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A Baseline Study on Mental Disorders in Guiné-Bissau

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Adults attending general health facilities in Guiné-Bissau were screened for the presence of mental disorder; minimum estimate of definite mentally ill cases was found to be 12%. The proportion correctly identified by general health workers was low: only one of every three patients with a mental disorder was recognised and of every 100 non-cases 12 patients were wrongly diagnosed by the health worker as suffering from psychiatric illness. On the basis of these results health workers are now being taught how to detect mental illness.

Advances in techniques of reliable case detection (Goldberg, 1974) have resulted in a number of studies showing that psychiatric disorders, and especially non-psychotic illnesses, are among the most common reasons for which doctors are consulted (Dilling *et al*, 1978; Hoeper, 1979; Marks *et al*, 1979). Goldberg & Blackwell (1970) found conspicious psychiatric morbidity in a London general practice to be about 20%, while Giel (1972) stated that mental illness, as diagnosed by a psychiatrist in a random sample of subjects aged 15 years or over in a Dutch village, amounted to 13%. It might be expected that in developing countries fewer patients with psychiatric disorders contact the primary health care facilities, either because the proper diagnosis cannot be made by the workers with less comprehensive training or because mental disorders are overshadowed by physical ones such as malnutrition or infectious and parasitic diseases. However, some studies show that the number of cases of psychiatric disorder seen in primary health care may in fact be similar in developing countries to those elsewhere (Dormaar *et al*, 1974; Giel & Van Luijk, 1969; Mbanefo, 1971; Harding, 1973; Ndetei & Muhangi, 1979). For example, in the WHO Collaborative Study on Strategies for Extending Mental Health Care in four developing countries, the recorded frequency of psychiatric disorders—between 10.6 and 17.7%—was just below the percentages found in industrialised countries (Harding *et al*, 1980).

The purpose of this study was to develop and evaluate low-cost methods for mental health care, to determine treatment priorities within the framework of a general health service in Guiné-Bissau. After completion of the baseline study, the health workers are to receive brief, task-oriented training on the detection and management of a limited number of priority psychiatric disorders, and the results of this training will be evaluated by subsequent observations.

In this paper, part of the baseline study is reported. Adult patients attending general health facilities were screened for the presence of psychiatric disorder, and the proportion correctly identified by the general health workers was established. Data about the screening of children will be published elsewhere, as well as the results of the structured questionnaire administered to groups of key informants and general health workers in the study area.

Guiné-Bissau is about the size of Switzerland, with 850,000 inhabitants. After independence in 1974, at the end of 13 years of fighting, the health authorities, recognising a lack of mental health facilities (apart from two old custodial wards), accepted a mental health policy with three priorities (De Jong, 1982, 1983): firstly, to deliver mental health care with a focus on the rural areas; secondly, to develop an ambulatory social psychiatric team to make regular visits to the major hospitals in the country; and thirdly, to improve institutional psychiatric care by building and organising a small socially integrated psychiatric clinic, operating in line with current ideas.

Method

The population

We selected our study area by two criteria. The first was that it should have an average socio-economic level, and the second that some people in the area should have participated in the fighting (to find out if some mental health problems could be attributed to this war). The selected area in southern Guiné-Bissau meets these criteria; it is less wealthy than parts of the North, and more developed than the East, but representative of rural Africa. During the war, some people in this part of the country remained under Portugese rule whereas others did not.

