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ORIGINAL ARTICLE

Depressive symptoms among adults 18–69 years in Italy: results from the Italian behavioural risk factor surveillance system, 2007

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Abstract
Background Little is known about the prevalence of depressive symptoms in the Italian general population, nor about help-seeking behaviours among those with depressive symptoms.
Methods We used 2007 data from PASSI, the Italian behavioural risk factor surveillance system, based on telephone interviews of residents aged 18–69 years. A modified version of the Patient Health Questionnaire-2 was used to explore the presence of depressive symptoms. Those with symptoms were asked about whether they had sought help. Association of depressive symptoms with risk factors and self-perceived health was evaluated.
Results 9.4% of the interviewees met the case definition. Risk factors included older age, female sex, low educational attainment, unemployment, financial problems and chronic illnesses. Of those for whom information on help-seeking was available, 47.2% did not seek any help. Depressive symptoms were associated with poorer self-perceived health.
Conclusion Population-based surveillance systems tracking the prevalence of depressive symptoms and associated risk factors and behaviours may offer needed information for planning, implementing and evaluating promotion and prevention interventions capable of reducing the number of people who go on to experience depressive episodes.

Keywords Depressive symptoms · Italy · Survey · Adults

On behalf of the Passi coordinating group.

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Introduction

Epidemiological studies have demonstrated that depressive disorders are highly prevalent in the general population (Alonso et al. 2004a). Given their consequences in terms of morbidity, excessive mortality, and impairment, these disorders represent an important public health problem (Commission of the European Communities 2005; Murray and Lopez 1997). Researchers estimate that by the year 2020, unipolar depression will be second only to ischaemic heart disease as the leading cause of disability adjusted life-years (Murray and Lopez 1997). Furthermore, co-morbid depression can exacerbate effects of other diseases and conditions and has been found to be associated with poor adherence to medication (Gaynes et al. 2002; Renzi et al. 2002). In addition, patients with depression seek medical care for a variety of somatic symptoms, often leading to excess use of medical services (Meltzer et al. 1995).

Many well-controlled studies have demonstrated that effective treatments for depression are available, and timely and appropriate interventions may reduce a considerable amount of unnecessary suffering and disability and decrease the burden of depression on both individuals and health services (Sartorius 2001). However, the majority

of people with depression or other recent episodes of mental illness are neither recognised nor treated adequately (Davidson and Meltzer-Brody 1999), and improving detection of depression in non-psychiatric settings may thus be an important first step in addressing a major public health issue. For this reason, it has been recommended that clinicians and other providers include mood disorders screening as part of routine assessment for other indicators of overall health, such as screening for high blood pressure or for breast and colon cancer (U.S. Preventive Services Task Force 2002).

At the same time, there is also a need to determine the extent of mental health burden and disorders in the general population for public health policy decision. To meet this need, stand-alone surveys can be conducted, although these are often expensive and time consuming. Alternatively, existing surveillance systems that monitor health behaviours can be used to track the prevalence of depressive symptoms and associated risk factors and behaviours in the population and provide an inexpensive means of assessing the need for promotion and prevention interventions. Although such surveillance cannot furnish the level of detail necessary for diagnosis of depression, it can nonetheless provide estimates of those with depressive symptoms to health services and to advocate for services that can reduce the number of people who go on to experience depressive episodes (Williams et al. 2005).

In 2007, we included a depressive symptoms screening module based on the two-item Patient Health Questionnaire (PHQ-2) (Kroenke et al. 2003) in the multipurpose community surveillance system PASSI (the Italian behavioural risk factor surveillance system), which conducts telephone interviews of adults in Italy between the ages of 18 and 69 years. In this paper we present the results for 2007, including the prevalence of individuals who were positive for depressive symptoms as ascertained by the PHQ-2 and their sociodemographic and medical risk factor correlates. We also present the proportion of those who met the case definition and who had not sought help and examine the risk factors for not seeking help. Finally, we examine the relationship between depressive symptoms and health related quality of life.

Methods

This study used data from PASSI, that began in 2007 and is designed to provide data for local and regional decision-making.

