessive-compulsive disorder. Large American epidemiological studies show higher prevalence of NSS disorders over mood disorders, such as is found in European studies. Also, it is found that among anxiety disorders the most common ones are phobias and the least present is obsessive-compulsive disorder (17, 18).

Despite the high and often the highest prevalence of anxiety disorders in the general population, only 26.1% of patients who currently suffer from anxiety disorders use formal health services in European countries (19). Health services are more often used by persons with mood disorders (36.5%) than those suffering from anxiety disorders. By the type of treatment received by people who have consulted formal health services for anxiety disorders, 30.8% of people received only

medication treatment, 19.6% only psychological treatment, 26.5% and medication and psychological treatment, and 23.2% were not referred to treatment after the initial consultation (12). The results of European Study of the Epidemiology of mental disorders (EEMD) implied at the significant role of the general practitioner when people with mental disorders seeking help (12, 19, 20). Specifically for anxiety disorders, among people who consulted health services, 31.1% turned only to the general practice doctors, 36% only to mental health professionals (psychologists, psychiatrists, psychotherapists) and 26.2% sought help from both general practice doctors and mental health professionals (12). The treatment of generalized anxiety disorder starts on average 9 years after the first episode of the disorder, for panic disorder average is 10 years, for post-traumatic stress 12 years, for social anxiety 16 years and for the specific phobias even 20 years after their emergence (22).

Medical help is usually sought by the sufferers of panic (14, 22), and generalized anxiety disorder rather than other anxiety disorders (22). Jacobi *et al.* (14) found that, in German population, at the level of mental disorders, help for mental health problems is mostly sought by patients suffering from diseases due to a general medical condition and psychotic disorders. Patients suffering from somatoform disorders seek help the least.

Using the example of generalized anxiety disorder, difficulties which exist while identifying anxiety disorders in primary care are encountered. Primary care physicians recognize and correctly diagnose generalized anxiety disorder in only 30–50% of cases (23, 24). Results of the European study of the epidemiology of mental disorders conducted in 6 European countries, indicates the high comorbidity of different anxiety disorders as well as the high comorbidity of anxiety and mood disorders (26). Patterns of comorbidity were found to be consistent across countries. Approximately 70–80% of people who are suffering from an anxiety disorder over a lifetime have in comorbidity at least one other mental disorder (22). World Health Organization (26) aims to integrate the treatment of mental disorders in primary health care. There has been a considerable discrepancy between the prevalence of mental illness and the number of patients involved in the treatment. By integrating diagnosis and treatment of common mental disorders in primary health care, the number of people receiving treatment for their disease would be increased. Primary health care would, in accordance with the goals of integration, involve the aforementioned identification and treatment of common mental disorders, care for mental difficulties for people with compromised physical, as well as the tasks of promotion and prevention in the field of mental health. Hospital care in specialized psychiatric hospitals should, according to the WHO guidelines, should treat complex clinical pictures, people with greater comorbidities (eg. an intellectual disability in comorbidity), and people without adequate social and family support and clinical treatment which did not show greater improvement (26). From the groups F40–48 from the ICD-10 (4), anxiety, somatoform and adjustment disorder

can be considered common mental disorders because of its high incidence and clinical presentation that often in the light of the other categories of mental disorders are less demanding and can be treated within primary health care. According to the World Health Organization (26), the following can be achieved by including primary health care: a cheaper way of treatment, the treatment becomes more available, i.e. closer to the patients' home and does not interfere with daily and family functioning, reduces stigma (patients suffering from mental illnesses receive equal treatment as do people with physical illness), good results of treatment with connection to the secondary and tertiary levels, reduced family traveling costs to distant hospitals and a holistic approach in treatment and frequent cases of comorbid physical and mental illnesses.

THE AIM, PROBLEMS AND HYPOTHESIS OF THE STUDY

The aim of this study was to determine trends in the treatment of neurotic, stress-related and somatoform disorders (NSS) in primary care in the Primorsko-goranska County in the period from 1995 until 2009 with people aged 65 and over. In order to address the goal of the research, it was necessary to establish the trends in the number of hospitalizations and hospital-supply days for hospital treatment of NSS disorders. They were analyzed in the period between 2001 and 2009.

