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Prevalence and Five-Year Cumulative Incidence of Psychological Distress: the CroHort study

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A B S T R A C T

The aims of this paper are to investigate the change in prevalence of psychological distress (PD), to investigate the cumulative incidence of the psychological distress and to indicate are there any differences between genders and various age groups in Croatian adult population. Psychological distress status was measured by the five-item Mental Health Scale (MHI-5) of the Short Form questionnaire (SF-36). Psychological distress was present in 28.5% (95% CI 25.7%–31.2%) of men and 32.1% (95% CI 30.1%–34.0%) of women in 2003. In 2008 PD was present in 33.0% (95% CI 30.1%–35.9%) of men and 34.1% (95% CI 32.1%–36.0%) of women. The highest incidence of PD, both for men and women, was in the oldest age group (>65 years). Results of this study demonstrating the fact that every third adult men and woman in Croatia are in psychological distress, the fact that there is an increase in PD prevalence for men and women should be taken into account in the future mental health policy planning.

Key words: *psychological distress, prevalence, cumulative incidence, CroHort*

Introduction

The public health significance of mental and behavioral disorders is demonstrated by the fact that they are among the most important causes of morbidity in primary care settings and produce considerable disability[1,2]. According to the World Health Organization's Global Burden of Disease project in 2001[1], one third of the years lived with disability are due to neuropsychiatric disorders and a further 2.1% are associated with intentional injuries. Four of the six leading causes of years lived with disability are due to neuropsychiatric disorders (depression, alcohol use disorders, schizophrenia and bipolar disorders). Depression alone causes over 12% of the years lived with disability globally, and ranks as the third leading contributor to the global burden of disease. More than 150 million persons suffer from depression at any point in time. About 25 million suffer from schizophrenia and more than 90 million suffer from an alcohol or drug related problem. In 2000, more than 1.8 million deaths were attributed to alcohol related risks and 205,000 deaths were attributed to illicit drug use[3].

General population surveys are extremely important when it comes to collecting mental health morbidity data. This is because routinely collected statistics on deaths related to mental health problems do not reflect the reality of mental health. Nor do hospital discharge data. These statistics contain no information on the large numbers of people who suffer from mental health problems but neither die nor are hospitalized as a result[4].

Some instruments measure more generic factors such as 'psychological distress' by recording the presence or absence of some symptoms, such as those of anxiety or depression. This type of instrument produces a mental health score, and for some of them cut-off points can be used to categorize people into groups such as 'probable cases' with mental health disorders. Instruments in this category include the General Health Questionnaire (GHQ) and the five-item Mental Health Scale of the SF-36 (MHI-5) which is a sub-scale of a widely used generic instrument, the Short-Form 36 (SF-36).

Psychological distress (PD) is a non-specific dimension of psychopathology, indicating that something is wrong but does not yield diagnostic assessment, comprised usually of anxiety and depression related distress states[5]. These symptoms are usually measured by 'check-

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lists' which produce a score by adding up the answers to the various questions. Psychological distress is, therefore, a continuous dimension. The symptoms are rather common and could be transient, for example, following a negative or stressful life event. However, most of the time the person does not fit into a psychiatric diagnostic category and probably never will. Those who are defined as having psychiatric disorders, however, do usually also score highly on the psychological distress checklist.

The aims of this paper are to investigate the change in prevalence of PD in a follow up study, to investigate the cumulative incidence of the psychological distress in Croatian adult population and to indicate are there any differences between genders and various age groups.

Materials and Methods

This study was a part of the Croatian Adult Cohort Health Study (CroHort), a repeated cross-sectional survey of adults aimed at providing a comprehensive community health assessment of Croats, including their access to and use of health care services, health status, and determinants of health such as nutrition, physical activity, smoking and alcohol consumption. The sample was first examined in the 2003 CAHS study[6] and re-examined in the 2008 Croatian Adult Cohort Health Study[7]. The sample of this study consisted of 3,229 respondents (1,015 male and 2,214 female) who participated in both Croatian Adult Health Survey 2003 and the follow-up Croatian Adult Health Cohort Study (CroHort) in 2008. They were 18 years or older at the time of the first survey.

Psychological distress status was measured by the five-item Mental Health Scale of the SF-36 (MHI-5)[8,9]. MHI-5 is a well validated and reliable measure of mental health status[10]. MHI-5 has been used to identify mental disorders in the community[11] and clinical samples[12–16]. The 5-item mental health index (MHI-5) of the SF-36 has been reported to correlate highly with the GHQ-12-questionnaire which is a well-established indicator of psychic distress[17,18] as well as with different versions of the SCL questionnaire[19]. With regard to assumed validity, the MHI-5 is equal to a longer version, MHI-18 and another questionnaire GHQ-30 in detecting the mental disorders diagnosed with an established and standardized DIS-interview schedule[20].

