Soc Psychiatry Psychiatr Epidemiol (2001) 36: 493–499

ORIGINAL PAPER

Jude U. Ohaeri · Abdullahi A. Fido

The opinion of caregivers on aspects of schizophrenia and major affective disorders in a Nigerian setting

Accepted: 10 July 2001

Abstract *Background* In Nigeria the burden of caring for persons with severe mental disorders rests largely on families whose attitudes to these conditions have not been explored. *Objectives* To assess the opinion of relatives of 75 schizophrenics and 20 major affective disorder cases on aspects of the disease and compare with the responses of relatives of cancer, infertility and sickle cell disease (SCD) cases. *Method* Caregivers were assessed using a burden questionnaire that contained items on etiological beliefs and attitudes to illness. *Results* The responses of relatives of the two psychiatric illness groups were similar. The single most important etiological factors were that "it is Satan's work" (35.8 %) and "it is a natural illness" (23.2 %). Other factors were "genetic" (9.5 %), "witchcraft" (10.5 %) and "curse by enemies" (10.5 %). This was similar to the opinion of cancer and infertility caregivers; but different from SCD where the most important causative factors were "genetic" (41.5 %) and "natural" (21.5 %). Psychiatric caregivers had higher frequency of anger and stigma. Over two-thirds of psychiatric caregivers felt glad caring for the patient and would not like the patient institutionalized. Most families were thought to be supportive and there was an impression that caring had made family emotional ties closer. *Conclusions* These families were tolerant and would cooperate with health authorities. Causative models are influenced by available knowledge and practices in the culture. To actualize the potential of families to play useful community psychosocial roles, there is a need for public mental health literacy and welfare support.

Dr. J. U. Ohaeri (✉)
Department of Psychiatry
Psychological Medicine Hospital
Gamal Abdel Naser Road, Sabah Area
P. O. Box, 4081
Safat, KUWAIT, 13041
Fax/Tel.: +965-4899315
E-Mail: judeohaeri@hotmail.com

A. A. Fido, MRCPsych
Faculty of Medicine
Kuwait University, Kuwait

Key words Beliefs – Attitudes – Causative – Models – Schizophrenia – Affective – Psychosis – Nigeria

Introduction

Controversies over the causes of schizophrenia and major affective disorders have never ceased, and the special nature of psychiatric disorders has led to particular social attitudes towards the mentally ill [1]. Recent research in this area has focused on caregiver knowledge and attitudes [2–5]. In Nigeria, while the earlier predominance of supernatural causation [6] seems to be shifting towards the bio-psychosocial model in urban areas [7], there are still pervasive negative attitudes towards ex-mental patients in work places [8]. In Botswana and Zimbabwe, Dale and Ben-Tovin [9] found that although belief in witchcraft and spirits continues to play a prominent role in causal models of mental illness, several biomedical concepts were becoming incorporated. In a recent review of explanatory models of mental illness in sub-Saharan Africa, Patel [10] noted a diminishing concern with ancestral spirits among the educated urban population. This is in line with a Ghanaian study of school teachers in which it was found that subjects gave low ratings to belief in supernatural causation of mental illness [11]. In Nigeria and most sub-Saharan African states, where there are no national social welfare and medical insurance schemes, the burden of caring for patients with severe mental disorders falls largely on family members. In these countries, there are no studies specifically focused on the attitudes of family members to patients with severe mental disorders. Proper management of severe mental disorders should involve attempts at appreciating the attitudes and beliefs of these caregivers towards the conditions.

In this paper, we highlight the findings of a study of first-degree relatives of patients with schizophrenia and major affective disorders attending the psychiatric clinic of a Nigerian general hospital. The objectives of this cross-sectional study were: (i) to find out what these

relatives believed to be the causes of severe mental disorders among the patients they were caring for; (ii) to enquire into whether, in their care-giving roles, they harboured feelings of anger, social embarrassment/stigma and depression; (iii) to find out whether they had difficulty accepting responsibility for caring for patients; (iv) to know their views on institutionalization of patients; (v) to assess caregivers' perceptions of the attitudes of other family members towards the illness; (vi) to examine the factors associated with responses on these issues; and (vii) to assess the relationship of responses to the above issues to the global rating of psychosocial burden of care.

The results are compared with the findings of recent similar studies of relatives of patients with cancer, infertility and sickle cell disease (SCD) in the same hospital [12, 13] and discussed in the light of studies from developed countries. By this comparison, we situate the attitudes to psychotic states in the context of severe physical illnesses in Nigeria.