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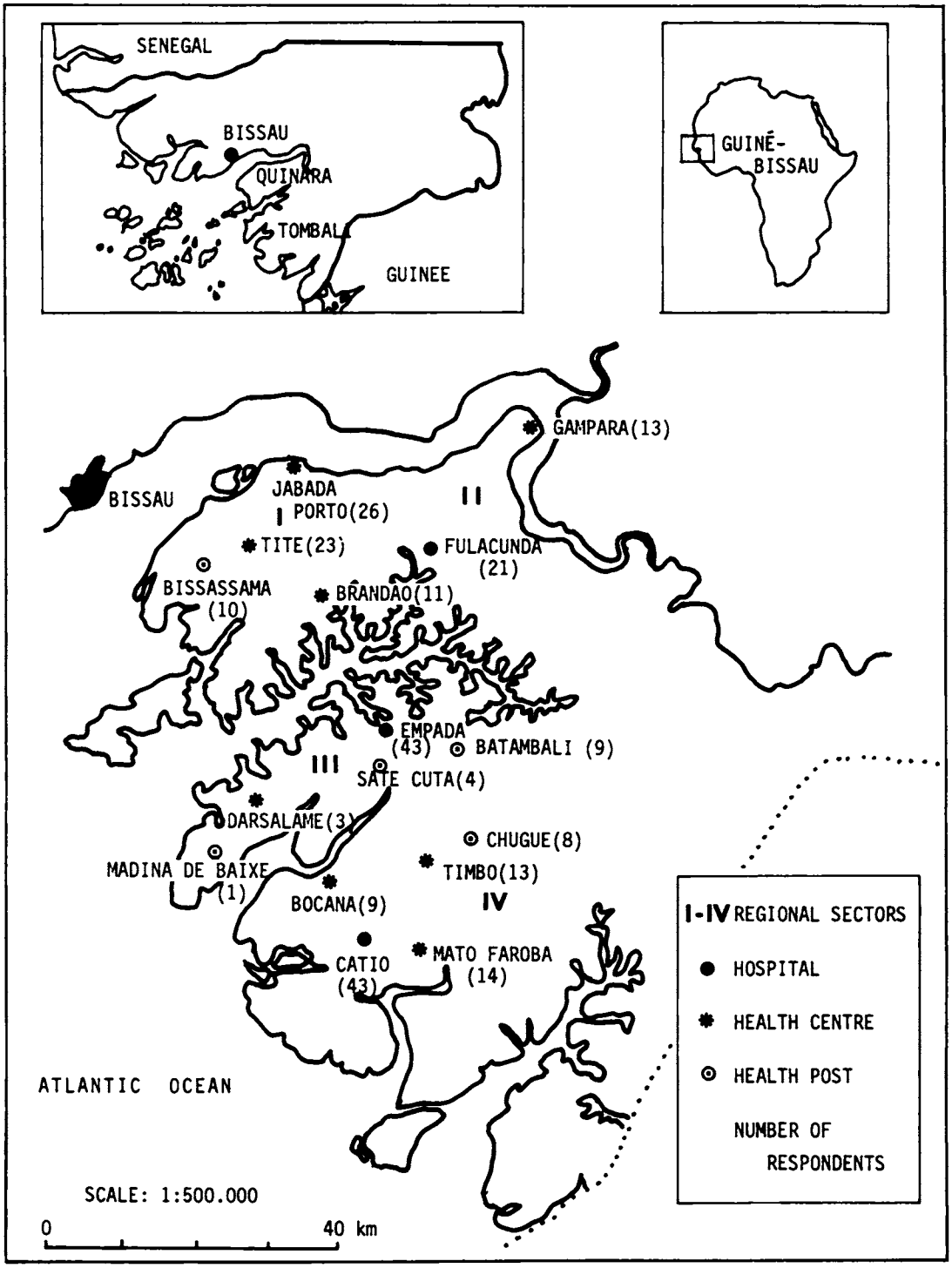


FIG. 1 Distribution of Health Institutions in the Study Area and the Number of Respondents per Institution.

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There are 37 sectors in Guiné-Bissau. The four southern ones, which we studied, are situated in a flat coastal area, dissected by innumerable sea arms. The higher areas are covered by tropical forests, whereas the mainly agricultural population cultivating rice or millet, is concentrated along the sea arms. These crops, animal husbandry, and fishing are mainly for their own consumption. The area has 41,850 people, with a density of 13 per square kilometre. A few hundred villages, each with a small number of inhabitants, are clustered closely together; during the rainy season, most can be reached only by foot, landrover, or motor-cycle. Some small cities lie along the main road and public transport passes through this area only once or twice a day. About 5% of the population has running water or electricity for a couple of hours every day; 70% gets its water from a covered well; the others use open wells or ponds near their homes. Houses are built from mud and covered with a thatched roof; 90% of the population has no formal education. The group we studied lives with no notion of today's outside world: half of them do not know their age, the date or year in which we are living, or the name of their president. Three-quarters of the studied group possess rice fields, which provides enough rice for half of them. The principal endemic diseases in the area are malaria, respiratory infections, diarrhoea, skin diseases, wounds, and tuberculosis. Principal causes of death are malaria, respiratory diseases, and tetanus; infant mortality is above 20%.

