Journal of Affective Disorders 120 (2010) 158–164

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

Depression in adult Nigerians: Results from the Nigerian Survey of Mental Health and Well-being

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ARTICLE INFO

Article history:
Received 5 September 2008
Received in revised form 9 April 2009
Accepted 27 April 2009
Available online 17 May 2009

Keywords:
Depression
Prevalence
Comorbidity
Disability
Treatment

ABSTRACT

Background: Community-based studies of the rates and profile of depression among Africans are still sparse.
Methods: As part of the World Mental Health Surveys initiative, a clustered multi-stage sampling of households in 21 of Nigeria's 36 states (representing 57% of the national population) was implemented to select adults aged 18 years and over ($N = 6752$) for face-to-face interviews using the Composite International Diagnostic Interview (CIDI 3.0). Diagnosis of major depressive episode (MDE) was based on the criteria of the Diagnostic and Statistical Manual, 4th edition.
Results: Lifetime and 12-month estimates of MDE were 3.1% (standard error 0.3) and 1.1% (s.e. 0.1), receptively. Increasing age was associated with higher estimates of positive responses to stem (screen) questions for depression and of lifetime disorders among stem-positive respondents. The mean age of onset was about 29.2 years. The median (inter quantile range, IQR) duration of an episode among lifetime cases was 1.0 (2.0–2.4) year and the median (IQR) number of lifetime episodes was 1.5 (2.0–2.8). MDE was highly comorbid with anxiety disorders, musculoskeletal conditions, chronic pain and ulcer. The odds ratio of lifetime suicide attempt among persons with lifetime MDE was 11.6 (95% confidence interval, 3.9–34.9). Over 25% of 12-month cases were rated as severely disabled in the performance of usual roles. Only 16.9% (s.e. 5.0) of 12-month cases had received any treatment.
Limitations: All data were based on self-reports.
Conclusion: MDE, defined according to DSM-IV, is a risk factor for mental and physical comorbidity as well as disability in Nigerians. Age-related telescoping or denial may partly explain the low rates in this young population.

1. Introduction

Depression in Africans has received varied attention from investigators. Early reports by alien psychiatrists suggested that Africans did not suffer from depression with some of such workers ascribing such rarity to deficits in brain development or some moral failure (Carothers, 1951). Later reports have claimed that depression often presents with atypical features and that the identification of depression in Africans is made difficult because of patients' tendency to present with multiple unexplained medical symptoms (Patel et al., 2001).

However, recent studies, especially those conducted with standardized ascertainment tools, have shown that some of the earlier claims are probably mistaken. Such studies have shown that depression is common in African populations and can be identified with the use of appropriately translated tools (Orley and Wing, 1979; Tomlinson et al., 2007). Reports of multi-country studies in which comparable ascertainment tools were used have shown that, while indeed rates do vary among different populations, no supporting empirical evidence can be found for the claim that somatic presentation makes depressive disorder unique or peculiar among to

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doi:10.1016/j.jad.2009.04.030

Africans (Gureje et al., 1997; Simon et al., 1999; Demyttenaere et al., 2004; Kessler et al., 2007).

In reviewing the literature of depression in sub-Saharan Africa, Tomlinson and colleagues have pointed out that, beyond the need to avoid the usual tendency to "exoticise" issues relating to the condition, more data is needed about its nature and correlates in sub-Saharan Africa (Tomlinson et al., 2007). In this report, we present data from a large community study of adult Nigerian in which standardized ascertainment procedures were used. We report on the prevalence of MDE, its comorbidity with both other mental disorders and with physical conditions as well as the receipt of care by affected persons.

2. Methods

An account of the methodology of the Nigerian Survey of Mental Health and Well-being has been provided in an earlier report based on data from a component of the study (Gureje et al., 2006, 2007a,b).

2.1. Sample

We used a four-stage area probability sample of households to select respondents aged 18 years and over. The survey was conducted in 21 of Nigeria's 36 states. Collectively, these states represent about 57% of the national population. The surveys were conducted in Yoruba, Igbo, Hausa and Efik languages. In the final stage of the selection, which was conducted during the interview phase of the survey, interviewers obtained a full listing of all residents in each of the randomly selected households from an informant. After identifying household residents whom were aged 18 years or over and were fluent in the language of the study, a probability procedure was used to select one respondent to be interviewed. The Kish table selection method (Kish, 1965) was used to select one eligible person as the respondent. On the basis of this selection procedure, face-to-face interviews were carried out on 6752 respondents. The overall response rate was 79.3%.

