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The Lifetime Prevalence and Socio-Demographic Correlations of Major Depressive Episodes in Tunisian Primary Care Settings

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Abstract

Objective: Planning prevention and treatment programs for depression should be based on the study of the epidemiological profile of depression in the region. The aim of this study was to assess the lifetime prevalence and socio-demographic correlations of Major Depressive Episodes (MDE) among patients consulting in primary care settings.

Method: This is an epidemiological study involving patients consulting a general practitioner in Tunisia during a 12 months period. The study was carried using a questionnaire assessing the socio-demographic characteristics of patients and the E section of CIDI 2.1 translated and validated in Tunisian dialect.

Results: The number of included patients was 1309. The lifetime prevalence of MDE was 11% and their frequency was significantly correlated with female sex and divorced status.

Conclusion: These results can be helpful in developing an epidemiological profile of depression in Tunisian socio-cultural context and highlight the need to provide training on depressive disorders to caregivers in the primary care settings.

Keywords: Major depressive episode; Prevalence; Primary care; CIDI; Tunisia

Introduction

Depressive disorders are among the most common disorders in the general population. A meta-analysis of estimates from 17 studies in the general population found that the prevalence of depression over one year ranged from 3 to 10% with a median of 6.9%. The economic cost of depressive disorders is also high, in fact, it was estimated to be comparable to the cost of diabetes or heart diseases. In addition, depression induces a significant decrease in labor productivity and by 2020, it will be the second leading cause of disability in the world. The severity of depression is also due to its mortality, since nearly 70% of people who die by suicide suffer from depression, often undiagnosed or untreated [1-6].

Limiting this impact is nevertheless possible through the planning of prevention and treatment programs for depression. These programs are based on public information and on improving screening and management of depression especially in general practice. In fact, depression is gradually becoming a social issue and a challenge for general practice. According to the study DEPRES, more than two out of five persons with depression have not seen a doctor, and when they seek for medical advice, they turn more frequently to their general practioner than to a psychiatrist [7].

Planning prevention and treatment programs for depression must take into account the sociocultural context and should then be based on the study of the epidemiological profile of depression in the region. Given the absence of published studies on this profile in Tunisia, this work aimed to assess the lifetime prevalence and socio-demographic correlations of Major Depressive Episodes (MDE) among patients consulting in Tunisian primary care settings.

Methods

This is a non-interventional descriptive epidemiological study.

Study Population

Target population

This study was conducted in different regions of Tunisia and involved patients who consulted a general practitioner for any reason from 21 July 2009 (first patient enrolled) to 15 June 2010 (last patient completed).

Sample size

The sample size was calculated so that it can describe the profile of patients diagnosed as having a MDE. A minimum level of MDE lifetime prevalence of 8% was considered (p=0.08) with an accuracy (i) equal to 1/5. Using the formula $N = 1.96^2 p (1-p) / i$, we found that 1150 patients had to be recruited [2].

Selection criteria

The inclusion criteria were an age ≥ 18 years and the ability to answer the questionnaire. This ability was evaluated by the interviewer and was based on two criteria: understanding of the Tunisian dialect

and not having a severe cognitive impairment. Patients were excluded from the study if they were considered as a threat for the doctor security (substance abuse, agitation, aggressiveness) or if their health state was evaluated as an emergency.

Assessment instruments

The study was carried using a questionnaire divided into two parts: The first part concerned socio-demographic characteristics (sex, age, marital status, place of residence, educational level and professional activity) and the second part consisted of the "E section" of the Composite International Diagnostic Interview (CIDI) version 2.1. We used this interview because its "E section" about depressive disorders is translated and validated in Tunisian dialect. After data entry in ishell program, MDE diagnosis was obtained according to ICD-10 criteria [8].