Since Independence, the government has succeeded in building up a pyramidal health structure in the rural areas. This consists of a pilot primary health care project in the South of the study area, with participating villagers trained on the spot; beyond this, there is a network of health posts, health centres, and three hospitals. In sector I, there is no hospital, but three health centres and one health post; in sector II, there is one hospital and one health centre, but no health post; in the third and fourth sectors, all three types of facilities are available.

Patient-selection

A list of all health facilities in the area, together with the average weekly number of consultations given to adult patients in each facility, was drawn up. As there were no data available for one of the sectors and inconsistent ones on the others, we collected data ourselves over two successive three-month periods. Because drugs are distributed quarterly, there is a sharp increase in consultations during the first month following distribution, followed by a decline close to zero in the third month. To acquire statistically significant data, we fixed the number of adults to be screened at 300 per 50,000 inhabitants which yielded 252 respondents; the number of people to be screened was set for each health facility in proportion to the attendance rates. Next we carried out screening in turn at each facility. Patients were inspected in five health posts, eight health centres, and the three hospitals. Whenever possible, no warning to the staff of the health facility was given about the screening until the evening before, to prevent special selection of patients. Screening always started with the first patient aged 16 years or older, attending in the morning. We excluded patients who were so seriously ill that it would have been insensitive to give questionnaires. Consecutive attenders, if necessary on more than one day, were screened until the number set for the facility was reached. No patient refused to take part.

Basic identifying data and a number of socio-demographic data were obtained on each patient. We asked why they had come to the health facility, the response being recorded verbatim. The screening process was carried out independently of the consultation or treatment process. No health worker who was seeing the patient had access to the results of the inquiry. Each health worker indicated at the end of the normal consultation process, by marking a cross on the Health Staff Rating Schedule (HSR), whether or not he thought mental disorder was indicated, alone or in combination with a physical health

TABLE I

Diagnoses of psychiatric disorders seen in primary health care: of the 57 patients followed up and identified (PSE) as 'possible' or 'definite' cases

		'possible' abs (%)		*'definite' abs (%)*		*'pos + def' abs (%)*		*Harding* et al *(1980)*
Depressive neurosis	(300.4)	4	(33.3)	12	(52.2)	16	(45.7)	48.6%
Hysteria	(300.1)	—	(8.3)	3	(17.4)	3	(14.3)	8.3%
Hypochondriasis	(300.7)	1		1		2		
Anxiety neurosis	(300.0)	—	(0.0)	1	(4.3)	1	(2.9)	30.9%
Unspecified psychosis	(298.9)	4	(33.3)	—	(4.3)	4	(14.3)	3.1%
Psychogenic par. psych.	(298.4)	—		1		1		
Schizophrenia	(295)	—		—		—		
Affective psychosis	(296)	—	(0.0)	1	(4.3)	1	(2.9)	1.7%
Prolonged depres. reac.	(309.1)	—	(25.0)	1	(17.4)	1	(20.0)	7.3%
Par. personality dis.	(301.0)	1		—		1		
Alcoholic hallucin.	(291.3)	—		1		1		
Generalised convulsive epilepsy	(345.1)	—		2		2		
Others		2		—		2		
Total		12	(100.0)	23	(100.0)	35	(100.0)	100.0%

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problem, or if no health problem of any kind could be diagnosed. Comparison between the health workers' ratings and the diagnoses given by the research psychiatrist can be calculated in two different ways. The first is the diagnostic sensitivity, defined as a measure of how few cases are missed, by dividing the total number of 'cases' detected by the health worker and those also identified as such by the research psychiatrist, with the total number of cases identified at follow up. Secondly, there is the diagnostic specificity, a measure of how few non-cases are diagnosed as cases by the health staff worker, by dividing the total number of non-cases identified by him and by the research psychiatrist by the total number of non-cases at follow-up.

First-stage screening

We used a self reporting questionnaire (SRQ) with 26 questions, of which the first 20 were constructed to detect non-psychotic disorders. Four additional questions were to detect psychotic conditions, and two more were added, one for epileptic or other fits and one for alcoholism. The design of the SRQ is based on a concensus among the investigators of the WHO Collaborative Study (Harding *et al*, 1980). We used the Portuguese version, prepared by the research workers of Vila Sao José do Murialdo in Brazil. The SRQ questions were read to the patient by one of the three workers, and where necessary, one of the local health workers assisted in translating the questions into Crioulo, the 'lingua-franca' of Guiné-Bissau, or into one of the other languages.