The unit of data collection for PASSI is the local health unit (LHU). Each of the 21 Italian regions comprises between 1 and 22 LHUs, which provide preventive and curative services for populations ranging from 40,000 to over a million. Each participating LHU uses the list of residents enrolled in the unit to select a monthly random sample of persons 18–69 years of age ($\geq$25 persons per month per LHU), stratified by six sex-and-age groups, with the size of each stratum proportional to the percentage of the local population in each of the six groups.

Letters are sent in advance to each person selected explaining the purpose of the system and that they will be contacted shortly; their physicians are also informed. Telephone numbers for those chosen are obtained from the enrolment lists, the telephone directory or the person's physician.

At least six attempts are made to call on different days of the week (including weekends) and at different times of day; if they cannot be reached, a substitute from the same sex and age group is selected. Inclusion criteria comprise residence in the LHU area and having a telephone number available; exclusion criteria include inability to understand Italian, inability to participate in the interview, and hospitalisation or institutionalisation.

After briefly explaining the objectives of the interview and obtaining oral consent, specially trained health unit staff conduct the interviews, which cover a wide variety of behavioural and preventive topics and last a median of 20 min. Interviews are conducted using printed questionnaires, with subsequent data entry on a personal computer or using computer assisted telephone interviewing (CATI). In both cases, data are encrypted and transmitted via internet to a common national database. No personal identifiers appear in the database.

Except for age and sex, derived from LHUs archives, all other data are self-reported, and, because of the anonymous nature of data collection, no objective data validation is possible. Data quality is monitored using indicators modelled after international standards (Istituto Nazionale di Statistica 2006; The American Association for Public Opinion Research 2008).

In 2007, 149 of the country's 165 LHUs participated in PASSI; for purposes of the analysis, we pooled the data from the 143 LHUs with sufficient available data (at least 100 interviews during 2007). To construct the pool, weight was calculated for each LHU, taking into account the number of interviews performed in each of the six strata of the unit's sample and the size of the corresponding strata of the LHU's population.

The depressive module of the survey consisted of a series of three questions. The first two were based on the PHQ-2 (Kroenke et al. 2003), which has been validated in various setting, including Italy, where results from the PHQ-2 questions have been compared with the Structured Clinical Interview for DSM-IV axis I (SCID-I) of the Patient Health Questionnaire-9 (Mazzotti et al. 2003). For

purposes of our survey, we used the format and response categories that were adapted by the original developers for use in the United States' Behavioural Risk Factor Surveillance System (BRFSS). In this adaptation, the first question asks how many days in the past 2 weeks that the person had experienced little interest or pleasure in doing things and the second, the number of days in which he or she felt down, depressed or without hope; the response was the number of days between 0 and 14 (Kroenke et al. 2009). In the original version, the question asked instead how often, with response categories of "not at all", "several days", "more than half the days" and "nearly every day". The adapted response set can be converted back to the original response set (Fan et al. 2009). The number of days were recoded on a point scale between 0 and 3 for each of the two questions; 0–1 days were coded as 0, 2–6 as 1, 7–11 as 2 and 12–14 as 3, and the points were then summed. Those with a score $\geq$3 were considered having depressive symptoms (case definition); this value corresponds to that which a criterion validity analysis of the original instrument demonstrated to be optimal for major depression screening purposes (Kroenke et al. 2003).

In the survey, the third question was administered only to those who had ten or more days of either or both symptoms; these individuals were asked with whom they had talked about their problem, with the three options being a health professional, friends or family members, and no one.

Health Related Quality of Life (HRQOL) was measured by the CDC HRQOL-4 (Moriarty et al. 2003) which consists of four questions on current self-rated general health, physical health, mental health and activity limitation. Specifically, self-rated general health was evaluated through the question: "Would you say that in general your health is…?" The response options were "excellent", "good", "fair", "poor" and "very poor". Those who responded "fair", "poor" or "very poor" were classified as persons who perceived their health as bad.

Physical health, mental health and activity limitation were evaluated by means of three questions that asked people for how many days during the past 30 days their physical health was not good, their mental health was not good and they were limited in their usual activities because of poor health status. The mean number of days in poor physical health, mental health or with limitation in usual activities were calculated for both persons who had depressive symptoms and for those who did not.