Interviewers

This study was proposed to 80 general practitioners randomly selected, each one having to administer the test to at least 15 consultants which would give 1200 patients. 62 of them agreed to participate and 57 completed the study. All participants received training on: the history of the CIDI, epidemiological benefit of using the CIDI, how to use the CIDI and the modalities of the investigation. This training was provided using journals' articles, the instructions' manual of the CIDI and the research protocol. Participants were divided into three groups and each group received training for a half-day. At the end of training, at least two interviews were carried among participants themselves, and then each participant had to carry one or more interviews with a family member, a co-worker or a consultant. After each week, data of all participants were collected by the research team and a meeting took place in order to discuss the difficulties encountered by the participants.

Ethical considerations

Patients were recruited only after obtaining their free and informed consent. The anonymity of patients and the confidentiality were respected. Whenever a diagnosis of MDE was found during the evaluation, a specific follow-up was proposed.

Results

A total number of 7406 patients consulted during the screening days and 1309 of them were included in the study.

Socio-demographic characteristics of patients (Table 1)

parameters		number	percentage
sex	male	605	46.2%
	female	704	53.8%
age	< 25 years	119	9.1%
	25 - 34 years	300	22.9%
	35 - 44 years	343	26.2%
	45 - 54 years	270	20.6%
	55 - 64 years	161	12.3%
	65 - 74 years	89	6.8%
	≥ 75 years	27	2.1%
marital status	single	296	22.6%
	married	910	69.5%
	divorced	39	3.0%
	widow	64	4.9%
place of residence	urban	1144	87.4%
	rural	165	12.6%
educational level	illiterate	107	8.2%
	Primary school	275	21.0%
	Secondary school	531	40.6%
	University	396	30.3%
professional activity	independent profession	223	17.0%
	senior manager	177	13.5%
	middle manager	174	13.3%
	employee	105	8.0%
	worker	142	10.8%
	not active	488	37.3%

Table 1: Socio-demographic characteristics of patients

The age of patients was 44.3 ± 14.5 years and they were female in 53.8% of cases. A married status was found in 69.5% of cases and an urban residence in 87.4% of cases. The educational level was secondary school in 40.6% of cases and 37.3% of patients were without professional activity.

Lifetime prevalence and socio-demographic correlations of MDE among patients (Table 2).

The total number of MDE was 144 and concerned 11% of patients. MDE were significantly more frequent in women than in men ($p < 0.001$) and their prevalence was significantly higher among divorced patients ($p<0.001$). The lifetime prevalence of MDE was not significantly correlated with age, place of residence, educational level or professional activity.

parameters		number of MDE	percentage	p
sex	male	42	6.9%	< 0.001
	female	102	14.5%	
age	< 25 years	13	10.9%	NS
	25 - 34 years	36	12.0%	
	35 - 44 years	48	14.0%	

	45 - 54 years	23	8.5%	
	55 - 64 years	15	9.3%	
	65 - 74 years	5	5.6%	
	≥ 75 years	4	14.8%	
marital status	single	38	12.8%	< 0.001
	married	86	9.5%	
	divorced	13	33.3%	
	widow	7	10.9%	
place of residence	urban	128	11.2%	NS
	rural	16	9.7%	
educational level	illiterate	13	12.1%	NS
	Primary school	29	10.5%	
	Secondary school	63	11.9%	
	University	39	9.8%	
professional activity	independent profession	13	5.8%	NS
	senior manager	19	10.7%	
	middle manager	18	10.3%	
	employee	10	9.5%	
	worker	19	13.4%	
	not active	65	13.3%	

Table 2: Lifetime prevalence and socio-demographic correlations of MDE among patients

Discussion

Drawing up an epidemiological profile for major depressive disorder allows planning prevention and treatment programs adapted to the study area. Given the absence of published data on this profile in Tunisia, this study aimed to assess the lifetime prevalence and socio-demographic correlations of MDE among patients consulting in Tunisian primary care settings. A survey of 1309 patients during one year was conducted. The E section of the CIDI 2.1 translated and validated in Tunisian dialect was used for the diagnosis of MDE. The average age of patients was 44 ± 14.5 years with predominance of female sex, urban origin and married status. The lifetime prevalence of MDE was 11%. Their frequency was significantly correlated with female sex and divorced status. There was no significant difference in terms of age, place of residence, educational level and professional activity.