Follow-up

All patients regarded as 'potential cases' had to be followed up, as well as 10% of the 'non-potential cases'. This procedure included the shortened version of the Present State Examination (PSE) administered by the research psychiatrist, the Diagnostic Assessment Form (DAF) completed by the research psychiatrist on the basis of the PSE ratings, a Social Unit Rating (SUR), and in a number of cases a Disability Assessment Schedule (DAS).

Potential cases

We decided that all patients scoring above a certain cut-off point for the total score on the 20 non-psychotic items of the SRQ or scoring at least one positive item on the four psychotic items had to be followed up. The cut-off point was selected to yield optimal sensitivity and specificity, resulting in as few false positives and false negatives as possible. Our cut-off point of seven positive scores was selected on the basis of a pilot test, in the manner of the original study (Harding *et al*, 1980). From the total of 251 screened patients 26 scored 7 or more 'non-psychotic' items, and 59 scored at least one positive psychotic item. Of the latter group, 17 responded as well with a SRQ score of 7 or more, giving a total of 68 potential cases to follow-up. Nine of these 68 potential cases were unwilling or unable to participate, which left us with 59 potential cases for follow up: 18 with a SRQ score of 7 or more, and 54 with at least one positive psychotic item (including 13 with also a SRQ-score of 7 or more). From the group with at least one positive psychotic item, 37 patients scored only on the first item. The notion of being harmed by somebody, especially among patients attending a health institution for any kind of disease, can be considered as a 'normal' attitude in this study area. Therefore, a single score in the first psychotic item did not constitute a potential case. This left us with a total of 22 potential cases for follow-up. We added a further 13 (eight with a positive epilepsy score only, and five who were clinically suspected of being mentally ill).

Apart from the above total of 35 'potential cases', 22 patients were followed-up as a 10% sample of all those scoring less than 7 on the SRQ or who lacked any other indication of being a potential case. It should be noted that of these 22 patients six had a positive score on the first psychotic item. The difference from other centres was that we did not consider a single score on the first psychotic item sufficient indication for follow up, and 13 respondents were added on the basis of various other indications of mental illness.

Results

From the 35 'potential cases', 21 were identified as 'definite cases', and from the 10% sample of 22 patients two were definite cases. The minimum estimate of psychiatric morbidity is therefore 12%: 8.4% identified at follow up and 3.6% on the basis of half the frequency of psychiatric disorder found in the 10% sample. Though the majority were neurotic disorders, we found some psychotic morbidity (14.3%) as is shown in Table I.

Of the 23 'definite' cases, none was detected at the health posts, six in health centres, and 17 in one of the three hospitals. Of the 12 'possible' cases, three were detected at the health posts, seven in health centres, and only two in one of the three hospitals. Taking all 35 cases together, this results in a psychiatric morbidity of 'definite' psychiatric disorders in the health posts, health centres, and hospitals of respectively 0%, 5%, and 16% and 9%, 11%, and 18% including the 'possible' cases of psychiatric disorder. In other words, at a higher level of medical service, more psychiatric morbidity is present, but at a lower level, more patients are found who are thought to be according to the PSE-DAF 'possible' cases of psychiatric illness.

Most patients (72.5%) were diagnosed by the health workers as having physical health problems, 7.6% with physical and mental health problems, 6.8% with a mental health problem only and of another 12.4% it was said to have no health problem.

Since both false positive and false negative diagnoses may be made, it is not only the rate of diagnoses which indicates the diagnostic skill of the health worker. From the comparison of the diagnostic rating of the health worker and that of the research worker the diagnostic sensitivity and specificity can be calculated. These were 31% (11:35) and 88% (191:216).

These two percentages indicate that one out of every three patients with a psychiatric disorder (according to the Diagnostic Assessment based on the PSE) is recognised as such by the health worker, and of every 100 non-cases, 12 patients are wrongly diagnosed by the health worker as

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suffering from psychiatric illness.