Field work was conducted between February 2002 and May 2003. The survey was administered in two parts. Part I consisted of a core of diagnoses and was administered to all respondents. Part II consisted of sections for the assessment of risk factors, consequences and correlates of disorders as well as a few non-core disorders. Part II was administered to respondents who met lifetime part I disorders plus a probability sub-sample of other respondents. The resulting total Part II sample was 2143.

The survey was approved by the University of Ibadan/University College Hospital, Ibadan Joint Ethical Review Board.

2.2. Measures

Diagnostic assessment was made with the use of the World Health Organization's (WHO) Composite International Diagnostic Interview (CIDI), Version 3 (Kessler and Ustun, 2004). The CIDI is a fully structured diagnostic interview that is lay-administered and can generate diagnoses according to both the ICD-10 and DSM-IV criteria. We have used earlier versions of the CIDI in Yoruba (Gureje et al., 1995). The language versions of the CIDI used in the present survey were derived, as in the earlier Yoruba versions, using standard protocols of iterative back translation conducted by panels of bilingual experts. The CIDI primarily ascertains lifetime disorders. For respondents with lifetime occurrence of a disorder, follow-up questions allow a determination of whether they have also experienced such disorders in the prior 12 months. Other than major depressive episode, we also ascertained the occurrence of other mood disorders (dysthymia and bipolar disorder), anxiety disorders (panic disorder, generalized anxiety disorder, agoraphobia without panic disorder, specific phobia, social phobia, post-traumatic disorder, obsessive–compulsive disorder), and substance use disorders (alcohol and drug abuse and dependence). DSM-IV organic exclusion rules were applied to all diagnoses and so were hierarchy rules except in the case of substance use disorders where abuse is defined with or without dependence. Respondents were also asked for the occurrence of a range of common chronic medical conditions: heart disease, hypertension, respiratory conditions, diabetes, peptic ulcer, arthritis, and other chronic pain conditions.

We inquired about receipt of treatment. For every diagnostic category that a respondent was interviewed about, they were asked whether they had "talked to a medical doctor or other professional" about the disorder. The respondent was told that "other professionals", included "psychologists, counselors, spiritual advisors, herbalists, acupuncturists, and any other healing professionals." Respondents who reported ever seeking care from a professional about the disorder in question were then asked for details of which professional they had contacted.

An assessment of role impairment due to depression was conducted with the Sheehan Disability Scale (SDS) (Sheehan et al., 1996) for persons with 12-month MDE. The SDS was used to assess the extent to which work, household activities, relationships, and social roles were affected by depression in the worst month in the past year. A visual analogue scale was used to score responses: none (0), mild (1–3), moderate (4–6), severe (7–9) and very severe (10). Respondents with 12-month MDE were also asked for the total number of days in the prior 365 days when they were totally unable to carry out usual activities.

2.3. Data analysis

In order to take account of the stratified multistage sampling procedure and the associated clustering, weights have been derived and applied to the rates presented in this report. The first weighting adjusts for the probability of selection within households and for non-response. Also, post-stratification to the target sex and age range were made to adjust for differences between the sample and the total Nigerian population (according to 2000 United Nations projections). The weight so derived, termed "part1 weight", was normalized to reset the sum of weights back to the original sample size of 6752.

A second weight, termed "part2 weight" was also derived and applied to a probability sub-sample of the survey sample who completed the long form of the interview ($N = 2143$), or part II. The part2 weight is a product of part1 weight as well as the empirical probability of selection into the group with the

Table 1
Prevalence of life-time and 12-month MDE.

