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ORIGINAL PAPER

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Use of mental health services in a developing country

Results from the Nigerian survey of mental health and well-being

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Abstract *Background* Evidence from developed industrialized countries suggests poor uptake of mental health services. No data exist in developing resource-constrained countries about met and unmet need for mental health service in the community. *Method* A four-stage stratified probability sample of households was studied in the Yoruba-speaking part of Nigeria (population, approximately 25 million people or 22% of the Nigerian national population). Face-to-face interviews were conducted with persons 18 years old and above (n=4,984) using the World Mental Health version of the Composite International Diagnostic Interview. We determined the proportions of respondents with 12-month *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) anxiety, mood, or substance use disorder who had received any mental health treatment and the correlates of treatment receipt. *Results* Only 9.0% of those with any 12-month DSM-IV disorder had received treatment. While 11% of those with a mood disorder had received some treatment, none of those with substance use disorders had used a mental health service. Most treatments were received from general medical settings, with only about 1% of those with DSM-IV disorders who were treated receiving specialist mental health service. Surprisingly, complementary or alternative health providers were also consulted by only about 4% of those with treated mental disorders, although a much higher proportion of 57% of those with no DSM-IV disorders but who nevertheless received mental health treatment did so from such providers. Irrespective of the disorders or the sector where treatment was received, virtually no treatment was adjudged minimally adequate. *Conclusion* There is a striking level of unmet need for mental health service in the community in this developing country setting. While inadequacy of the formal public health sector may be partly responsible for this observation, there is the likelihood that receipt of treatment for mental health problems may also be hampered by the public's poor knowledge of the nature of the disorders and by stigma.

Key words mental health – service – use – Nigeria – developing

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Introduction

Evidence derived from rich industrialized countries suggests that unmet need for treatment of mental disorders is a major problem in the community. Studies conducted in North America and Western Europe show that, while marked differences exist in the pattern and correlates of service use between countries, underuse of services by individuals with mental disorders is widespread [1–4].

Information is sparse on met and unmet needs for mental health service among representative samples in communities within developing countries in general [5, 6] and virtually nonexistent in African countries specifically. The few studies from developing countries, some of them on very highly selected samples, suggest that the pattern and nature of access to service in developing countries are different from those of developed countries, and that access is generally poorer [7–10]. Resources are, of course, scarce in developing countries. However, factors other than resources may also determine receipt of care for mental disorders. Awareness that impairment is a medical problem and that effective intervention exists for the problem may determine whether persons with mental disorders will seek care. Poor knowledge of and negative attitude to mental illness in the community, which are often

widespread in some developing countries [11], may prevent persons with disorders from seeking help.

In this report, we present data from the first large-scale epidemiological survey of mental disorders in Nigeria to highlight pattern and determinants of mental health service use in the community. The project was undertaken as a part of the World Health Organization (WHO) World Mental Health (WMH) Surveys initiative [1].

Methods

Sample

We used a four-stage area probability sample of households to select respondents aged 18 years old and above. The survey was conducted in the Yoruba-speaking areas of Nigeria, consisting of eight states in the southwestern and north central regions (Lagos, Ogun, Osun, Oyo, Ondo, Ekiti, Kogi, and Kwara). These states, with a total population of approximately 25 million people, account for about 22% of the Nigerian population.

In the first stage of the sampling, an ordered list of all local government areas (LGAs) representing the Primary Sampling Units (PSUs) in the states was stratified according to population size. Systematic selection of 40 such PSUs was then made, with probability of selection proportional to size. Next, four Enumeration Areas (EAs) were selected from each PSU. EAs are a creation of the National Population Commission and are geographic units of the LGA, with each consisting of between 50 and 70 housing units.

All selected EAs were visited by research interviewers prior to the interview phase of the survey, and an enumeration and listing of all the household units contained therein were conducted. A national census was last conducted in the country in 1991, and a listing of current households was not available from official sources. Our presurvey enumeration involved physical counting of all households in each selected EA. 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 who were aged 18 years old or above and were fluent in the language of the study (Yoruba), a probability procedure was used to select one respondent to be interviewed. The Kish table selection method 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 4,984 respondents between February and November 2002. The response rate was 79.9%. 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 noncore disorders. Part II was administered to respondents who met lifetime part I disorders plus a probability subsample of other respondents. In the event, the total Part II sample was 1,682. 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).

Respondents were informed about the study and provided consent, mostly verbal but sometimes signed, before interviews were conducted. The survey was approved by the University of Ibadan/University college hospital and the Ibadan Joint Ethical Review Board.