Of the patients wrongly diagnosed by the health worker as suffering from psychiatric illness (25), only one had a non-psychotic SRQ score of at least 7, one scored on at least the second, third, or fourth psychotic item, and none scored on the epilepsy item. Of the patients detected by the screening procedure as cases but not caught by the health worker (24), ten had a non-psychotic SRQ score of at least 7, six scored on at least the second, third, or fourth psychotic item, whereas 17 scored on the epilepsy item. Eleven of the 35 patients with a psychiatric disorder were recognised as such by the health worker: five of these had a depressive neurosis; and the other hypochondriasis, anxiety neurosis, psychogenic paranoid psychosis, affective psychosis or alcoholic hallucinosis. None of the patients with hysteria, unspecified psychosis, epilepsy, paranoid personality disorder, or prolonged depressive reaction was detected by the health worker as suffering from psychiatric disorder.

About 65% of the 251 screened patients quoted one reason for attending the health clinic, 22% two, and 12% three or more. Table II shows the number of reasons for attendance in relation to the diagnosis of psychiatric disorder by the health worker and in relation to the detection of psychiatric disorder by the screening procedure.

Table II shows that patients quoting more reasons have a larger chance of suffering from psychiatric disorder. For patients quoting three reasons, this chance is about one in 3.5, compared with one in nine for patients quoting one reason. Health workers diagnose twice as many psychiatric disorders when patients present two or more reasons for attendance, whereas the screening procedure detects more psychiatric disorders among patients presenting three or more reasons only.

In Table III, all reasons for attendance quoted by at least 5% of the patients are listed. Abdominal pain, chest pain, headache, and pain in arm or leg were each quoted by more than 10%. None quoted any psychological symptom, such as anxiety, confusion, depression, loss of interest, or sleep disturbance.

One of our criteria for selecting the study area was its history during the fighting. We did not find any significant difference in the percentage of psychiatric disorder between those who had remained under Portuguese rule in 'aldeamentos' or 'protected villages'. Further comparison of groups with and without psychiatric disorder did not reveal any socio-economic or cultural characteristics which might be related to such disorder.

TABLE II

Relationship between the number of reasons, the diagnosis of mental disorder by health staff, and the detection of psychiatric disorder by two-stage screening including a psychiatric interview

Number of reasons for attendance quoted by attenders		Cases (%) of psychiatric disorder diagnosed by: (a) Health worker	(b) Two stage screening procedure
1	($n = 164$)	11.6	11.6
2	($n = 55$)	20.0	14.5
3 or more	($n = 29$)	20.7	27.6
Total	($n = 251$)	14.3	13.9

TABLE III

Nine commonest reasons for attendence ranked in order or frequency as rated to diagnosis or psychiatric disorder by health staff and detection of psychiatric disorder by screening procedure.

Reasons for attendance	*Number of patients quoting reasons* ($n = 251$)	*Patients (%), quoting reason, diagnosed by health staff as suffering from mental disorder*	*Patients (%), quoting reason, detected by screening procedure as having psychiatric disorder*
Abdominal pain	55	19.4	17.1
Chest pain	48	8.3	17.1
Headache	36	22.2	28.6
Pain in arm/leg	36	11.1	5.7
Weakness	24	16.7	11.4
General body pain	23	19.4	22.9
Backpain	22	13.9	8.6
Eye problems	17	8.3	2.9
Pregnancy, post natal care	17	5.6	5.7

Discussion

Our conservative estimates show that psychiatric disorders have a morbidity of 12% of those seen in primary health care in our study area in Guiné-Bissau. The recorded frequency falls within the range of 10.6% to 17.7%, found in other developing countries (Harding *et al*, 1980). Disorders detected were mainly neuroses (62.9%), as in other studies (Harding *et al*, 1980; Shepherd *et al*, 1966; Ndetei & Muhangi, 1979), but we did find more psychoses than in other countries. This may be explained by the virtual absence in this case of mental health care. Furthermore, as almost no knowledge of these disorders exists among health workers, psychoses are rarely recognised or referred to the mental health services in the capital. This may be an important reason why these patients can still be found in primary health care in the south of Guiné-Bissau. In addition, a high level of tolerance exists there, causing patients to stay untreated in their villages. The government's purpose is to ensure that primary health workers will play the role of the main agents delivering simple mental health care. Primary health workers live close to the patient, and have contact with the community, hence making them the most suitable people to provide a minimum of mental care at the primary care level at the lowest cost.