Subjects, measurement and procedure

The study used data on the treatment of NSS disorders in primary health care and treatment in psychiatric hospitals or wards in the Primorsko-goranska County. The data was taken from the NZZJZ Primorsko-goranska County database on the basis of which the annual health-statistics of Primorsko-goranska County are made. Since the diagnosis of anxiety disorders are the predominant part of the group of the diagnoses NSS (F 40–F 48), and aggregate annual forms done by the PHC were not differentiated in relation to the others in the group, so anxiety disorders were analyzed within the NSS group.

Input data for the database is the data from the completed forms which medical facilities fill in and deliver to the Teaching Institute of Public Health of Primorsko-goranska County and which refer to the Synthesis Report of activity (protection) and Psychiatric form. Data from Synthesis report for activity (protection) is the foundation of a database relating to the PHC clinics, throughout the period from the year 1995 to 2009. Data is cumulative for each calendar year, and is submitted by the doctor's office once a year. The data contains the diagnostic groups, including group NSS (F40–F48) and division by age, but contain no breakdown by sex. Because of the potential comorbidity or changes in diagnosis, the same person can be reported in aggregate form several times with different diagnoses from group F 40–48 and other F diagnoses. This form serves for the analysis of morbidity. Data from the Psychiatric form is the basis for a database that relates to specialized psychiatric care, which is carried out at the

psychiatric hospital wards or in special psychiatric hospitals in treating patients with a primary diagnosis from a group of mental disorders. The form is completed for each patient, and includes information on the diagnosis of the disease for which the patient is being treated, identification data, hospital supply days, the applied method of treatment and other data which are not analyzed in this paper. The problem with the quality of the data collected on the basis of these forms are incompletely or incorrectly filled out forms, which can be partly supplemented and corrected while entering into the database of the Institute.

Statistical analysis will consist of descriptive statistics, χ^2 test and linear regression analysis. In order to determine statistically significant differences and trends, a common value of the probability, lower than 5% (p -value < 0.05), will be used. Statistical analysis will be conducted using statistical software package SPSS for Windows, version 10.0.

RESULTS AND DISCUSSION

Prevalence of anxiety disorders treated in Primary health care

The results showed that the number of people treated in primary health care from NSS is greater than the number of people treated for all other mental disorders, consistently throughout the period from 1995 until 2009, as shown on Figure 1 and Table 1. The number of patients treated in primary care decreases from 1995 to 1999, for both anxiety and other mental disorders, and

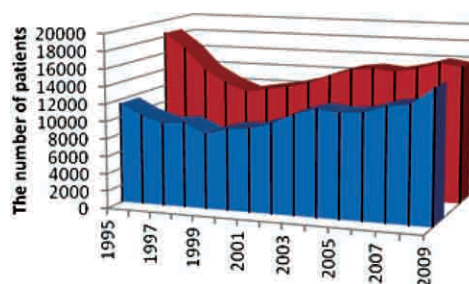


Figure 1. The total number of primary care patients treated by NSS and other mental disorders in the period from 1995 to 2009.

then increases until 2009 for both groups. In the period from 1995 to 1999, the number of people treated for NSS decreases annually, on average, by 1,674 patients.

Table 2 shows the number of patients treated for NSS disorders in relation to a particular age group. The number of people treated for NSS disorder is very low in the age group 0-6 years. It is largest in 1995 when it is up to 18 patients and the lowest in 2005 and 2008 when it dropped down to 5 patients.

In the age group of 65 years and over, it was found that the number of persons treated for other mental disorders in the period from 1995 to 1999 shows no decline or growth trend but annual changes. However, in the period from 1995 to 2000, the number of people treated for NSS disorder decreases for an average of 252 patients per year.