Measures

Diagnostic assessment was made with the use of the Yoruba version of the WHO's WMH Survey Initiative version of the Composite International Diagnostic Interview (CIDI) [1]. The focus of this report was on treatment for *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) 12-month disorders. The disorders were anxiety disorders (panic disorder, generalized anxiety disorder, agoraphobia without panic disorder, specific phobia, social phobia, posttraumatic disorder, and obsessive–compulsive disorders), mood disorders (major depressive disorder, dysthymia, and bipolar 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 as with or without dependence.

Table 1 Demographic distribution of the sample compared to the population on poststratification variables

	Part II		Census (%)
	Unweighted (%)	Weighted (%)	
Age (years)			
18–29	29.5	42.2	42.2
30–44	33.9	31.5	31.5
45–59	17.0	16.6	16.6
60+	19.7	9.8	9.9
Sex			
Male	46.1	49.0	49.0
Female	53.9	51.0	51.0

Twelve-month use of mental health service

All Part II respondents were asked whether they ever received treatment for "problems with your emotions or nerves or your use of alcohol or drugs." Respondents were asked whether they had consulted any of a range of health providers in the previous 12 months as well as about the number and duration of such visits or consultations. Responses to these questions were used to classify service use in the 12-month period into the following categories: psychiatrist, nonpsychiatrist mental health specialist (psychologist or other nonpsychiatrist mental health professional in any setting, social worker, or mental health counselor), general medical provider (primary care doctor, other general medical doctor, nurse, and other health professional not previously mentioned), human services professional (mostly informal religious or spiritual advisors), and complementary–alternative medicine professional (particularly a traditional healer or any other type of healer). However, in view of very sparse numbers, we have presented this report using three larger groups that were created by combining psychiatrist and nonpsychiatrist specialist categories into a Mental Health Specialty (MHS) group, the latter and general medical into an even broader Orthodox Health Care (OHC) category, and human services and complementary–alternative categories into a Complementary Health Care (CHC) group.

Minimally adequate treatment

Among those in receipt of treatment, we have classified some as receiving minimally adequate treatment. Such persons must fulfill one of three criteria: (1)made at least four visits in the prior 12 months to any type of provider, or (2) made at least two visits and received any medication in the period, or (3) be in treatment at the time of interview. These criteria are arbitrary and do not necessarily meet evidence-based minimum standards of care. However, they do provide a measure to allow for an examination of the level of care that respondents were receiving.

Data analysis

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. Other analyses have incorporated those weights as well as appropriate design effects. Thus, we used the Taylor series linearization method implemented with the SUDAAN statistical package [12] to estimate standard errors (SEs) for proportions. Demographic correlates were explored with logistic regression analysis, and the estimates of SEs of the odds ratios (ORs) obtained were made with the SUDAAN. All of the confidence intervals reported are adjusted for design effects.

Predictors of service use were examined using sociodemographic features of age, sex, education, and per capita income. Per capita income was calculated by dividing household income by the number of people in the household. Respondents' per capita income has been categorized by relating each respondent's income to the median per capita income of the entire sample. Thus, an income is rated low if its ratio to the median is 0.5 or less, low-average if the ratio is 0.5–1.0, high-average if it is 1.0–2.0, and high if it is over 2.0.

Results

Percent being treated by healthcare professionals among people with mental disorders

The 12-month prevalence of DSM-IV disorders in the sample was 5.6% (SE 0.7). Anxiety disorders were the most common (4.1%; SE 0.6). Mood disorders were present in about 1.0% (SE 0.1) of the sample. In the entire sample of 1,682, a total of 1.2% reported receiving any treatment for a mental health problem in the previous 12 months (Table 1). Among those with DSM-IV disorders in the same period, 9.0% had received some form of treatment for mental health problems. Receipt of treatment was reported by 0.7% of those for whom no DSM-IV diagnosis in the prior 12 months could be established with the WMH-CIDI. While 11.5% of persons with a mood disorder had received some service, virtually none of those with any substance abuse problem reported being in receipt of service (Table 2). Among persons with mental health problems, most of those who had received any treatment had done so from a general care facility, 94% of those in receipt of service. Only about 1% of those with mental health problems who had received treatment had done so from a mental health specialty service. Among those with mood disorders, the proportion was 5%, while it was 2% among those with anxiety disorders. Surprisingly, traditional or alternative medical service was also not a main provider of service for persons with DSM-IV disorders. While 57% of those without a diagnosis who were nevertheless in receipt of service had done so from providers in traditional or alternative medical service, only 17% of those with mood disorders and 5% of those with anxiety disorders and who were in receipt of treatment had done so.