The following hypotheses were explored: (i) there is no significant relationship between caregiver causative beliefs/attitudes on the one hand, and psychiatric diagnosis, caregiver global rating of psychosocial burden and caregiver psychic distress on the other hand; (ii) since definite etiologies for the severe mental disorders and cancer are not yet known, respondents are more likely to cite non-specific natural and supernatural factors, compared with SCD where a definite genetic etiology has been identified; (iii) compared with the results of Nigerian studies in the 1960s and 1970s of the supernatural causative beliefs, respondents in this study are more likely to lay emphasis on the non-specific religion-influenced idea of "Satan's work" than on "witchcraft", owing to the rising influence of Christian and Muslim fundamentalism in the culture; (iv) compared with cancer and infertility, caregiver attitude to severe mental disorders is distinguished by social stigma; (v) there is no significant association between caregiver causative beliefs and caregiver attitudes to patients. Hence, irrespective of causative beliefs, the majority of caregivers may report consistent dedication to their care-giving role.

The findings from this type of study should help clinicians and policy makers to appreciate the disposition of families towards community care.

Method

This report represents part of the findings of a larger cross-sectional study of the psychosocial and economic burden of severe mental disorders on relatives of patients attending the psychiatric clinic of the University College Hospital, Ibadan, Nigeria (UCH) [14].

The setting

Nigeria, with a population of about 100 million people, is situated in West Africa. The UCH serves as a general hospital for western Nigeria. There are two psychiatric wards with 64 beds.

The psychiatric patients

The patients fulfilled ICD–10 (WHO) criteria for diagnosis of schizophrenia, bipolar disorder with psychotic symptoms and recurrent severe depression. In order to have patients with reasonable stability of psychiatric diagnosis and sufficient experience of the illness and its burdens, those included needed to have had at least 2 years' duration of illness and to have attended follow-up care regularly [15].

Procedure

The study involved private interview of first-degree relatives who accompanied consecutive patients to the psychiatric clinic of the hospital. To be included in the study, the patient had to be accompanied to hospital by adult relatives (at least 16 years old), who were directly involved in informal care giving roles at home. In Nigeria, it is common for patients to be accompanied to hospital by relatives [16]. Also, as is usual in Nigeria for this type of study, all the patients and relatives approached consented to be interviewed. For each patient, the first-degree relative that was most intimately involved in care-giving roles was interviewed. All the interviews were conducted by a research nurse who also interviewed the relatives for the earlier studies of relatives of cancer, infertility and SCD patients. She was trained in the use of the questionnaire. Data collection commenced when we were satisfied that she had achieved high competence in reading out the items of the questionnaire in Yoruba (the local language), and rating the responses. In consideration of the relatively low literacy rate in the country, all the subjects had the items of the questionnaire read out to them.

The questionnaire (available from the authors on request)

Details of the questionnaire, initially used for cancer, infertility and SCD caregivers, have been presented elsewhere [12–14, 17]. It contained items to elicit "objective" and "subjective" burden of chronic illness on caregivers, following the recommendations of Platt [18] and Hoening and Hamilton [19], for psychiatric patients.

A. The items of the questionnaire that are of interest to this report concerned the following questions and response options:

1. How do you feel about this patient's condition?
   - No particular feelings/I feel angry for having to be involved/I feel embarrassed for having such a relative/I feel depressed about his/her condition/I cry frequently because of his/her condition.
2. Do you find it difficult to accept responsibility for caring for this patient?
   - I am glad caring for him (her)/Occasionally, I feel fed up with this responsibility/Frequently I feel fed up with it/In fact, I feel fed up and wish to be released from this responsibility.
3. Would you like this patient to be kept in a hospital or special institution for care always?
   - No/Occasionally, I feel the patient should be put away in such an institution where I could visit at my own time/Frequently I feel the patient should be put away in a special institution/Regularly so.
4. What is the attitude of close family members towards this patient's condition?
   - Responses here were placed in mutually exclusive categories (Yes/No) to elicit feelings of anger, social embarrassment, depression, sympathy and support.
5. Causative beliefs: What is your view about the causes of this illness?
   - Responses here were also placed in mutually exclusive categories (Yes/No) to assess belief in various etiological factors (see Tables 2 and 3). Following the method of Angermeyer and Matschinger [20], relatives were first requested to state whether they considered each of a list of items as a possible cause of the disorder. Furthermore, they were asked to choose just one item from the list which in their opinion constituted the most important causative factor. The choice of items for this section on etiology was guided by the findings of previous community studies on causative beliefs in Nigeria [21–23]. The category of