TABLE 1

The number of primary care patients treated for NSS and other mental disorders by age groups (0-6, 7-19, 20-64, = 65) in the period from 1995 to 2009.

| Year | The number of patients treated for NSS disorder by age groups | | | | The number of patients treated for other mental disorders by age groups | | | | The percentage of patients treated for NSS disorders in the total number of patients who suffered from mental disorders by age groups | | | |
|------|---|------|-------|------|---|------|-------|------|---|-------|-------|-------|
| | 0-6 | 7-19 | 20-64 | 65= | 0-6 | 7-19 | 20-64 | 65= | 0-6 | 7-19 | 20-64 | 65= |
| 1995 | 18 | 368 | 13442 | 4612 | 160 | 416 | 8513 | 2466 | 10.11 | 46.94 | 61.23 | 65.16 |
| 1996 | 14 | 239 | 12644 | 3748 | 164 | 382 | 7322 | 2432 | 7.87 | 38.49 | 63.33 | 60.65 |
| 1997 | 6 | 228 | 10303 | 3583 | 147 | 461 | 6733 | 2215 | 3.92 | 33.09 | 60.48 | 61.80 |
| 1998 | 7 | 228 | 9042 | 3457 | 176 | 470 | 6586 | 2527 | 3.83 | 32.66 | 57.86 | 57.77 |
| 1999 | 9 | 237 | 8144 | 3351 | 132 | 405 | 6017 | 2071 | 6.38 | 36.92 | 57.51 | 61.80 |
| 2000 | 9 | 329 | 8478 | 3350 | 183 | 460 | 6467 | 2246 | 4.69 | 41.70 | 56.73 | 59.86 |
| 2001 | 8 | 358 | 8588 | 3601 | 180 | 430 | 6432 | 2494 | 4.26 | 45.43 | 57.18 | 59.08 |
| 2002 | 8 | 166 | 9248 | 3773 | 196 | 494 | 6981 | 2613 | 3.92 | 25.15 | 56.98 | 59.08 |
| 2003 | 13 | 202 | 9786 | 4155 | 247 | 505 | 7857 | 2854 | 5.00 | 28.57 | 55.47 | 59.28 |
| 2004 | 6 | 186 | 10087 | 4677 | 214 | 485 | 8203 | 3280 | 2.73 | 27.72 | 55.15 | 58.78 |
| 2005 | 5 | 205 | 9868 | 5165 | 244 | 446 | 7715 | 3519 | 2.01 | 31.49 | 56.12 | 59.48 |
| 2006 | 8 | 184 | 9971 | 4830 | 275 | 575 | 7593 | 3659 | 2.83 | 24.24 | 56.77 | 56.90 |
| 2007 | 13 | 184 | 9805 | 5485 | 312 | 498 | 8100 | 4018 | 4.00 | 26.98 | 54.76 | 57.72 |
| 2008 | 5 | 186 | 10293 | 5756 | 301 | 584 | 9064 | 3365 | 1.63 | 24.16 | 53.17 | 63.11 |
| 2009 | 9 | 208 | 9987 | 5682 | 346 | 691 | 9742 | 4467 | 2.54 | 23.14 | 50.62 | 55.99 |

TABLE 2

The number of hospital patients treated for NSS-disorder (NSS) and mental disorders (DP), and the percentage of hospitalized patients in the total number of NSS-patients registered in primary health care by age groups (0-6, 7-19, 20-64, 65 =) in the period from 2001 to 2009.