Statistical analysis were conducted using EpiInfo version 3.5.1 and Stata 9.0, accounting for the complex survey design. We investigated the association between depressive symptoms and sociodemographic characteristics and medical risk factors. Crude and adjusted odds ratios (age, sex, living situation, educational attainment, employment status, economic difficulties, presence of chronic diseases, obesity and area of residence) were calculated using multi-variable logistic regression. We repeated the analysis to investigate help-seeking behaviour and sociodemographic characteristics among those who reported depressive symptoms. A stepwise logistic regression was used to analyse the association between depressive symptoms and self-perceived general health (fair, poor or very poor self-perceived health), adjusting for age, sex, economic problems, obesity and the presence of chronic illness.

As shown in Fig. 1, a total of 22,006 interviews were performed in the participating LHUs during 2007. The response rate, defined as the proportion of interviewed persons divided by the total number of eligible residents, was 86% (22,006/25,634). Of the 14% who did not respond, 10% refused to participate and 4% could not be reached after six different attempts to contact them. After excluding data from those LHUs with insufficient number of interviews (<100), a total of 21,498 records were available for the analysis and data for the first two questions of the depressive symptoms module existed for 20,850 (97%).

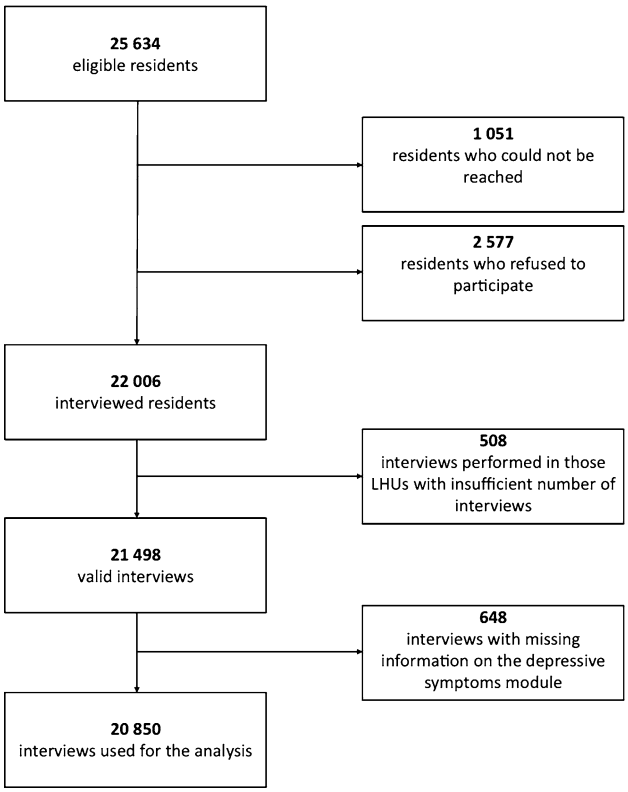

Fig. 1 Participant flow

Results

The characteristics of the study population are shown in Table 1. The age and sex distribution reflect those of the resident population of the participating LHUs. Few (7%) lived alone, and the majority (56%) had at least a high school education. Sixty per cent had a regular job. A total of 14% claimed considerable economic difficulties in arriving to the end of the month with the funds available to them, while 41 and 45%, respectively claimed they had some difficulties or no difficulties. With respect to medical conditions, 11% were obese (body mass index ≥30), and nearly one in five (18%) had at least one chronic disease or condition (diabetes, chronic respiratory disease, previous heart attack or other cardiovascular disease, cancer and renal insufficiency).

Table 1 Sociodemographic and medical characteristics of the population based on data from PASSI, the Italian behavioural risk factor surveillance system, Italy, 2007 ($n = 20{,}850$)

Characteristic	Per cent	95% CI
Age (year)		
18–34	31.5	31.1–31.8
35–49	33.6	33.3–34.0
50–69	34.9	34.5–35.2
Sex		
Male	49.6	49.2–49.9
Female	50.4	50.1–50.8
Living situation		
Lives with others	92.8	92.4–93.2
Lives alone	7.2	6.8–7.6
Educational attainment		
University	13.3	12.7–13.9
High school	42.7	41.9–43.6
Middle school	30.7	29.9–31.5
Primary school or less	13.3	12.8–13.8
Working status		
Works full or part-time	60.6	59.8–61.4
Does not work	39.4	38.6–40.2
Economic difficulties[a]		
None	44.9	44.1–45.8
Some	40.9	40.0–41.7
A lot	14.2	13.5–14.8
Geographic area		
North	39.5	39.2–39.8
Centre	27.5	27.0–27.9
South	33.0	32.8–33.4
At least one chronic disease[b]		
No	81.5	80.8–82.2
Yes	18.5	17.8–19.2
Obese (body mass index ≥30)		
No	88.9	88.3–89.4
Yes	11.1	10.6–11.7