The MHI-5 used in CroHort is part of the SF-36 version 2 and comprises five questions relating to the past four weeks: 'Have you been very nervous?' 'Have you felt so down in the dumps that nothing could cheer you up?' 'Have you felt calm and peaceful?' 'Have you felt down-hearted and depressed?' 'Have you been happy?' Each of the five questions has five response categories which are scored from 1 to 5: 'all of the time' 1; 'most of the time' 2; 'some of the time' 3; 'a little of the time' 4; or 'none of the time' 5. Response scores were transformed and imputed missing data to a scale of range 0 to 100 using the standard method of the SF Health Outcomes Scoring Software Ver.1.0.1.[9]. Lower scores on MHI-5 indicate lower mental health status. Psychological distress was determined when MHI-5 score was less or equal to 52[21–23].

The analysis included calculations of the prevalence of PD with 95% confidence intervals (CI). Presence of PD was calculated regarding gender and age group. Pearson's χ^2-test was used for comparison of frequencies. P values less than 0.05 were considered statistically significant. All statistical analyses were carried out with the SAS statistical package ver. 9.1.

Results

Psychological distress was present in 28.5% (95% CI 25.7%–31.2%) of men and 32.1% (95% CI 30.1%–34.0%) of women in 2003, and although observed, the increase in the prevalence was insignificant; in 33.0% (95% CI 30.1%–35.9%) of men and 34.1% (95% CI 32.1%–36.0%) of women PD was present in 2008.

In 2003 there were 693 men without PD; out of them, in 2008, 235 have PD. Out of the male population with PD in 2003, 222 men do not have PD in 2008 and 100 remained in the status of having PD. There is no statistically significant difference between age groups regarding the number of new PD cases (χ^2=1.185, p=0.276), same as for those who ceased having PD in 2008 (χ^2=0.84, p=0.35, Table 1).

Table 2 presents results of the five year cumulative incidence of PD for men. The highest incidence is in the age group of elderly men, two folds higher than in the youngest age group.

In 2003 there were 1537 women without PD, out of them, in 2008, 516 have PD. Out of the female population with PD in 2003, 439 women do not have PD in 2008 and 238 remained in the status of having PD. There is no statistically significant difference between age groups regarding the number of new PD cases (χ^2=1.056, p=0.304), same as for those who ceased having PD in 2008 (χ^2=0.465, p=0.495, Table 3).

TABLE 1
NUMBER OF MEN WITHOUT PD AND WITH PD IN RELATION TO PD STATUS IN 2003

	2003 does not have PD N/%		2003 have PD N/%	
Age group	2008 does not have PD	2008 have PD	2008 does not have PD	2008 have PD
18–34	52/80.0%	13/20.0%	25/89.3%	3/10.7%
35–65	265/67.4%	128/32.6%	120/71.4%	48/28.6%
>65	141/60.0%	94/40.0%	77/61.1%	49/38.9%

TABLE 2
FIVE YEAR INCIDENCE COUNTED PER 1000 INHABITANTS – MEN

Age group	New cases	Total population for incidence calculation	5 year incidence/1000 inhabitants
18–34	13	65	200
35–65	128	393	326
>65	94	235	400

TABLE 3
NUMBER OF WOMEN WITHOUT PD AND WITH PD IN RELATION TO PD STATUS IN 2003

	2003 does not have PD N/%		2003 have PD N/%	
Age group	2008 does not have PD	2008 have PD	2008 does not have PD	2008 have PD
18–34	152/82.6%	32/17.4%	76/77.6%	22/22.4%
35–65	608/71.7%	240/28.3%	249/69.7%	108/30.3%
>65	261/51.7%	244/48.3%	114/51.4%	108/48.6%

TABLE 4
FIVE YEAR INCIDENCE COUNTED PER 1000 INHABITANTS – WOMEN

Age group	New cases	Total population for incidence calculation	5 year incidence/1000 inhabitants
18–34	32	184	174
35–65	240	848	283
>65	244	505	483

Table 4 presents results of the five year cumulative incidence of PD for women. The highest incidence is in the age group of elderly women, two and a half folds higher than in the youngest age group.