Adequacy of treatment among people seeing professionals

Although 9.0% of persons with mental disorders had received some form of treatment for mental health problems, none had received a treatment that met our (decidedly broad) definition of minimally adequate treatment. This was the case irrespective of the broad diagnostic groups to which the respondents belonged or the sector of the health service from which treatment had been received.

Sociodemographic predictors of treatment

Logistic analysis was performed to assess the relationship of several sociodemographic variables with the receipt of treatment after controlling for diagnostic group and severity of condition (Table 3). Other than a significantly lower likelihood for persons in the high-income group to have received treatment compared to those in the low-income group, there were no significant demographic predictors of 12-month treatment among persons with mental disorders in high-income earners.

Table 2 Percent being treated by healthcare professionals among people with mental disorders

Disorder group	Measure	Any mental health care [% (SE)]	General medical [% (SE)]	Any orthodox healthcare [% (SE)]	Complementary health care [% (SE)]	Any treatment [% (SE)]	Unweighted *N* with mental disorder	Weighted *N* with mental disorder
Any anxiety disorder	Percent in treatment	0.2 (0.2)	9.7 (3.5)	9.9 (3.5)	0.5 (0.5)	10.4 (3.6)	90	70
Any mood disorder	Percent in treatment	0.6 (0.7)	9.0 (4.0)	9.5 (4.1)	2.0 (2.1)	11.5 (3.9)	57	52
Any substance disorder	Percent in treatment	0.0	0.0	0.0	0.0	0.0	18	13
Any disorder	Percent in treatment	0.1 (0.1)	8.5 (2.5)	8.6 (2.6)	0.4 (0.4)	9.0 (2.6)	150	94
No disorder	Percent in treatment	0.0	0.3 (0.1)	0.3 (0.1)	0.4 (0.3)	0.7 (0.3)	1,532	1,588
Total part II sample	Percent in treatment	0.0	0.7 (0.2)	0.8 (0.2)	0.4 (0.2)	1.2 (0.2)	1,682	1,682

Disorders with unweighted *n* less than 30 have no percents

Table 3 Sociodemographic and disorder type predictors of any treatment

Model effect	Effect level	Any treatment given any 12-month disorder OR (95% CI)
Age	18–29	0.7 (0.1, 6.1)
	30–44	1.9 (0.1, 40.4)
	45–59	5.4 (0.7, 40.5)
	60+	1.0 (1.0, 1.0)
	Overall test of effects	Wald chi-square=3, *df*=4.2, *P* value=0.239
Education	0–6 years	0.1 (0.0, 0.7)
	7–12 years	0.2 (0.0, 1.8)
	13+ years	1.0 (1.0, 1.0)
	Overall test of effects	Wald chi-square=1, *df*=5.4, *P* value=0.066
Income	Low	6.5 (1.1, 38.2)
	High	1.0 (1.0, 1.0)
	Overall test of effects	Wald chi-square=1, *df*=4.5, *P* value=0.034
Sex	Male	0.7 (0.1, 2.9)
	Female	1.0 (1.0, 1.0)
	Overall test of effects	Wald chi-square=1, *df*=0.3, *P* value=0.560

Discussion

To our knowledge, this is the first large-scale community study of met and unmet need for mental health treatment in sub-Saharan Africa. By using methods similar to those used in other community-based studies of mental health service in several other countries, the results provide a basis for comparing mental health service provision in a large third-world country with that of countries in Western Europe and North America. In considering the results, two important caveats are necessary. One, the diagnostic groups evaluated are not exhaustive, and higher rates of treatment might have occurred for persons with the unevaluated disorders such as psychotic disorders. Second, even for the disorders assessed, this report has not examined treatment need relative to disorder severity. It is possible that a large proportion of the unmet need is accounted for by mild disorders for which specific treatment might not necessarily have been indicated.

We found that just 1.2% of this community sample had received any formal treatment for a mental health problem in the prior 12 months. Predictably, this is lower than what had been reported in many developed countries. For example, 7.8% of respondents received formal treatment in Ontario in 1 year [4], while in the European Study of the Epidemiology of Mental Disorders (ESEMeD) study involving six European countries (Belgium, France, Germany, Italy, the Netherlands, and Spain) [2], an average of 6.4% of the total sample had consulted formal health services for mental health problems in the previous 12 months. A much higher rate of 13.3% was reported in the USA [3]. One possible explanation for the low proportion of respondents in any formal treatment for a mental health problem in our sample may be the observation that, compared to several European and American countries, our sample had one of the lowest 12-month rates of DSM-IV disorders [1].