[a] "With the financial resources you have at your disposition, either from your income or from the family, how do you get to the end of the month?" (easily/very easily, with some difficulty, with much difficulty)

[b] Diabetes, chronic respiratory disease, previous heart attack or other cardiovascular disease, cancer and renal insufficiency

A total of 9.4% (95% confidence intervals (CI) 8.9–9.9) met the case definition of depressive symptoms, with prevalence among the 18 participating regions ranging from 4.2% (95% CI 2.7–5.8) in Trento to 11.7% in Lazio (95% CI 9.7–13.8) and 11.9% in Sicily (95% CI 9.3–14.5).

Sociodemographic risk factors associated with depressive symptoms are shown in Table 2. Older age, female sex, living alone, lower educational attainment, financial difficulties, not being regularly employed, obesity and the presence of one or more chronic diseases, were all significantly associated with depressive symptoms, although the strongest associations were observed for female sex, no education or a primary school education, serious financial problems and one or more chronic diseases. A gradient was seen for both education and financial difficulties; the lower the educational level and the greater the financial difficulties, the greater the prevalence of depressive symptoms.

In the multivariate analysis, the odds of depressive symptoms decreased for most of the risk factors (Table 2), especially for age, educational level and employment status, although all, except obesity, remained statistically significant. The greatest risk was associated with having serious financial difficulties (OR 3.6; 95% CI 3.1–4.3), followed by female sex (OR 2.2; 95% CI 1.9–2.5) and having at least one chronic disease (OR 2.1; 95% CI 1.9–2.4).

Of the 1,757 persons meeting the case definition, data on whether they had sought help was available for 1,194. A third (34%) had sought help from a health professional, 13% from family or friends, 6% from both; the remaining 47% had not sought help. The proportion who sought help increased from 43% among those with a depressive symptoms score of 3–61% in those who had the maximum score of 6.

Factors significantly associated with not having talked with either a health professional or a family member or friend were male sex and being regularly employed. Age 18–34 years also emerged as a significant factor for not seeking care, while living alone and having financial difficulties were not statistically associated with seeking help. In a multivariate model including age, sex, employment status, living situation and economic difficulties, the highest risk for not seeking help was seen for males (OR 1.5; 95% CI 1.1–2.0), persons with moderate financial problems (OR 1.4; 95% CI 1.0–2.0), and those with a regular job (OR 1.4; 95% CI 1.0–1.8; Table 3).

Table 2 Prevalence of depressive symptoms as measured by the PHQ-2, by sociodemographic and medical risk factors, PASSI 2007 ($n = 20{,}850$)

Characteristic	Prevalence of depressive symptoms %	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)[c]
Total	9.4 (95% CI 8.9–9.9)	–	–
Age (year)			
18–34	6.7	Referent group	Referent group
35–49	9.2	1.3 (1.1–1.5)	1.2 (1.0–1.5)
50–69	12.1	1.7 (1.5–2.0)	1.1 (0.9–1.3)
Sex			
Male	5.9	Referent group	Referent group
Female	12.8	2.4 (2.1–2.7)	2.2 (1.9–2.5)
Living situation			
Lives alone	12.2	1.4 (1.2–1.7)	1.3 (1.1–1.6)
Lives with others	9.2	Referent group	Referent group
Educational attainment			
Primary school or less	16.9	3.1 (2.4–3.8)	1.5 (1.1–2.0)
Middle school	10.2	1.8 (1.4–2.2)	1.3 (1.0–1.6)
High school	7.7	1.4 (1.1–1.7)	1.3 (1.0–1.6)
University	5.6	Referent group	Referent group
Employment			
Works full or part-time	7.0	Referent group	Referent group
Does not work	13.1	2.0 (1.8–2.4)	1.3 (1.2–1.5)
Economic difficulties[a]			
None	5.7	Referent group	Referent group
Some	9.3	1.6 (1.4–1.9)	1.4 (1.3–1.7)
A lot	21.7	4.7 (4.1–5.5)	3.6 (3.1–4.3)
At least one chronic disease[b]			
Yes	17.8	2.6 (2.3–3.0)	2.1 (1.9–2.4)
No	7.5	Referent group	Referent group
Obese (body mass index $\geq$30)			
Yes	12.9	1.5 (1.2–1.8)	1.1 (0.9–1.3)
No	8.9	Referent group	Referent group
Geographic area			
North	8.2	Referent group	Referent group
Centre	10.3	1.2 (1.0–1.3)	1.1 (0.9–1.3)
South	10.1	1.2 (1.0–1.4)	0.9 (0.8–1.1)