| Year | The number of patients hospitalized for NSS disorder by age groups | | | | The number of patients hospitalized for other mental disorders by age groups | | | | The percentage of hospitalized patients in the total number of patients with anxiety disorders registered in primary health care by age | | | |
|------|--|------|-------|-----|--|------|-------|-----|---|------|-------|------|
| | 0-6 | 7-19 | 20-64 | 65= | 0-6 | 7-19 | 20-64 | 65= | 0-6 | 7-19 | 20-64 | 65= |
| 2001 | 0 | 5 | 77 | 3 | 49 | 65 | 1019 | 168 | 0 | 1,40 | 0,90 | 0,08 |
| 2002 | 0 | 1 | 84 | 6 | 46 | 64 | 1004 | 215 | 0 | 0,60 | 0,91 | 0,16 |
| 2003 | 1 | 2 | 114 | 4 | 61 | 86 | 1087 | 290 | 7,69 | 0,99 | 1,16 | 0,10 |
| 2004 | 3 | 13 | 97 | 3 | 35 | 76 | 939 | 297 | 50 | 6,99 | 0,96 | 0,06 |
| 2005 | 10 | 4 | 135 | 4 | 40 | 55 | 1037 | 274 | 200 | 1,95 | 1,37 | 0,08 |
| 2006 | 1 | 13 | 155 | 4 | 47 | 110 | 1001 | 299 | 12,5 | 7,07 | 1,55 | 0,08 |
| 2007 | 14 | 12 | 183 | 8 | 22 | 55 | 1025 | 299 | 107,69 | 6,52 | 1,87 | 0,15 |
| 2008 | 1 | 13 | 159 | 17 | 52 | 53 | 933 | 304 | 20 | 6,99 | 1,54 | 0,30 |
| 2009 | 0 | 14 | 176 | 7 | 52 | 58 | 976 | 286 | 0 | 6,73 | 1,76 | 0,12 |

From the results of linear regression analysis, it is seen that the number of people treated by NSS disorder shows a linear increasing trend ($R^2 = 0.95$, $F = 152.76$, $p = 0.00$) from 2000 to 2009, and the number of people suffering from other mental disorders shows a linear trend of increase ($R^2 = 0.90$, $F = 73.36$, $p = 0.00$) from 1999 to 2009. According to the resulting linear trend model, the number of treating the NSS disorders increases from 2000 to 2009 by 285 patients per year ($b=285.73$; $t\text{-test}=12.36$, $p=0.00$). The number of treating other mental disorders increases by 216 patients per year ($b=216.22$, $t\text{-test}=8.85$, $p=0.00$). Results of χ^2 test (χ^2 (df = 14) = 270.05, $p = 0.00$) indicate a statistically significant change in the percentage of patients treated for NSS disorders in the total number of patients who suffered from mental disorders in the age group of 65 and over. These percentages range from the highest 65.16% in the year 1996 to the lowest 55.99% in the year 2009.

In general, it was found that among patients treated with primary care for NSS disorder, according to the age structure, the most common patients are between 20 to 64 years old, and are followed by patients 65 years of age and older (Table 2). The next age group, by the total number of primary care patients treated for NSS disorders, is persons aged 7-19 years, and the fewest are the patients aged 0-6 years. The proportion of people aged 20 to 64 in the total number of patients treated for NSS disorders ranges from the highest 75.96% in the 1996 to the lowest 62.87% in 2009. The proportion of people aged 65 or more in the total number of patients treated for NSS disorders ranges from the lowest 22.55% in 1996 to the highest 35.77% in 2009. The prevalence of persons aged 7-19 in the total number of people treated for NSS disorders ranges from 2.85% in 2001 to 1.15% in 2008. The prevalence of persons aged 0 to 6 years old ranges from 0.10% in 1995 to 0.03% (2005. and 2008.). The results of $\div 2$ test ($\div 2$ (df = 42) =

2096.71, $p = 0.00$) show that the age structure of primary care patients treated for NSS disorder changes in the observed period in the way that the representation of persons aged 65 and over increases and representation of patients aged 20-64 years old decreases. The same prevalence of patients treated for NSS disorder by age structure, is also present in the state data (28). The age structure of primary care patients treated for NSS disorders changes over a period of time from 1999 to 2009 by increasing the representation of persons aged 65 and over, and reducing the prevalence of patients 20-64 years old. According to the representation, in relation to the total number of primary care patients treated for mental disorders, patients treated for NSS disorders are most common in the age group from 65 and over, where they make 55.99-65.16% of the total number of people treated for mental disorders in this age group. In addition, according to the proportion of patients treated for NSS disorders in the total number of treated patients, the age groups follow: 20-64 years (50.62-63.33%), 7-19 (23.14-46.94%) and 0-6 years (1.63-10.11%). Data at the state level for 2009. (32) show that the incidence of patients treated for NSS disorders in the total number of treated people is highest in the age group 20-64 (53%), followed by the group 65 and over (50%), a group of 7-19 (19.7%) and a group of 0-6 years (3%).