Discussion

Survey results based on measures of psychological distress show higher levels of psychological distress, and higher probability of mental ill-health, in women than in men in most countries[4]. Our study shows similar findings demonstrating estimated prevalence of psychological distress (PD) of 33.0% for men and 34.1% for women in general population of adults in Croatia.

The Eurobarometer survey conducted in 17 European countries, which included a measure of psychological distress using the MHI-5 scale, allows for calculation of probable cases of mental ill-health and to compare the risk by gender[4]. In each country except three – Netherlands, Austria and Luxembourg – females have higher risk than males, also confirmed with this study. Results of the PD prevalence for men in Croatia are the highest when compared to other European countries which can be explained by study's sample limitation and cohort design thus persons with PD were more motivated to participate in the follow-up. Results of the PD prevalence for women in Croatia are also among the highest when compared to the Eurobarometer survey (Portugal, Italy and Great Britain have higher prevalences of PD for women). Similar findings are reported for Ireland[24] but small sample size and low response rate limit the generalization of that study's findings. The fact that every third adult men and woman in Croatia are in psychological distress can be explained by post-transitional era along with the beginning of the global recession influencing the socio-economic status at the time of interviewing respondents.

The highest incidence of PD, both for men and women, is in the oldest age group, with 5 year cumulative incidence being 2,8 folds higher for older women and two folds higher for older men when compared to the youngest age group (18–34 years).

It is estimated that the proportion of the European population over 65 will rise from 22% in 2000 to 30% in 2025[25]. The number of oldest old will increase disproportionately. With these changes underway, aging and the special circumstances of older people are taking an increasingly central place in public health. Mental disorders in old age are common, especially when considering life changing events (retirement, potential loss of a partner, social isolation, etc.) that influence mental health well-being. The most serious threats to mental health in old age are posed by depression and dementia[26,27].

These results should be interpreted with acknowledged limitation of the follow-up sample where respondents were significantly older than non-respondents[7] which might influence the results. Also sample of CroHort was not weighted, therefore data from CroHort should be considered informative and analyzed only on national level. Another limitation of this study is that instrument used to assess PD prevalence does not have validated cut off point to differentiate the levels of the PD (e.g. sever psychological distress) that would enable more detailed analysis of the population that are having psychiatric disorders.

Conclusion

Results of this study demonstrating the fact that every third adult men and woman in Croatia are in psychological distress, the fact that there is an increase in PD prevalence for men and women should be taken into account in the future mental health policy planning by the relevant decision makers.

Although, for the most part, those who will experience psychological distress will not require any mental health services, it is still important to have supports available to them to prevent any further deterioration that may at a later date require more intensive service provision. Recent findings show that even mild psychological distress may be associated with more long-term disability than previously acknowledged and its public health importance may be underestimated[28]. The WHO[29] recommends the provision of most mental health services via primary care, especially in low and middle-resourced countries. However, it is recommended that once reasonably well-resourced countries have developed robust primary care services they should then develop mainstream mental health services that liaise effectively with these primary care services[30].

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PREVALENCIJA I PETOGODIŠNJA KUMULATIVNA INCIDENCIJA PSIHOLOŠKE PATNJE: CroHort STUDIJA

SAŽETAK

Ciljevi ovog istraživanja bili su istražiti promjene u prevalenciji psihološke patnje (PP) te istražiti spolne i dobne razlike u kumulativnoj incidenciji PP u odrasloj populaciji Hrvatske. Podaci su dobiveni iz Hrvatske zdravstvene ankete provedene 2003. te ponovljene 2008. godine, a uzorak je Činila kohorta od 3229 ispitanika. Postojanje PP procijenjeno je temeljem Skale mentalnog zdravlja koja je dio SF-36 upitnika. Psihološka patnja utvrđena je u 28,5% (95% CI 25,7%–31,2%) muškaraca i 32,1% (95% CI 30,1%–34,0%) žena za 2003.g. Za 2008.g. PP utvrđena je u 33,0% (95% CI 30,1%–35,9%) muškaraca i 34,1% (95% CI 32,1%–36,0%) žena. Rezultati su pokazali najveću petogodišnju kumulativna incidenciju PP, i za muškarce i za žene, u najstarijoj dobnoj skupini (>65 g.). Rezultati ovog istraživanja koji pokazuju da svaka treća žena i svaki treći muškarac u Hrvatskoj imaju PP te da postoji porast prevalencije PP trebaju poslužiti nadležnim institucijama kao osnova za buduće planiranje politike duševnog zdravlja.