[a] "With the financial resources you have at your disposition, either from your income or from the family, how do you get to the end of the month?" (easily/very easily, with some difficulty, with much difficulty)

[b] Diabetes, chronic respiratory disease, previous heart attack or other cardiovascular disease, cancer and renal insufficiency

[c] Adjusted for age, sex, living situation, educational attainment, employment, economic difficulties, presence of chronic illness, obesity and geographic area

The association between depressive symptoms according to the case definition and self rated general health was high (Table 4). Two-thirds (67%) of those who met the case definition of presence of depressive symptoms described their health during the previous 30 days as fair, poor or very poor, versus less than a third (32%) of those who did not meet the case definition. People with depressive symptoms were 4.2 (95% CI 3.8–4.8) times more likely to perceive a bad health status. In the adjusted model the odds ratio declined to 3.1 (95% CI 2.7–3.5) but having symptoms of depression remained one of the strongest predictors of poor self-perceived health along with older age (OR 4.8; 95% CI 4.3–5.3) and presence of one or more chronic diseases or conditions (OR 3.0; 95% CI 2.8–3.4).

The mean number of days in poor physical health was 10.1 (95% CI 9.4–10.8) for those who were with depressive symptoms versus 2.9 (95% CI 2.8–3.0) for those who were not; the corresponding values for days in poor mental health were 16.3 (95% CI 15.6–16.9) and 2.6 (95% CI 2.5–2.7), respectively. Finally, days of disability were 7.3 (95% CI 6.6–7.9) for those who were with depressive symptoms versus 1.2 (95% CI 1.1–1.3) for those who were not.

Discussion

Our study showed that nearly one in ten Italian adults between the ages of 18 and 69 years had experienced

Table 3 Proportion of persons meeting the case definition who did not seek help, by age, sex, living situation, employment status and economic difficulties, PASSI 2007 ($n = 1{,}194$)

Characteristic	Persons who did not seek help %	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95%CI)[b]
Total	47.2 (95% CI 44.0–50.4)	–	–
Age (year)			
18–34	50.3	1.4 (1.0–2.0)	1.2 (0.8–1.7)
35–49	49.3	1.4 (1.0–1.8)	1.1 (0.8–1.6)
50–69	44.8	Referent group	Referent group
Sex			
Male	50.9	1.5 (1.2–2.0)	1.5 (1.1–2.0)
Female	45.5	Referent group	Referent group
Living situation			
Lives alone	40.5	Referent group	Referent group
Lives with others	48.0	1.3 (0.8–1.9)	1.3 (0.8–1.9)
Employment			
Works full or part-time	53.3	1.5 (1.2–2.0)	1.4 (1.0–1.8)
Does not work	43.0	Referent group	Referent group
Economic difficulties[a]			
None	47.6	Referent group	Referent group
Some	53.7	1.4 (0.9–1.9)	1.4 (1.0–2.0)
A lot	40.3	0.9 (0.6–1.2)	0.9 (0.6–1.3)

[a] "With the financial resources you have at your disposition, either from your income or from the family, how do you get to the end of the month?" (easily/very easily, with some difficulty, with much difficulty)

[b] Adjusted for age, sex, living situation, employment status, economic difficulties

Table 4 Proportion of persons who described their health during the last 30 days as fair, poor or very poor, by presence of depressive symptoms (according to the case definition), age, sex, economic difficulties, presence of a chronic disease and obesity, PASSI 2007 ($n = 20{,}839$)