Comparison of prevalence of anxiety disorders treated in Primary Health Care with those treated in Hospital care

The number of patients hospitalized for NSS disorder in the age group older than 65 years is low, ranging mostly from 3 to 8 patients, except in the 2008. when that number is up to 17 patients. The rates of hospital patients in relation to the total number of patients registered NSS disorders in primary health care, are very low in this age group. These percentages vary (χ^2 (df = 8) = 16.97, $p = 0.03$) and range from the lowest 0.06% in 2004. to the

highest 0.30% in 2008. The results of χ^2 test ($\chi^2(ss=8)=50.86, p=0.00$) show that the percentage of patients hospitalized from other mental disorders in the total number of registered patients in primary health care for the treatment for other mental disorders is changing. It ranges from the highest 16.10% in the 2003. to the lowest 6.40% in 2009., but does not show any sustained downward or upward trend. In regard to percentages of people hospitalized for NSS in the total number of people with anxiety disorders, these percentages are significantly higher from 30 up to 151 times. As it is the case with NSS-treated disorders in primary health care, even within the hospitalization among patients according to the age structure, the most common are those 20–64 years old, and followed by patients from 7 to 19 years old. The next age group is persons aged 65 and over, while the lowest number of patients is the group aged 0–6 years.

DISCUSSION

This arrangement of prevalence is true for most years in the observed period. At some points, the sum of patients, according to the age groups, differs from the total number of patients hospitalized for NSS disorders according to data from TIFPH PGC (29). Also, the differences, except in the case of patients hospitalized for anxiety disorders, occur in the total number of patients hospitalized from mental disorders. This mismatch is due to certain omissions in the records, for example, the same patients were classified several times in different age groups; or the appearance of patients without specifying age groups in which case they do not occur in a particular age group, but only in the total number. In our analysis, we took data from TIFPH PGC about the total number of patients and not the sums on the representation of the different age groups. However, we warn of these irregularities in the records as a suggestion for a more detailed monitoring of received forms and data entry process.

Future research regarding the investigation of the etiology of this small share of hospital treatment in a group of patients aged 65 and over, especially in relation to the NSS disorders, would be very helpful. The Croatian health yearbook for 2009 suggests that these trends of hospital treatment in a group of people older than 65 years may be typical for the Primorsko-goranska County; according to the data, the hospitalization for mental disorders in a group of 60 or more years makes 18.54% of the total number of hospitalizations due to mental disorders (28).

Without studies about real prevalence/incidence of mental disorders in the Croatian population, such as those implemented in other European and world countries based on surveys by households, it is impossible to draw conclusions about the growth of prevalence and incidence, increase or decrease in the number of patients who seek help for their mental health problems. Studies on the precision and accuracy of diagnosis of mental disorders, at least those most frequent and common

(anxiety, mood disorders) in primary health care, are necessary and desirable, too. In addition to the above, it is important to note some methodological limitations when it comes to forms of collecting data on primary health care in the field of treatment of mental disorders. These are not monitored separately as a group of mood disorders (F30-39), but are classified as other mental disorders and behavioral problems. Due to the growing priorities of integration of the treatment of common mental disorders (NSS and mood disorders) into primary health care, this lack in the forms i.e. summary reports of primary health care is obvious. It is impossible to monitor the realization of this priority, if the information on the prevalence of treatment of mood disorders in primary care is not clear and accessible. While some of these disorders can certainly be treated in primary care (anxiety, somatoform), others (reaction to severe stress, dissociative) are presented as severe clinical pictures that may require specialized services and treatment. Therefore, it would be useful to have these disorders recorded in greater detail in the reports of primary health care on morbidity i.e. through all four subgroups of this group (anxiety, reaction to severe stress, dissociative and somatoform). Thus, the available classification of mental disorders in the synthesis report of primary (and specialist) health care is too narrow and a different categorization should be considered, or at the end of reporting in accordance with the existing 10 categories in the ICD-10 (5).