Lifetime Prevalence of MDE

The lifetime prevalence of MDE in general medical practice in this study was 11%. Comparing this result with those of epidemiological studies in different countries around the world must take into account differences in methodology, particularly concerning the study population and the assessment tool.

In fact, several epidemiological studies have also used CIDI for screening MDE in the general population: the Canadian Community Health Survey, which was the first national study in Canada to use a full version of the CIDI, found a MDE lifetime prevalence of 12.2%. However, other studies have found higher rates such as 29.6% in Montreal. In the USA, The National Comorbidity Survey (NCS) conducted between 1990 and 1992 on a sample of 8098 people found a MDE lifetime prevalence of 14.9%. The National Comorbidity Survey-Replication (NCS-R) conducted between 2001 and 2002 on a sample of 9090 people found a MDE lifetime prevalence of 16.2%. In Latin America, lower rates were described such as 4.6% in a Puerto Rican national survey and 10% in a Brazilian study. In the European Study of the Epidemiology of Mental Disorders (ESEMeD), the WMH-CIDI was used for a sample of 21425 people from six European countries (Belgium, France, Germany, Italy, the Netherlands and Spain) and the MDE lifetime prevalence was 12.8%. The Netherlands Mental Health Survey and Incidence Study (NEMESIS) in which 7076 people were interviewed, the CIDI was used and the MDE lifetime prevalence was 15.4%. In a Norwegian psychiatric epidemiological study using a random sample of 2066 subjects found a MDE lifetime prevalence of 17.8%. Few studies in Africa and Asia have been carried with the CIDI and the MDE prevalence in these studies were lower ranging from 6.2% in United Arab Emirates to 2.7% in Ethiopia and 3% in Japan [9-20].

Additional epidemiological studies have used other assessment instruments for MDE than the CIDI, such as the Primary Care Evaluation of Mental Disorders Patient Questionnaire (PRIME-MD PQ): a Belgian study concerning 2316 randomly selected patients reported a MDE lifetime prevalence of 13.9%, a spnish study estimated the lifetime prevalence of MDE at 26.5% and an american study found a lifetime prevalence of 18.9%. Other studies have used the Mini International Neuropsychiatric Interview (MINI): In France, the survey « Santé Mentale en Population Générale » (SMPG), estimated MDE lifetime prevalence at 5.6%6 and in Uganda a lifetime prevalence of 5.4% was found. Other studies have used the Patient Health Questionnaire (PHQ): the National Health and Nutrition Examination Survey (NHANES) conducted from 2005 to 2008 in the United States which found a lifetime prevalence of 16.2%, while other studies have found lower prevalence such as 9% in Germany and 9.1% in France [21-26].

This discrepancy between the results could be explained by the differences between samples in terms of size and characteristics, the use of different assessment instruments and the particularities of each region.

Factors Associated to MDE

Sex

In this study, MDE were significantly more frequent in women than in men. In fact, most of studies have reported that women were more likely than men to be depressed. In France, these findings were highlighted through the surveys Health Barometer (HB) and SMPG.

Similar results were found by surveys carried in Australia, New Zealand, Saudi Arabia, Ethiopia, Taiwan, Puerto Rico, and Brazil [6,13,14,19,27-33].

This difference between the sexes in rates of depression would appear at the age of puberty and subsides after menopause which highlights the complex interactions between biological, psychological and socio-cultural factors. Alcoholism, which is more common in men, is in some cases a depressive equivalent and a different mode of expression. It can be a way to escape from the epidemiological studies on depression. Then Zurich study defined the number of symptoms to diagnose depression as 5 out of 8 in women and 3 out of 8 in men. Despite this adjustment of the diagnostic criteria, the prevalence of depression remained lower in men compared to women. Another study comparing results from the Zurich Study and the NCS-R found that the gender differences were due to the somatic symptoms rather than the number of symptoms and were greater for somatic than for atypical depression [34-37].