Characteristic	Persons who perceived their general health as bad (%)	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95%CI)[c]
Total	35.2 (95% CI 34.4–36.0)	–	–
With depressive symptoms (according to the case definition)			
Yes	67.4	4.2 (3.8–4.8)	3.1 (2.7–3.5)
No	31.9	Referent group	Referent group
Age (year)			
18–34	16.1	Referent group	Referent group
35–49	33.6	2.4 (2.2–2.6)	2.3 (2.1–2.5)
50–69	54.0	5.9 (5.3–6.4)	4.8 (4.3–5.3)
Sex			
Male	29.6	Referent group	Referent group
Female	40.7	1.6 (1.5–1.7)	1.6 (1.5–1.7)
Economic difficulties[a]			
None	26.7	Referent group	Referent group
Some	38.2	1.7 (1.6–1.8)	1.6 (1.5–1.7)
A lot	53.9	3.3 (2.7–3.4)	2.4 (2.2–2.7)
At least one chronic disease[b]			
Yes	65.9	4.5 (4.2–4.9)	3.0 (2.8–3.3)
No	28.2	Referent group	Referent group
Obese (body mass index $\geq$30)			
Yes	51.9	2.1 (1.9–2.3)	1.3 (1.2–1.5)
No	33.1	Referent group	Referent group

[a] "With the financial resources you have at your disposition, either from your income or from the family, how do you get to the end of the month?" (easily/very easily, with some difficulty, with much difficulty)

[b] Diabetes, chronic respiratory disease, previous heart attack or other cardiovascular disease, cancer and renal insufficiency

[c] Adjusted for age, sex, economic difficulties, presence of at least one chronic illness and obesity

symptoms meeting the case definition of depressive symptoms, and the most important risk factors included female sex, low educational attainment, having serious economic problems and having one or more chronic disease or condition. The study also demonstrated that almost half had not talked with anyone about their problems, with the most important risk factors being male sex, having moderate financial problems, and having a regular

job. Finally, we found a strong association between depressive symptoms and health-related quality of life.

With some exceptions (Ayuso-Mateos et al. 2001; Carta et al. 1991; Mavreas et al. 1986), our results reveal a prevalence generally higher than those reported by other European epidemiological studies that used a similar reference period (from 1 week to 1 month) (Bijl et al. 1998; Faravelli et al. 2004; Gigantesco et al. 2006; de Girolamo et al. 2006; Jenkins et al. 2003). The rates of mood disorders in those studies ranged from 2.3% in Great Britain to 7.3% in Norway. In Italy the prevalence of any current mood disorder reported by the European Study on Epidemiology of Mental Disorders (ESEMeD) was 1.5% (de Girolamo et al. 2006). However, most have used more detailed diagnostic instruments that permitted patients to be classified as having clinical depression (Lewis et al. 1992; Wing et al. 1990) rather than depressive symptoms as detected by the brief two-question screen used in our study. It is therefore not surprising that the prevalence of formally diagnosed depression is lower than that of depressive symptoms. In addition, comparability is limited since previous studies from Italy and other European countries have used different study populations and sampling frames, refer to different time intervals, and most were done several years ago.

Other studies which have been conducted using screening instruments reported similar rates. For example, our finding is similar to the prevalence of 9.1% recently reported in the United States by the BRFSS in which the screening instrument was the PHQ-8 (Kroenke et al. 2009).

Although the prevalence observed in our study was not strictly comparable with that of other studies, the associations of demographic variables with depressive symptoms in our study are similar to those observed in previous studies of depression. Overall, prevalence of mental disorders is commonly found to be higher in women than men, and this is almost always true for depression (Bebbington 1998). The prevalence of major depression among women in different studies has typically been between one and a half and three times that of men (Kessler 2003), and a meta-analysis of European studies conducted using the GHQ or the CIDI concluded that the risk of depressive disorder was twice as high among women (Fryers et al. 2004).

The association between depressive symptoms and level of education and financial difficulties has also been observed in previous community surveys, with higher likelihood for mood disorders in individuals who have lower education and who are unemployed. Consistent with the results in many other surveys, individuals with chronic diseases or conditions have significantly higher risk of depressive symptoms in the present survey (Alonso et al. 2004a; de Girolamo et al. 2006; WHO International Consortium in Psychiatric Epidemiology 2000).