Diagnosis (12 months or LT)	Cohorts	Total ($N=6752$) %(s.e.)	Females ($N=3437$) %(s.e.)	Males ($N=3315$) %(s.e.)
12-month MDE	18–34	1.1(0.2)	1.0(0.3)	1.2(0.3)
	35–49	0.9(0.3)	1.1(0.4)	0.6(0.4)
	50–64	1.2(0.4)	1.4(0.5)	1.1(0.6)
	65+	1.4(0.6)	0.5(0.3)	2.5(1.1)
	All ages	1.1(0.1)	1.1(0.2)	1.1(0.2)
	3 *df* significance test across cohorts	$X^2=1.4$, $p=0.712$, $df=3$	$X^2=2.5$, $p=0.484$, $df=3$	$X^2=3.3$, $p=0.348$, $df=3$
LT MDD	18–34	2.4(0.3)	2.4(0.5)	2.3(0.4)
	35–49	3.7(0.7)	4.3(1.0)	3.0(0.8)
	50–64	4.5(0.5)	5.7(0.8)	3.1(0.7)
	65+	4.9(1.1)	4.2(1.3)	5.6(1.6)
	All ages	3.1(0.3)	3.5(0.4)	2.8(0.3)
	3 *df* significance test across cohorts	$X^2=16.7$*, $p=0.001$, $df=3$	$X^2=16.7$*, $p=0.001$, $df=3$	$X^2=4.6$, $p=0.207$, $df=3$

* Significant at the 0.05 level.

long interview. This probability varied according to the presence or absence of selected diagnostic symptoms. Thus, all persons who endorsed a set of diagnostic symptoms in the part I of the interview were selected into Part II with certainty (i.e. probability = 1.0). All others were randomly selected into Part II with a constant probability of 25%. The weight was then normalized to reset the sum of weights back to the sample size of 2143. Table 1 shows the age and sex distribution of the sample, weighted and unweighted, compared to the national profile (according to the 2000 United Nations projections from the last national census held in 1991).

The analysis has taken account of the complex sample design and weighting. Thus, we used the Taylor series linearization method implemented with the SUDAAN statis-

Table 2
Prevalence of life-time and 12-month MDE among stem-positive for depression.

Diagnosis (12-month or lifetime)	Cohorts	Total ($N=6752$) %(s.e.)	Females ($N=3437$) %(s.e.)	Males ($N=3315$) %(s.e.)	1 *df* test between gender[a]
% stem positive for MDE	18–34	59.2 (1.2)	58.2 (1.6)	60.3 (1.6)	$X^2=1.0$, $p=0.311$, $df=1$
	35–49	71.1 (1.6)	71.8 (2.1)	70.4 (2.1)	$X^2=0.3$, $p=0.594$, $df=1$
	50–64	71.9 (1.6)	74.6 (1.7)	69.0 (2.7)	$X^2=3.3$, $p=0.073$, $df=1$
	65+	74.7 (2.2)	75.4 (3.0)	73.8 (2.6)	$X^2=0.2$, $p=0.661$, $df=1$
	All ages	64.9 (0.9)	65.0 (1.1)	64.8 (1.1)	$X^2=0.0$, $p=0.890$, $df=1$
	3 *df* significance test across cohorts[a]	$X^2=65.7$[b], $p=0.000$, $df=3$	$X^2=63.8$[b], $p=0.000$, $df=3$	$X^2=22.0$[b], $p=0.000$, $df=3$	
Among stem positive, % LT prevalence	18–34	4.0 (0.6)	4.1 (0.8)	3.8 (0.6)	$X^2=0.1$, $p=0.753$, $df=1$
	35–49	5.2 (0.9)	6.0 (1.3)	4.3 (1.1)	$X^2=1.4$, $p=0.250$, $df=1$
	50–64	6.2 (0.7)	7.7 (1.1)	4.6 (1.1)	$X^2=3.2$, $p=0.079$, $df=1$
	65+	6.5 (1.5)	5.6 (1.8)	7.6 (2.1)	$X^2=0.6$, $p=0.432$, $df=1$
	All ages	4.8 (0.4)	5.3 (0.6)	4.3 (0.5)	$X^2=2.3$, $p=0.135$, $df=1$
	3 *df* significance test across cohorts[a]	$X^2=8.3$[b], $p=0.049$, $df=3$	$X^2=8.2$, $p=0.052$, $df=3$	$X^2=3.0$, $p=0.400$, $df=3$	
Among stem positive, % 12-month prevalence	18–34	1.8 (0.4)	1.7 (0.6)	1.9 (0.5)	$X^2=0.1$, $p=0.782$, $df=1$
	35–49	1.2 (0.4)	1.5 (0.5)	0.9 (0.5)	$X^2=0.8$, $p=0.385$, $df=1$
	50–64	1.7 (0.6)	1.9 (0.7)	1.6 (0.9)	$X^2=0.1$, $p=0.763$, $df=1$
	65+	1.9 (0.8)	0.7 (0.4)	3.4 (1.5)	$X^2=3.3$, $p=0.073$, $df=1$
	All ages	1.7 (0.2)	1.6 (0.3)	1.7 (0.3)	$X^2=0.0$, $p=0.901$, $df=1$
	3 *df* significance test across cohorts[a]	$X^2=1.6$, $p=0.661$, $df=3$	$X^2=3.5$, $p=0.333$, $df=3$	$X^2=3.8$, $p=0.299$, $df=3$	