Age

The prevalence of MDE in this study was not significantly correlated with age. The same result has been reported by other studies in Japan, in Ethiopia and in South Korea. However, several other studies have reported different results: a study conducted in Liverpool, a French study and the HUNT study found that MDE were more common in patients older than 65 years. On the contrary, in the HB study, the authors concluded that patients aged of 15-24 years would be more vulnerable to depression than those over 65 years. [19,29,38-42]. In a Canadian study, it was found that young people had more depression with 5% of patients younger than 25 years having a MDE compared to only 1.9% over the age of 65 years. This decrease in the lifetime prevalence of major depressive disorders in older adults was explained by a more psychological stability after 65 years and by an age-related difference in the lifetime prevalence of sub threshold hypomania. In addition, depression often goes unnoticed in the elderly, indeed, some symptoms such as loss of motivation, fatigue and isolation can be attributed to aging. Furthermore, some measurement tools such as the CIDI are based on remembering which can be considered as a bias in the elderly [43-45].

Marital status

Another factor correlated with the prevalence of MDE in this study was the divorced status. Similarly, the French study HB found that MDE were more common among divorced (14.5%) than widowed (10.8%), single (8.8%) and married (5.9%) people. In the NEMESIS and in the ESEMeD,46 it has been found that living alone was associated with an increased risk of psychiatric disorders including depression. Results from the Canadian National Population Health Survey were in favor of a high prevalence of MDE in separated, divorced and widowed people. This difference can be explained by the existence of an increased risk of marital breakdown in patients with depression as well as a real increased risk of depression in separated people [16,29,46,47].

Place of residence

The lifetime prevalence of MDE in this study was not significantly correlated with the place of residence. Several epidemiological studies have found similar results. Other studies, such as the ESEMeDand the ODIN studies, found higher prevalence of MDE in urban areas. This lower prevalence of depression in rural areas can be explained by the lack of healthcare professionals to consult for mental problems. By cons, other studies have reported a higher prevalence of MDE in rural areas, which can be due to the fact that individuals living in rural areas have more chronic diseases, lower personal resources, lower level of education and higher rates of unemployment, characteristics which are strongly associated with depression[31,48-53].

Educational level

The prevalence of MDE in this study was not correlated with the level of education of participants. Several studies have found a similar result but others have retained a positive correlation between the prevalence of MDE and a low educational level. NCS and NCS-R found that the MDE were significantly more frequent in patients with an educational level less than 12 years. This finding was also reported by Ukrainian and Brazilian studies [9,1,12,14,15,54,55].

Professional activity

The prevalence of MDE in this study was not correlated with the professional activity. In contrast to this result, a positive correlation between the absence of a professional activity and the occurrence of depression was reported in the NEMESIS, [16] the ESEMeD [15] and the HB [29] studies, supporting thereby the hypothesis of a protective role of work in depression. An explanation for these findings would be that Major depressions have a negative impact on all types of activities [56] which could lead to a less professional activity. This discrepancy between these study findings and the results of our study could be explained by the fact that the CIDI allows the evaluation of the professional activity over the last 12 months while in the other studies the considered professional activity is concomitant to depression.

Limitations of the Study

The ultimate goal of this study was to have an epidemiological profile of depression in Tunisia. However, assessment concerned only patients consulting in primary care settings which may be a bias. In addition, understanding the Tunisian dialect was necessary to be included in the study while this dialect is not known by all Tunisian people and is different from one region to another. Finally, lifetime prevalence estimates are vulnerable to recall bias and can be too low if they are retrospectively assessed [57].

Conclusion

The results of this study suggest that depression is a common disorder in primary care settings in Tunisia. They also draw an epidemiological profile of the most vulnerable people to this disorder in Tunisian sociocultural context. It seems relevant and urgent to provide an appropriate training on depressive disorders to caregivers in the primary care settings in order to improve the detection and therefore the treatment of patients with depression.

Conflict of interest

The authors indicated no conflicts of interest

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