However, health workers have to be trained to

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accomplish this task; at the moment, they recognise only one out of every three patients with a psychiatric disorder, and of every 100 non-cases, they wrongly diagnose 12 patients as suffering from psychiatric illness. It might be that these cases were missed by the research procedure and correctly diagnosed by the health worker, but whichever interpretation is correct, the tendency to miss cases is more important than any risk of over-inclusive diagnosis. It is clear that three priorities can be set for training health workers: psychoses, epilepsy, and neuroses. The first two types of disorders are hardly recognised, whereas the last, which is recognised more often, is a priority because of its much higher frequency. The health worker has to be aware that certain complaints can be a clue to the detection of psychiatric disorder, while any intuitive feeling that 'something is wrong' or that the patient withholds something has to trigger further investigation. This implies that the health worker, apart from excluding physical pathology as much as possible, must look for psychosocial factors and psychiatric symptoms to detect psychiatric disorder. This applies in particular to workers in health centres and hospitals, because cases were particularly missed in these facilities, whereas at health posts, too many patients are diagnosed as suffering from a psychiatric problem.

The next step is to formulate a treatment policy in close collaboration with the family and key persons in the villages. This may include involvement of a traditional healer, solving socio-economic troubles, and other activities to prevent frequent medical attendance, over-consumption of drugs, and a medicalisation of underlying psychosocial problems. This could prevent maladaptive coping mechanisms from getting established during the early stages of the illness, and thereby shorten neurotic conditions particularly.

Our main conclusion is that with additional training, it will be possible to improve health workers' diagnostic skills in recognising patients with neurotic, psychotic, and epileptic complaints. With a limited supply of drugs, together with community participation, referral, and supervision, mental health care will be extended into primary health care in 1984 in the four southern sectors of the study area and will then gradually spread over the other regions.

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References

DILLING, H., WEYERER, S. & ENDERS, I. (1978) Patienten mit psychischen Störungen in der Algemeinpraxis und ihre psychiatrische Überweisungsbedürftigkeit. *Monograph Gesamtgeb Psychiatrie*, **17**, 135–160.

DORMAR, M., VAN LUIJCK, J. N. & GIEL, R. (1974) Psychiatric illness in two contrasting Ethiopian outpatient populations. *Social Psychiatry*, **9**, 155–161.

GIEL, R. (1972) Psychiatrie in de praktijk van de huisarts. *Huisarts en Wetenschap*, **15**, 203–209.

—— & VAN LUIJK, J. N. (1969) Psychiatric morbidity in a small Ethiopian town. *British Journal of Psychiatry*, **115**, 149–162.

GOLDBERG, D. P. (1974) Psychiatric disorders. *Lancet*, **ii**, 1245–1247.

—— & BLACKWELL, B. (1970) Psychiatric illness in general practice. A detailed study using a new method of case identification. *British Medical Journal*, **ii**, 439–443.

HARDING, T. W. (1973) The detection of psychiatric illness by questionnaire. *West Indian Medical Journal*, **22**, 190–191.

—— DE ARANGO, M. V., BALTAZAR, J., CLIMMENT, C. E., IBRAHIM, H. H. A., LADRIDO-IGNACIO, L. *et al* (1980) Mental disorders in primary health care: A study of their frequency and diagnosis in four developing countries. *Psychological Medicine*, **10**, 231–241.

HOEPER, E. W. (1979) Observations on the impact of psychiatric disorders upon primary health care. In *Menthal Health Services in General Health-Care*. Washington D.C.: National Academy of Sciences.

DE JONG, J. T. V. M. (1982) Description du projet du Centre de Réhabilitation Mental à Brá. *Publicacoes do Ministério da Saúde e Assuntos Sociais*. Bissau.

—— (1983) Proposition d'un programme de la santé mentale dans le cadre du plan quadriennal 1983–1987. *Publicacoes do Ministério da Saude e Assuntos Sociais*. Bissau.

MARKS, J. N., GOLDBERG, D. P. & HILLIER, V. F. (1979) Determinants of the ability of general practitioners to detect psychiatric illness. *Psychological Medicine*, **9**, 337–353.

MBANEFO, S. E. (1971) The general practitioner and psychiatry. In *Psychiatry and Mental Health Care in General Practice*. Ibadan: University of Ibadan.

NDETEI, D. M. & MUHANGI, J. (1979) The prevalence and clinical presentation of psychiatric illness in a rural setting in Kenya. *British Journal of Psychiatry*, **135**, 269–272.

SHEPHERD, M., COOPER, B., BROWN, A. C. & KALTON, C. (1966) *Psychiatric illness in General Practices. Oxford: Oxford University Press.*

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