[a] 3 *df* tests for significant difference across age groups and 1 *df* test for significance difference across genders.
[b] Significant at the 0.05 level.

Table 3
Mean disability ratings and days out of role among persons with 12-month major depressive episode by age and sex.

Diagnosis (12 month or LT)	Cohorts	Total	Females	Males	1 *df* test between gender[1]
		Mean(s.e.) $N=59$	Mean(s.e.) $N=25$	Mean(s.e.) $N=34$	
Mean Sheehan score, global	18–34	2.9(0.9)	3.1(1.6)	2.8(1.0)	$X^2=0.0$, $p=0.883$, $df=1$
	35–49	4.5(1.2)	4.2(1.1)	5.0(1.9)	$X^2=0.2$, $p=0.622$, $df=1$
	50–64	1.1(0.6)	1.5(1.0)	0.6(0.6)	$X^2=0.7$, $p=0.404$, $df=1$
	65+	0.9(0.9)	0.0(0.0)	1.1(1.1)	$X^2=1.0$, $p=0.311$, $df=1$
	All ages	2.6(0.6)	2.8(0.9)	2.5(0.7)	$X^2=0.1$, $p=0.782$, $df=1$
	3 *df* significance test across cohorts[1]	$X^2=7.1$, $p=0.068$, $df=3$	$X^2=19.8$*, $p=0.000$, $df=3$	$X^2=7.6$, $p=0.056$, $df=3$	
Mean days out of role	18–34	17.7(8.9)	24.3(16.0)	11.6(9.4)	$X^2=0.5$, $p=0.497$, $df=1$
	35–49	6.2(4.0)	0.0(0.0)	12.4(5.2)	$X^2=5.7$*, $p=0.017$, $df=1$
	50–64	3.1(2.0)	4.8(3.4)	0.9(0.9)	$X^2=1.3$, $p=0.263$, $df=1$
	65+	0.0(0.0)	0.0(0.0)	0.0(0.0)	–
	All ages	10.9(4.9)	13.8(8.4)	8.1(5.1)	$X^2=0.3$, $p=0.560$, $df=1$
	3 df significance test across cohorts[1]	$X^2=8.3$*, $p=0.040$, $df=3$	$X^2=4.4$, $p=0.113$, $df=2$	$X^2=8.1$*, $p=0.045$, $df=3$	

[1] 3 df tests for significant difference across age groups; 1 df test for significance difference across genders; * Significant at the 0.05 level.

tical package to estimate standard errors for proportions (SUDAAN, 2002). Demographic correlates were explored with logistic regression analysis (Hosmer and Lemeshow, 2000) and the estimates of standard errors of the Odds Ratio (ORs) obtained were made with the SUDAAN. All of the confidence intervals reported are adjusted for design effects.

3. Results

3.1. Prevalence, disability and socio-demographic attributes

The lifetime prevalence of MDE was 3.1% while that of 12-month was 1.1% (Table 1). There were no cohort or gender differences in the 12-month prevalence. However, the lifetime prevalence for the cohort aged 50–64 years among females (5.7%) was significantly higher than that among males (3.1%). There were significant differences in the lifetime estimates across the cohorts among both males and females: the lowest rates occurred in the cohort aged 18–34 years in both sexes while the highest rate was found in the cohort aged 65 years and over in males and in the cohort aged 50–64 years in females.