natural illness refers to a multiplicity of objective (biomedical) factors, such as brain disorder, infections, trauma and life events. Belief in genetic etiology was elicited by an item on whether the illness was "inherited from both parents". Results of previous studies showed that Nigerians expressed belief in supernatural causation in a variety of ways [21–24]. When the illness is believed to have originated from someone using specific practices that involve direct contact with ancestral spirits, this is called "witchcraft". It is believed that some of these practitioners only make powerful incantations without contacting ancestral spirits and this category is termed "curse by enemies". The increasing popularity of Christian and Muslim fundamentalism has fostered causative beliefs related to these traditions [25]. When the objective cause of the illness is not evident and there is no reason to blame others, then the illness could be either "God's will" or "Satan's work". The illness is regarded as "God's will" when it is accepted in the positive light of a necessary burden which the family is expected to endure in order to learn useful lessons of life. The category of "Satan's work" refers to a situation where the patient is thought to be a chance victim of natural energy currents that are opposite to the common religious understanding of the concept of God. In other words, when a Nigerian says that an illness is caused by "Satan's work", this is largely a religion-influenced idea referring to ill fate, resulting by chance from negative natural forces that are not specifically focused on the patient.

6. Global rating of severity of psychosocial burden was assessed by the following question: Overall, how much difficulty do you (and the family) have in coping with this patient's condition?
None at all/Mild difficulty/Moderate difficulty/Severe difficulty

B. The first part of the questionnaire contained items on socio-demographic characteristics of the patient and respondent. The last part of the questionnaire consisted of the 12-item version of Goldberg's General Health Questionnaire (GHQ–12) [26], a screening instrument that has been used by our group in hospital and community based studies [27].

We have already reported on the highly significant reliability indices of the questionnaire when used for cancer relatives [12, 17]. The content and face validity of this slightly modified version for relatives of psychiatric patients was tested by requesting senior psychiatrists and nurses in the specialty to vet the questionnaire critically and comment on the appropriateness of the contents and style of wording the items. They all approved the questionnaire. The questionnaires were all translated into the local Yoruba (also the language of the interviewer) by the method of back translation.

Data analysis

Data were analysed by SPSS computer package, using frequency counts and chi-square tests (with Yates' correction, where necessary) for categorical variables. The relationships between global rating of burden and GHQ score on the one hand and items of beliefs and attitudes on the other hand were assessed by a number of cross-tabulations and chi-square tests. Continuous variables were analysed by independent t-tests. A cut-off point of 5% was used to decide on statistical significance.

Results

Socio-demographic characteristics of psychiatric patients and their caregivers

A total of 95 family members of psychiatric patients were interviewed (i. e. one family member per patient). The psychiatric patients consisted of 53 (55.8%) males and 42 (44.2%) females. Mothers (35 or 36.8%) constituted the most frequent category of caregivers, and most caregivers (77 or 81%) lived with the patients. There were no significant gender differences in age, occupational and educational attainments, and family living arrangements (except that female patients were more likely to be married). Most caregivers (61 or 64.2%) were gainfully employed as junior civil servants (20 or 21.1%) and senior professionals or in private businesses (41 or 43.1%). Most patients (82 or 86.3%) lived with first-degree relatives who were typically married (63 or 66.3%) and had been caring for them for an average of 8.4 (SD 6.35) years (Table 1).

Clinical characteristics

Significantly more females (33.3% of 42) than males (11.3% of 53) had affective disorders ($\chi^2 = 6.8$, df = 1, P = 0.009). There were no other significant gender differences in clinical characteristics, such as duration of illness, number of hospitalizations in the past year, frequency of psychotic symptoms in the past 3 months and age at onset of illness. In the past 3 months, 46 (48.4%)