Our results show low levels of seeking help for depressive symptoms that are consistent with results from many other countries (Wang et al. 2007). In Europe, the ESEMeD project (Alonso et al. 2004b) demonstrated that among individuals who had experienced a mental disorder within the past 12 months, only about one in four reported using formal health services, and that Italy had the lowest usage of health services among the six participating European countries.

Particularly noteworthy in our survey is the significantly lower probability of seeking care among men. Other studies have shown that among females, contact rates were generally higher (Alonso et al. 2004b; Bebbington et al. 2000). In the UK, for example, women were 70% more likely than men to contact their family doctor with a mental health problem, even after controlling for the severity of mental illness (Bebbington et al. 2000). Possible reasons for this patterns may be stigma, denial and failure to perceive need for help.

Our findings that working persons are more likely not to have sought help is consistent with findings of the National Survey of Psychiatric Morbidity, recently conducted in the UK (Bebbington et al. 2000). The failure to seek help by those who are working may be influenced by their judgement about being in need of help or treatment, but it may also indicate that the demands of work prevent attention to health needs (Bebbington et al. 2003).

The reason why persons with moderate financial difficulties were less likely to seek help than those with no difficulties or severe difficulties is not clear, especially since mental health services in Italy are free. Further research is needed to improve our understanding of modifiable barriers to treatment in this group.

The strong association observed between depressive symptoms and self-perceived general health has been also reported elsewhere. Recently the ESEMeD study (Alonso et al. 2004c) demonstrated that mental disorders have strong effects on perceived poor health status, with the effect often stronger than that of common physical disorders.

Limitations of our study include lack of information on help-seeking behaviours among 32% of those who met the case definition of depressive symptoms, which was due to the difficulty of providing an appropriate skip pattern on printed questionnaires. Those who reported $\geq$10 days with either symptom were asked to answer the question about care, but it is possible to meet the case definition with fewer days in both categories. The bias in our results is towards those with higher scores; the mean score for those of whom the question was not asked was 3.5 (on a 6-point scale), while it was 4.7 for those of whom it was asked. Thus, the overall proportion of seeking help is probably lower than the value we observed.

A minor limitation of this study was that it focused on measures of individual disorder and impairment, without consideration of positive function or regard to factors that shape mental health and well-being. While results from our survey represent a useful starting point, a more nuanced understanding of the relationship between contextual factors and culture could strengthen the capacity of monitoring systems to assess mental health more accurately. Indeed, a recent trend in psychological and psychiatric research has been to investigate factors that strengthen resilience among individuals at risk for mental disorders (Bernat and Resnick 2006), though the challenge remains of how to translate this emerging research in positive function, resilience, and culture into indicators that can be monitored over time and used to guide policy and public health programme development (United States Department of Health and Human Services 1999).

In conclusion, the data in the present study confirm that having depressive symptoms is a common condition among working-age adults in Italy, although it is likely that only the minority are recognised and appropriately advised and treated. Our findings suggest that formal recommendations for the screening of mental disorders in non-psychiatric settings may be useful.

It is worth noting, however, that to be effective, the screening should be coupled with a services system that ensures adequate treatment and follow-up. Screening and feedback alone may increase recognition of depression but generally have only small benefits on clinical outcome (Pignone et al. 2002). Further effort is required to clarify what can be done at local and national level to minimise the failure in seeking help and treatment.

Finally, it is worth noting that population-based surveys and surveillance systems containing valid measures of mental health may improve our understanding of its relationship to behavioural risk factors, lifestyle patterns, personal behaviours and social determinants, and offer needed information for planning public health promotion and prevention interventions (Williams et al. 2005).

Keypoints

- Using the PHQ-2, one in 11 (9.4%) of Italian adults 18–69 years of age meet the case definition of presence of depressive symptoms
- Factors associated with depressive symptoms include older age, female sex, low educational attainment, financial problems, chronic diseases or illnesses and being unemployed
- More than half do not seek help, and of those seeking help, a minority have sought professional assistance
- A strong association was seen between depressive symptoms and self-perceived general health.

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Conflicts of interest statement None declared.

Appendix

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