However, low rates of mental health service use were also recorded among those with 12-month DSM-IV disorders. Less than 1 in 10 of such persons had received any treatment. This contrasts with a treatment rate of 25% for 12-month DSM-IIIR disorders in the US National Comorbidity Survey [3]. In our sample, although diagnosis did make some difference in regard to whether respondents would have received treatment, less than 12% of persons with mood disorders, who were the most likely to receive treatment, did actually receive any treatment.

Despite the variation in the proportion of respondents in treatment for any mental health problem in different countries of the world, similarities do exist in certain areas [1]. For example, as reported by others, a small proportion of noncases also received treatment (0.7 %) in this survey. This figure is on the lower side of a range of 0.3–3.0% of noncases in developing countries receiving treatment and far indeed from a range of 2.4–8.1%, also of noncases receiving treatment in developed countries [1]. As previously speculated, the reasons might be that, perhaps, the WMH-CIDI erroneously classified some true cases as being noncases, some mental disorders were not assessed, or some people in treatment did not meet the criteria for a DSM-IV disorder [1].

Almost all of the respondents with mental health problems who were in formal treatment (94%) had received the treatment in the general medical sector, and only about 1% had received the treatment in the specialist sector. The finding that many more individuals with any mental disorder use nonpsychiatric physicians was similarly reported in Puerto Rico [13] and also in Singapore [14].These findings are also in agreement with the ESEMed study [2], in which 33.5% received treatment in the general medical sector, and 13.5% received treatment in any mental health sector. It was similarly reported in Toronto [15] that more people sought mental health services from their family physicians than from mental health specialists. On the other hand, the proportion of individuals with mental health problems who had received treatment in the period and who had done so from specialist mental health sector was about 4%, peaking at 17% for those with mood disorders. Compared with findings from settings in Europe and the USA [1–3], the proportion indicates a striking inaccessibility of that sector to patients in need. A surprising finding was the relatively low rate of use of complimentary health providers by persons with mental illness. While 57% of persons with no DSM disorders but who nevertheless received service for mental health problems did so from such providers, only 4% of those with any DSM disorder did so, with the proportion peaking at 17% for those with mood disorders. This observation flies in the face of the common belief that traditional healers provide

service for a high proportion of persons with mental disorders in developing African countries. While it cannot be excluded that these providers are widely consulted for disorders not systematically assessed in this survey such as psychotic disorders it would appear that they draw the bulk of their clientele from persons with symptoms that may not reach usual diagnostic thresholds. Our observation compliments those made in a Chilean epidemiological survey, which suggests that, contrary to popular belief, traditional healers were rarely used for mental health problems [16]. This survey has not reported multiple sectoral use as it was in the European countries [2] and the USA [3].

Virtually no mental health service was received by persons with substance use disorders. Indeed, our finding that the largest proportion of those receiving specialist mental healthcare came from the group with mood disorder (5%), while none of those with substance use had received service from such sector, contrasts with the finding in the ESEMeD project [2], in which the largest proportion (46.0%) of those in specialist treatment had alcohol use disorders. This observation may, in part, be due to a lack of understanding of the medical nature of substance use problems by the lay public.

Irrespective of the disorder present and of the sector where service was sought, virtually none of our respondents in treatment had received what could be described as minimally adequate treatment. And this is in spite of our use of a very generous, albeit arbitrary, definition of the latter. Our definition of minimally adequate treatment would in fact not meet the current standards of evidence-based interventions for the disorders considered. That observation compares very poorly indeed with reports of surveys from developed countries where adequacy of treatment may be up to 32% for any DSM disorder [17]. Therefore, cumulatively, our results show an unusual level of unmet need for mental health care in this population. These findings highlight some of the deficiencies in the Nigerian health system. Rated 187th among the 191 member countries of the World Health Organization in 2000 in regard to its overall performance [18], the Nigerian health system is one of the poorest in the world. Its mental health component is poorly resourced, thus limiting accessibility of mental health service to the people. For example, Nigeria has fewer than 100 psychiatrists for its population of about 114 million people. A recent WHO publication shows that mental health services are hampered by grossly inadequate personnel and facilities [19]. Access to both public and private health facilities is gained through mainly out-of-pocket payment, as there is no national health insurance scheme. Financial constraint is a common barrier to health service receipt [20]. Along with poor resources, poor knowledge of and negative attitude to mental illness (both of which are rampant in Nigeria [5]) constitute added barriers to help-seeking [21, 22]. Belief in the supernatural causation of mental illness and fear of stigma are likely to make persons with mental illness unwilling to seek formal service for mental disorders.