Table 1 Characteristics of psychiatric patients and caregivers

Variables	Men N=53 (%)	Women N=42 (%)	Stats t (χ^2)	Diff df	P
Patients' characteristics					
Age (years): range	15–74	16–75			
15–30	24 (45.2)	12 (28.6)			
31–40	18 (33.9)	13 (30.9)			
> 65	3 (5.6)	5 (11.9)			
Mean age (SD)	34.8 (12.8)	39.8 (14.3)	1.8	93	0.08
Occupation					
Unemployed/farmer/ petty trader	27 (50.9)	19 (45.2)			
Junior worker/school teacher	6 (11.3)	5 (11.9)	4.2	3	0.24
Level of education					
No formal/primary school	15 (28.3)	12 (28.6)			
Secondary school	15 (32.1)	14 (33.3)	0.39	3	0.9
Marital status					
Married	12 (22.6)	26 (61.9)			
Caregivers' characteristics					
Mean age (SD)	46.7 (16.7)	47.3 (15.6)	0.2	93	0.9
Occupation					
Unemployed/farmer/ petty trader	17 (32.1)	17 (40.5)			
Junior worker/school teacher	12 (22.6)	8 (19.0)	0.73	2	0.7
Level of education					
No formal/primary school	20 (37.7)	19 (45.2)			
Secondary school	15 (28.3)	9 (21.4)	1.4	3	0.7
Marital status					
Married	35 (66.6)	28 (66.7)			
Living arrangements					
patient lives with parent/ spouse/sibling	45 (84.9)	37 (90.0)			
caregiver lives with patient	42 (79.2)	35 (83.3)			
Caregiver's relationship with patient					
parent/spouse/sibling	44 (83.0)	33 (78.6)			
How long caring for patient (years) SD)	7.3 (5.7)	9.5 (7.0)	1.6	93	0.7

patients had experienced psychotic symptoms several times weekly/daily; but the majority (59 or 62.1 %) had not been hospitalized in the past year.

There were no significant differences between the schizophrenic and major affective disorder cases, for age of patients (36.8, SD 13.5; vs 38.1, SD 14.5; P > 0.05); duration (years) of illness (9.9, SD 7.4; vs 8.05, SD 6.6; P > 0.05); weeks of symptoms in the past 3 months (3.9, SD 2.7; vs 3.08, SD 2.2; P > 0.05); and age of caregivers (45.6, SD 16.2; vs 51.5, SD 16.6; P > 0.05).

Beliefs and attitudes of caregivers of psychiatric patients

There were no significant differences in responses between relatives of schizophrenic and affective disorder cases (P > 0.05). Table 2 shows that relatives believed in a multiplicity of possible causative factors (at least 20 % shared belief in each of the possible biomedical and supernatural items); and only the beliefs about severe mental disorder as a natural illness and due to "Satan's work" attracted over 50 % of positive responses. However, when the choice of etiological factors was narrowed down to one, only the religion-influenced idea of "Satan's work" (35.8 %) attracted up to a third of positive responses. In the category of most important causative factor, the genetic item attracted only 9.5 % of positive responses, similar to the belief in "witchcraft" (10.5 %) and "curse by enemies" (10.5 %). None believed that the reincarnation theory was a most important causative factor. In spite of the apparently high frequency of positive responses on supernatural causative factors, 54 (56.8 %) had not been taken to spend nights (vigil) at churches for prayers; and 76 (80 %) patients had never been taken to traditional healers for treatment.

Table 2 Possible and most important causative factors of severe mental disorders (N =95)

Causative factors	Possible factor N= 95 (%)	Most important factor N = 95 (%)
A natural illness from psychosocial and biological factors	52 (54.7 %)	22 (23.2 %)
Inherited from both parents (genetic)	20 (21.1 %)	9 (9.5 %)
A form of punishment from God	18 (18.9 %)	3 (3.2 %)
A form of curse by enemies	32 (33.7 %)	10 (10.5 %)
Caused by witchcraft	24 (25.3 %)	10 (10.5 %)
Patient is a reincarnation of someone with similar illness	19 (20.0 %)	–
It is God's will*	24 (25.3 %)	7 (7.4 %)
It is Satan's work*	62 (65.3 %)	34 (35.8 %)

* See text for meaning of these terms

Table 3 compares the responses on the most important causative factor for relatives of psychiatric patients with those of cancer, infertility and SCD. Sickle cell disease, a well-known genetic hemoglobin disease, attracted the most frequent positive response on genetic etiology (41.5 %); none of the relatives of SCD patients believed that "witchcraft" was a most important etiological factor, while only 9.2 % believed in "Satan's work" as a most important causative factor. The factor of "Satan's work" was most frequently chosen as the most important causative factor for relatives of cancer (49.3 %) and infertility (37 %) cases, "genetic factors" were rarely cited, "witchcraft" was important for only about 10 % of cancer relatives, while only about 15 % of relatives of infertility cases felt that 'curse by enemies' was a most important causative factor.