Considering the relatively low rates of lifetime and 12-month disorders, we explored further the prevalence of a positive response to the screening or stem questions for depression as well as the proportions of stem-positive respondents who reported lifetime or 12-month disorders. The stem questions asked respondents about a period in their lifetime when, for several days, they felt depressed, discouraged, or lost interest in usually pleasurable activities. Table 2 shows that about 65% of the respondents gave a positive answer to one of the stem questions. There was a significant trend for increasing proportions of positive response with increasing age in both males and females. Among stem-positive respondents, 4.8% and 1.7% received lifetime and 12-month diagnosis, respectively. The probability of lifetime diagnosis among stem-positive respondents increased with age. In the total sample, while only 4.0% of stem-positive respondents in the age group 18–34 years received lifetime diagnosis, 6.5% did so among stem-positive respondents aged 65 years and over. The trend for the proportions of lifetime diagnosis among stem-positive respondents to increase with age was significant for the total sample but not for either females or males even though the pattern was clear for either of the sexes. 12-month diagnosis among stem-positive respondents did not bear any obvious relationship with age.

Among cases with 12-month MDE, the mean age of onset for the entire sample was 29.2 (s.e. 1.1) years; 30.4 (1.4) years for females and 27.7 (1.2) years for males. Reported mean age of onset increased linearly from 21.4 (0.8) years in the cohort aged 18–34 years to 44.8 (3.0) years in the cohort 65 years and above ($p<0.001$). The median (inter quantile range, IQR) duration of an episode among lifetime cases was 1.0 (2.0–2.4) year and the median (IQR) number of lifetime episodes was 1.5 (2.0–2.8). The respective means (s.e.) were 2.3 (0.2) years and 5.6 (1.1) episodes.

The presence of MDE was associated with considerable disability in the sample. Among the total 12-month cases, 22.7% were rated as severely disabled, scoring 7 or higher on any of the four domains of the Sheehan Disability Schedule (SDS). Among such cases, the mean SDS score was 2.6 which translates to the upper end of the mild severity rating (Table 3). There was a cohort effect on the association of disability with MDE, with the cohort aged 35–49 years rating

Table 4
Comorbidities of major depressive episode (MDE) with mental disorders and suicidal behavior.

12 month disorders	All ages $N=76$	
	%[a](s.e.)	OR[b](CI)
Any anxiety disorder	18.6(5.6)	5.9*(2.7–12.7)
Any substance use disorder	8.4(4.4)	–(–)
Any impulse disorder[c]	4.6(4.4)	–(–)
Any disorder	21.6(6.0)	5.6*(2.7–11.6)
Suicidal ideation	19.9(7.5)	7.5*(2.8–20.2)
Suicide plan	14.5(6.4)	18.8*(5.4–65.4)
Suicide attempt	7.3(2.7)	11.6(3.9–34.9)

* Significant at the 0.05 level.
[a] % of cases with 12-month MDE who have corresponding diagnosis.
[b] ORs are estimating the likelihood of each dx with 12-month MDE as predictor, controlling for demographics (sex, education, marital status); Odds ratios are not presented for the cells where the count of respondents less than 15, or the count of respondents with a physical illness is less than 5.
[c] Any impulse disorder includes intermittent explosive disorder but only among persons 18–44 years old.

most disabled and that aged 65 years and over rating least disabled. However, this effect was only significant among females. This cohort effect was observed for all of the four domains of the SDS (close relationships, work, home, and social role) and was significant for each of the domains among females and among males (data not shown but available on request). On average, the presence of MDE led to about 11 days out of role in the year prior to interview. Males in the cohort aged 35–49 years had a significantly higher number of days out of role than their female counterparts. Among females, the youngest cohort aged 18–34 years tended to experience more days out of role while, among males, those in the cohorts aged 18–34 years as well as those aged 35–49 years experienced more days out of role.

In the entire sample, gender, educational level, marital status or income were not significantly related to the presence of 12-month MDE. (Data not shown but available on request).