Also, from the data on those suffering from mental disorders in primary care, that is currently managed, it is impossible to conclude what is the annual influx of patients seeking help for the first time due to mental disorders. Therefore, it is difficult to discern what proportion of primary care patients are „long-term“ patients treated over several consecutive years for mental disorders, and what proportion are those seeking health services for the first time. Assuming that people turn for help in emergencies and acute illnesses, when their social, work, family functioning is significantly impaired, one can expect different treatment costs for new patients, compared to long-term patients. Monitoring trends of the number of new patients, in this case, would be necessary for planning resources for mental health care.

Narrower categorization of age groups of patients in the reports of primary health care, would allow researchers easier access to data and conclusions about the increase or decrease in the use of treatment for mental disorders considering patient's age. Research on the extent of the use of health care among patients with mental disorders with respect to their age are necessary, as well as the research on the prevalence of the same in the population, with respect to age and comparison of prevalence and use of health services.

Those suffering from NSS disorders in primary health care are more frequently persons aged 65 and over, and most of them are treated for NSS disorder, while the treatment of other mental disorders is the least represented in this age group. From 2000 until 2009, the number of people treated for NSS disorder, in the age group 65 and

over, showed a linear trend of growth, according to which this number increases up to 285 patients per year. Again, the question comes up whether this increase comes from the prevalence of these diseases in this age group, the increase of the degree of utilization of health services or because of improved diagnosis of mental disorders in old age. So far, the findings indicate that in the group of NSS disorders, panic and obsessive-compulsive disorder are rare in the old age (34). Results for generalized anxiety disorder are inconsistent, and according to them, there is an increase in prevalence with age or the prevalence does not change significantly compared to the younger age. Phobias are likely to decrease with age as well as social phobia (33). Some authors suggest that elder people process emotions differently than younger, that they are less susceptible to negative emotions, less perceptive of negative stimuli and their autonomic nervous system is less responsive to strong emotions (34, 35, 36). This may lead to different presentation of symptoms within the same clinical picture among the elderly, compared to younger, and thus complicate the diagnosis of mental disorders in old age.

CONCLUSION

People suffering from NSS disorders are, with greater frequency, persons aged 65 and over, and this is also the age group in which the treatment of NSS is the most frequent in relation to the treatment of other mental disorders. Shares of patients aged 0-6 and 7-19 are relatively low in the total number of treated NSS disorders in primary care and are in the range of 0:03 to 0:10% in the first group and 1.15 to 2.85% in the second group. In the group of patients aged 20-64, treated by NSS disorders in primary care, in the period from 2004 to 2009 trends are not seen, whether in the direction of an increase or decrease in the number of treatment. In the period from 2000 to 2009, the trend of growth in the number of treatment for NSS disorders in primary care for people aged 65 and over can be seen. According to the trend observed, every year we have 216 patients more in comparison to the previous year.

The number of patients hospitalized for NSS disorder, in the period from 2001 to 2009, ranges from 86 to 203 patients per year. The number of persons hospitalized for NSS disorder, in the period from 2001 to 2007, increases by an average of 19 patients per year. Then, until 2009, there is stagnation.

Research indicates a significant discrepancy between the use of primary care, and extremely small use of hospital care for the treatment of NSS disorders for patients aged 65 and over. This trend could be typical of the Primorsko-goranska County because the state data indicate a larger share of hospital treatment of the elderly in the total number of hospital treatment. Scientific contribution of this research lies in the guidelines for changes in the maintenance of records on the treatment of primary and secondary mental health care that would enable better monitoring of trends in the mental health care.

Accordingly, more accurate and more focused planning of the costs of mental health care and sharing burden between the diagnosis and treatment of primary and secondary levels is needed.

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