When the attitudes of caregivers were compared across the above illness groups (Table 4), we found that attitudes towards caring for the psychiatric patient are distinguished from the others by much higher positive responses on anger and social embarrassment (stigma). Cancer and infertility rarely provoked such feelings.

Over two-thirds of caregivers of psychiatric patients felt glad caring for the patient and would not like the patient institutionalized. In spite of the social embarrassment that severe mental disorders constituted for families, at least 75 % of families were thought to be strongly sympathetic, helpful and supportive. In 80 % of families of psychiatric patients, there was an impression that caring for the patient had made family emotional ties closer. However, as Table 4 shows, a much higher proportion of relatives of cancer and infertility patients had positive attitudes towards institutionalization, gladness in caring for the patient, sympathy, support and cohesive family ties. Virtually all (98.9 %) psychiatric caregivers

Table 3 Comparison of causative beliefs among relatives of patients with: psychoses, cancer, infertility and SCD

The most important causes	Psychoses N = 95 (%)	Cancer[#] N = 73 (%)	Infertility[#] N = 27 (%)	SCD[##] N = 65 (%)
Natural: from psychosocial and biological factors	22 (23.2)	14 (19.2)	8 (29.6)	14 (21.5)**
Inherited from both parents	9 (9.5)	2 (2.7)	2 (7.4)	27 (41.5)
Patient a reincarnation of one with similar illness	–	4 (5.5)	1 (3.7)	1 (1.5)
Form of punishment from God	3 (3.2)	–	–	1 (1.5)
Form of curse by enemies	10 (10.5)	3 (4.1)	4 (14.8)	3 (4.6)
Caused by witchcraft	10 (10.5)	7 (9.6)	1 (3.7)	–
It is God's will	7 (7.4)	7 (9.6)	1 (3.7)	12 (18.5)
It is "Satan's work"	34 (35.8)	36 (49.3)	10 (37.0)	6 (9.2)

[#] From Reference No.15; [##] From Reference No.16; ** Statistical differences are not computed because data are from different studies

Table 4 Comparison of attitudes to illness among relatives of patients with: psychoses, cancer and infertility

	Psychoses N = 95 (%)	Cancer[#] N = 73 (%)	Infertility[#] N = 28–30 (%)[##]
A. Attitudes to patient by caregivers			
Feel depressed/cry frequently because of patient's condition	41 (43.0)	71 (97.3)	13 (44.8)**
Feel glad caring for patient	67 (70.5)	72 (98.6)	29 (96.7)
Would not like patient institutionalized	79 (83.2)	66 (90.4)	28 (100.0)
Feel angry or embarrassed caring for patient	20 (21.1)	–	–
B. Attitudes of other family members to patient			
Feel angry about the patient's condition	18 (18.9)	3 (4.2)	1 (3.7)
Feel embarrassed for having such a relative	44 (46.3)	1 (1.4)	3 (11.1)
Feel depressed about patient's condition	58 (61.1)	64 (90.1)	9 (33.3)
Caring made family ties closer	76 (80.0)	71 (98.6)	27 (96.4)
Blame God for giving them this difficulty	5 (5.3)	2 (2.8)	1 (3.7)
Cry frequently about this condition	24 (25.3)	51 (71.8)	2 (7.4)
Have strong feeling of sympathy	71 (74.7)	66 (93.0)	22 (81.5)
Are helpful and supportive	74 (77.9)	67 (94.4)	24 (88.9)
Would not like patient institutionalized	78 (82.1)	68 (93.2)	27 (96.4)

[#] From Reference No. 15; [##] N = 28–30 because of missing values for some items; ** Statistical differences are not computed because data are from different studies

believed that staff were good to them and denied feelings of anger/disappointment towards the treatment team.

In an attempt to assess factors associated with global rating of psychosocial burden by caregivers, a number of cross-tabulations and chi-square tests were done. None of the beliefs about possible causes of mental disorders was significantly associated with global rating of burden and GHQ–12 scores ($P > 0.05$). Also, global rating of burden was not significantly associated with the emotional feelings of caregivers towards the patients ($P > 0.05$).