3.2. Comorbidities

Table 4 shows the association of MDE with anxiety, substance use and impulse disorders as well as with suicidality. Persons with MDE were about 6 times more likely to also have a co-occurring anxiety disorder. Small numbers precluded the estimation of risks for substance use and impulse disorders. The odds ratios for a suicidal outcome of ideation, plan or attempt were 7.5, 11.6 and 18.8 respectively. Persons with MDE also had elevated risks for a range of physical disorders (data not shown but available on request): ulcer (OR 5.2, 95% CI 2.0–13.3), musculoskeletal disorder (OR 2.6, 95% CI 1.4–4.8), and any chronic pain condition (OR 2.5, 95% CI 1.4–4.7). Among persons with 3 or more physical conditions, the risk of comorbid depression was 4.6 (95% CI 2.3–9.2).

3.3. Receipt of treatment and its predictors

Among the 12-month cases, 16.9% (s.e. 5.0) had received treatment from a health professional as described in the Methods section. Controlling for sex and educational level, the presence of 12-month MDE was a significant predictor of receiving any treatment (OR = 26.3; 95% CI 11.9–58.4). Most of those who had received any treatment had done so from general medical practitioners: 12.4% of 12-month cases had received treatment from such professionals while only 4.0% and 4.1% had received treatment from specialist mental health services and from other (mainly human) services, respectively. None of sex, education, marital status, income and severity of symptoms as measured with the SDS significantly predicted receipt of treatment for 12-month MDE. (Data not shown but available on request).

4. Discussion

In this large community study of adults drawn from more than one-half of the Nigerian population, we found a lifetime prevalence of MDE to be 3.1% and a 12-month prevalence of 1.1%. The mean age of onset was over 29 years. MDE is a chronic and recurring illness with a median duration of about 1 year and a median lifetime episodes of 5.6. Persons affected were more likely than those who were not to have anxiety disorders, musculoskeletal conditions, chronic pain and ulcer. They were also at elevated risk for suicidal behaviours. MDE is a seriously disabling disorder with most affected persons experiencing some degree of disablement and more than 25% being severely limited in their ability to meet daily functional roles. Unfortunately, only a minority had received any form of treatment, most of these persons doing so from general medical practitioners and rarely from specialist mental health services. Unmet need for service cut across the spectrum of socio-economic and severity profile.

The results of our survey should be considered in the context of its limitations. Mental disorders are highly stigmatized in the Nigerian community (Gureje et al., 2005) and it is likely that some denial of symptoms might have occurred as a result of embarrassment thus making the possibility of a large false negative quite real and significant. Second, in a community survey of adults, with a mean age of about 30 years, it is possible that persons with mental disorders constitute the bulk of our non-response principally due to their reluctance to participate. Even though our response rate is high, the possibility exists that non-responders might have disproportionate number of persons with mental disorders. Third, we found that the reported age of onset significantly increased with increasing age at interview, an observation that suggests some degree of age-related telescoping (Kessler et al., 2005). All of these factors would suggest that the rates reported here are conservative. Lastly, the associations of depression with common physical conditions may have been influenced by reporting errors since the presence of these conditions were based on self-reports.

The observed rates are considerably smaller than reported in several other surveys in which similar ascertainment procedures had been used (Demyttenaere et al., 2004). For example, the lifetime and 12-month estimates of DSM-IV MDD in South Africa were 9.8% and 4.9% respectively (Stein et al., 2008; Williams et al., 2008). They are also much less than were found in another large community-based study of elderly persons, conducted in the south-western and north-central parts of the country (Gureje et al., 2007a,b). In that survey, the lifetime and 12-month rates of 25% and 7%, respectively, were found. Other than the telescoping referred to above, another factor that may have genuinely produced a lower rate in the current sample was age at onset of MDE. The average age of the entire sample in this survey was about 35 years. However, the mean age of onset was almost 30 years, suggesting that a large proportion of the respondents had not lived through the age at which the greatest risk of onset of MDE could occur. The observation that stem-positive responses as well as estimates of lifetime disorder but not those of 12-month disorder increased with increasing age could support either a telescoping effect or a true age-related difference in prevalence. Previous (or lifetime) episodes are more likely to be affected by recall problem than current (12-month) episodes. The difference in the associations of lifetime and 12-month estimates with age would suggest that age-related denial is probably not the explanation for our low rates. On the other hand, 12-month disorder was only possible in those with lifetime history. Thus, denial or lack of it was more likely to affect the rates of lifetime disorder. Whatever is the explanation, the relatively

low rates of DSM-IV major depression in an adult population as reported here are in consonance with an earlier observation made in a large cross-national survey in primary care (Gureje et al., 1995).