Not everyone with a mental health problem requires treatment [23, 24]. Also, not everyone with a need for treatment needs to see a specialist. Indeed, given the reality of the shortage of specialist mental health professionals, a realistic policy to provide care for those in need in a developing country such as Nigeria will put primary care workers at its core. The primary health care system in Nigeria is poorly resourced and organized [25]. Primary health clinics are located in each LGA, serving about 50,000 people. They are mainly manned by nurses and community health workers with little or no training in mental health issues; it is doubtful if the expertise at that level can provide for the service needs of mentally ill patients seeking care. General practitioners are themselves not always good at identifying common mental disorders and often provide inadequate treatment for those identified; still, they can form the basis of mental health care provision if their services are properly deployed and they are given appropriate training. Nigeria, with a ratio of more than 18 doctors to every 10,000 people, is better off than most other African countries in regard to the availability of medical personnel. With better coordination between the tiers of government—local, state, and federal—who presently have overlapping constitutional roles in health care provision, the country should be better able to provide affordable and effective mental health care for its people.

References

1. The WHO World Mental Health Consortium (2004) Prevalence, severity and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. JAMA 21(291):2581–2590
2. Alonso MC et al (2004) Use of mental health services in Europe: results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. Acta Psychiatr Scand 109(Suppl 420):47–54
3. Kessler RC (1999) Past-year use of outpatient services for psychiatric problems in the national comorbidity survey. Am J Psychiatry 156 (1):115–123
4. Lin E et al (1996) The use of mental health services in Ontario: epidemiologic findings. Can J Psychiatry 41(9):572–577
5. Alegria M, Kessler RC (2000) Comparing mental health service use data across countries. In: Andrews G (ed) Unmet need for mental health service delivery. Cambridge University Press, Cambridge, pp 97–118
6. Kohn R et al (2004) The treatment gap in mental health care. Bull World Health Organ 82:858–866
7. Cooper JE, Sartorius N (1996). Mental disorders in China: results of the National Epidemiological Survey in 12 areas. Gaskell, London
8. Padmavathi R et al (1998) Schizophrenia patients who were never treated—a study in an Indian urban community. Psychol Med 28:113–117
9. Hwu HG et al (1989) Prevalence of psychiatric disorders in Taiwan defined by the Chinese diagnostic interview schedule. Acta Psychiatr Scand 79:136–147

10. Abas MA, Broadhead JC (1997) Depression and anxiety among women in an urban setting in Zimbabwe. Psychol Med 27:59–71
11. Gureje O et al (2005) A community study of knowledge of and attitude to mental illness in Nigeria. Br J Psychiatry 186:436–441
12. SUDAAN (2002) Professional software for survey data analysis, version 8.0.1 (computer program). Research Triangle Institute, Research Triangle Park
13. Martinez RE et al (1991) Utilization of health services in Puerto Rico of persons with mental disorders. P R Health Sci J 10(1):39–42
14. Ng TP et al (2003) Preference, need and utilization of mental health services, Singapore National Mental Health Survey. Aust N Z J Psychiatry 37(5):613–619
15. Lesage AD et al (1997) Family physicians and the mental health system. Report from the Mental Health Supplement to the Ontario Health Survey. Can Fam Physician 43:251–256
16. Saldiva S et al (2004) Use of mental health services in Chile. Psychiatr Serv 55:71–76
17. Wang PS, Lane M, Olfson M, Pineus M, Wells KB, Kessler RC (2005) Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. Arch Gen Psychiatry 62:629–640
18. World Health Organization (2000) The world health report 2000. World Health Organization, Geneva
19. World Health Organization (2001) ATLAS, mental health resources in the world 2001. World Health Organization, Geneva
20. Kessler RC et al (1997) Differences in the use of psychiatric outpatient services between the United States and Ontario. N Engl J Med 336:551–557
21. Jorm AF (2000) Mental health literacy: public knowledge and beliefs about mental disorders. Br J Psychiatry 177:396–401
22. Link BG, Struening EL et al (1997) On stigma and its consequences: evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse. J Health Soc Behav 38:177–190
23. Spitzer RL (1998) Diagnosis and the need for treatment are not the same. Arch Gen Psychiatry 55:120
24. Regier DA, Narrow WE, Rupp A, Kaelber CT (2000) The epidemiology of mental disorder treatment need: community estimates of medical necessity. In: Andrews G, Henderson S (eds) Unmet need in psychiatry. Cambridge University Press, New York, pp 41–58
25. Gupta MD, Gauri V, Khemani S (2003) Decentralized delivery of primary health services in Nigeria: survey evidence from the states of Lagos and Kogi. World Bank, Washington, DC