Discussion

The findings cannot be generalized since the study was cross-sectional, hospital-based and the subjects were selected and not a representative sample of the general population of first-degree relatives of psychiatric patients. However, the socio-demographic and clinical characteristics of the patients were similar to those of previous studies of psychotic patients in our locality [28]. Another limitation of the study is the fact that only one caregiver was interviewed per family. Following the example of previous workers, we tried to make up for this by interviewing those most closely involved in caregiving roles [15, 29]. In addition, the rather small sample size diminishes the statistical power of the analyses; and the non-significant difference between the psychiatric patient groups may be due to this factor. However, the results of the statistical analysis did not indicate a trend towards significance, which a larger sample size could have presumably unmasked. In addition, our findings in this regard are in line with those of studies from developed countries. Furthermore, the results of the larger study showed that the questionnaire reliably discriminated burdens and beliefs among the sample. For instance, although there were no significant differences across psychiatric diagnostic groups for indices of burden, relatives of patients who had psychotic symptoms and disruptive behaviour at the time of interview experienced significantly more burden [14].

The results are in support of the earlier highlighted hypotheses. In exploring the first hypothesis, we found that, whereas schizophrenia has received the greatest attention in the literature, our findings add to the body of evidence that major affective disorders are associated with similar causative beliefs and attitudes as schizophrenia [29].

In exploring the second and third hypotheses, we found that the greatest premium was placed on the religion-influenced idea of "Satan's work" (35.8 %) and the natural or biomedical factor (23.2 %). This is similar to the responses of relatives of cancer and infertility cases [12], while being different from the responses of SCD caregivers, who mostly cited genetic factors [13]. This implies that, contrary to popular opinion [21–24,], caregivers could be discriminatory in ascribing etiology in such a way that those disorders whose etiologies have been proven (e. g. the genetic for SCD) are properly labelled as natural/genetic; whereas for disorders that are still an enigma, such as mental disorders and cancer, the supernatural beliefs hold sway. It appears that these respondents, being unaware of reliable etiological factors for psychoses and cancer and belonging to a culture in transition from the world of traditional supernatural beliefs to the current era of Christian fundamental beliefs, are now blaming it all on the work of the devil – in keeping with the prevailing popularity of Christian fundamentalist notions on the matter [25]. In other words, lay beliefs on causative factors tend to reflect available knowledge and prevailing religious/cultural beliefs and practices. This view is supported by comparing the responses of our caregivers on etiology to those of Nigerian reports from studies carried out in the decades of the 60s/70s of the 20th century. These earlier studies [6, 21–24] all showed that supernatural causative beliefs relating to "witchcraft" and "curse by enemies" were the

most popular, and that traditional healers were commonly sought after for treatment. In support of the impression of a possible shift in beliefs by the many in modern Nigeria, we found that 80 % of psychiatric patients in this study had never been taken to traditional healers for treatment. Rather, there seems to be a shift towards Christian faith causative beliefs and treatment, as about 43 % of our psychiatric patients had patronized such services, similar to the case for cancer and infertility [12]. In a study of causative beliefs for mental disorders in the late 1980s in nearby Lagos metropolis, Ilechukwu [7] found that less than half of the patients held a supernatural cause as the source of their problem. In a recent study of teachers in Ghana [11], the authors opined that if the evidence at hand sufficiently explains a disorder, there may be no need to invoke the supernatural belief system which may well be on the wane. This is in line with the opinion that the popularity of the so-called African traditional beliefs is a stage in the historical development of the people, based on available information on disease causation and technological development [30]. For instance, McGovern and Hemmings [31] found that people of African descent, acculturated in the UK, rarely cited supernatural causation for mental disorders. Studies of lay beliefs about severe mental disorders from developed countries indicate that only a tiny minority still hold supernatural beliefs for mental illness [2, 20, 31, 32]. On the other hand, in an African country where protracted armed conflict has prevented development efforts, key informants still hold predominantly supernatural causative beliefs [33].

Policy makers in Nigeria and sub-Saharan Africa should be encouraged by these findings to support research and systematic attempts at public mental health literacy [34] aimed at modernizing general population causative models and attitudes.