We found that depression in this population is as disabling as others have described in other cultural settings. More than one-quarter of persons with a 12-month diagnosis of MDE were rated as severely disabled on a scale that allows such ratings to be made within the cultural context of the respondents and among persons with little or no formal education. The mean score of all persons with 12-month MDE suggests at least a mild degree of disability and the mean number of days out of role in the previous year was about 11. The disorder is also commonly comorbid with, not only other mental disorders such as anxiety disorders, but also with physical disorders. The risk for a comorbid anxiety disorder was indeed only marginally higher than the risk for a comorbid peptic ulcer in this relatively young population. The association of depression with chronic pain, a common observation in many studies (Fishbain et al., 1997; Gureje et al., 2008), was also found in this sample. All of these factors, as well as a 12-fold increased risk for suicide attempt among lifetime cases, suggest a need for effective intervention for the disorder. However, depressed persons in this population, even though more likely to have received a consultation for mental health problem than those without depression, are grossly underserved. Only about 17%, that is less than 1 in 5 persons, with 12-month disorder had received any form of mental health treatment, including service from complementary alternative service. This low level of receipt of care may be due to several factors, including lack of awareness about the medical nature of depression and the stigma that may be associated with the receipt of care for mental health problems. Still, a prominent reason for the unmet need for care is likely to be the difficulty in accessing relevant service. Mental health service is grossly under-resourced in Nigeria and most of the available services are located in a few urban areas. Most of those who had received any treatment had done so from general practitioners, a finding not dissimilar to those of others elsewhere (Wang et al., 2007). However, previous studies in Nigeria have shown that, due to inadequate training, primary care providers rarely offer adequate treatment for common mental disorders (Abiodun, 1993; Gureje et al., 1995). Most patients with such disorders are given sleeping pills or vitamins and very few depressed patients receive antidepressant prescriptions.

In interpreting our findings, we draw on the predominant understanding of the nosological status of depression. Since there is no immutable taxon of the disorder (Flett et al., 1997; Ruscio and Ruscio, 2000), the exiting diagnostic categories in either the DSM or ICD classifications (WHO, 1992; APA, 1994) being only convenient approximations of reality designed to aid the use of a common language in psychiatry, differences in rates across populations and cultures are inevitable. Such variability could result from reporting styles and from differential thresholds among groups in their acknowledgment that a particular emotional feeling constitutes a symptom or is regarded as a problem (Simon et al., 2002). Indeed, research evidence supports the dimensionality of depression (Ruscio and Ruscio, 2000). Cutting that dimension at any particular point is a matter of consensus rather than a reflection of a fixed and natural point of transition from normality to disorder. Our findings suggest that, albeit with these well-known imperfections, the DSM-IV diagnostic construct of MDE nevertheless has salience in the population that we studied and cannot be regarded as an inapplicable western construct.

Role of the funding source

WHO had no role in the study design, in the collection, analysis and interpretation of the report.

Conflict of interest

There are no actual or potential conflicts of interest that could inappropriately influence or be perceived to influence this work.

Acknowledgement

Funding for the NSMHW was provided by World Health Organization, Geneva and the WHO country office in Nigeria. Collaborating investigators include O. Gureje, principal investigator; Drs R. Uwakwe, O. Udofia, A. Wakil, N. Enyidah, M. Ekpo and O. Adeyemi. The NSMHW is carried out in conjunction with the WHO World Mental Health Survey Initiative. We thank the WMH coordinating staff both for their assistance with instrumentation and for their consultation on field procedures and data analysis. These activities were supported by the United States National Institute of Mental Health (R01MH070884), the John D. and Catherine T. MacArthur Foundation, the Pfizer Foundation, the US Public Health Service (R13-MH066849, R01-MH069864, and R01 DA016558), the Fogarty International Center (FIRCA R01-TW006481), the Pan American Health Organization, the Eli Lilly & Company Foundation, Ortho-McNeil Pharmaceutical, Inc., GlaxoSmithKline, Sanofi Aventis and Bristol-Myers Squibb. A complete list of WMH publications can be found at http://www.hcp.med.harvard.edu/wmh/.

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