Interestingly, only 9.5 % of psychiatric caregivers rated the genetic factor as being most important, comparable with 16 % from a German-Austrian study [20]. However, our experience is that parents go to great lengths to find out whether their prospective sons/daughters-in-law have family history of mental disorders. To account for the discrepancy between the opinion of relatives and that of the general population, Angermeyer and Matschinger [20] noted that this may be a reflection of the need for relatives to deal with their own feelings of guilt. Another explanation is that these caregivers may have been expressing their true belief on the contribution of genetic factors, since the definite genetic abnormalities for severe mental disorders have not yet been identified by science, and the majority of people with severe mental disorders do not have family history of the disorders [35].

For the fourth and fifth hypotheses, our findings support the robust evidence in the literature that, in the public mind, the distinguishing factor between severe mental disorders and other chronic physical illnesses is the considerable social stigma of psychiatry [2, 5, 33]. In Nigeria, it appears that this phenomenon affects relationships at work and economic productivity of patients [8]. However, beliefs and attitudes of caregivers were not significantly associated with caregiver global rating of burden. Accordingly, in spite of the objective and subjective psychosocial burden experienced by these caregivers [14], the vast majority of families had strong feelings of sympathy for the patient (74.7 %), were helpful and supportive, and there was an impression that caring had actually made family emotional ties closer (80 %). Coupled with their positive appraisal of the doctors and nurses, this is an indication that these caregivers were tolerant towards the patients [19] and would cooperate with the authorities in measures that can enhance the quality of life for the patients. The context that enabled caregivers to report consistent dedication to their caregiving roles can be understood from the implications of the findings of studies on coping strategies. There is an indication that most of the time relatives perceive that they could do something to improve the situation, and most relatives do not see problems as permanently insoluble [36]. Whereas at the first episode of psychosis caregivers are coping with a wide range of problems [37], they acquire coping strategies and over time their expressed emotion levels and perception of the patient's behaviour improve [38].

In conclusion, our findings support the impression that, in the absence of national social welfare programmes, Nigerian families with chronically ill members have the emotional disposition to play useful community psychosocial support roles [12, 13, 16, 17]. To actualize this potential, they need to be supported by policies that will promote mental health literacy and provide social welfare support [5, 33, 34]. In developing countries where the family is the only reliable source of support for chronically ill persons, research should focus on how to strengthen the extended family network for a central role in community care.

Acknowledgements Mrs. G. Oyin Awosika interviewed the subjects. Miss 'Tosin Cole played an invaluable role in data collection and analysis. We thank the relatives and patients who gave of their time to be interviewed. This study was partly supported by a University of Ibadan Senate research grant.

References

1. Keen TM (1999) Schizophrenia: orthodoxy and heresies: a review of alternative possibilities. J Psychiatr Ment Hlth Nurs 6: 415–424
2. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Politt PC (1997) Public beliefs about causes and risk factors for depression and schizophrenia. Soc Psychiatry Psychiatr Epidemiol 32: 143–8
3. Magliano L, Marasco C, Guarneri M, Malangone C, Lacrimini G, Zanus P, Maj M (1999) A new questionnaire assessing the opinions of the relatives of patients with schizophrenia on the causes and social consequences of the disorder: reliability and validity. Eur Psychiatry 14: 71–5
4. Phillips MR, Li Y, Stroup TS, Xin L (2000) Causes of schizophrenia reported by patients' family members in China. Br J Psychiatry 177: 20–25

5. Crisp AH, Gelder MG, Rix S, Meltzer HI, Rowlands OJ (2000) Stigmatization of people with mental illnesses. Br J Psychiatry 177: 4–7
6. Odejide AO, Olatawura Mo, Sanda A, Oyeneye A (1977) Traditional healers and mental illness in the city of Ibadan. Afr J Psychiatry 3: 99–103
7. Ilechukwu ST (1988) Inter-relationships of beliefs about mental illness, psychiatric diagnosis and mental health care delivery among Africans. International J Soc Psychiatry 34: 200–6
8. Oyefeso A (1994) Attitudes towards the work behavior of exmental patients in Nigeria. International J Soc Psychiatry 40: 27–34
9. Dale JR, Ben-Tovim DJ (1984) Modern or traditional? A study of treatment preference for neuropsychiatric disorders in Botswana. Br J Psychiatry 145: 187–191
10. Patel V (1995) Explanatory models of mental illness in sub-Saharan Africa. Soc Sci Med 40: 1291–1298
11. Ofori-Atta AM, Linden W (1995) The effect of social change on causal beliefs of mental disorders and treatment preferences in Ghana. Soc Sci Med 40: 1231–1242
12. Ohaeri JU, Campbell OB, Ilesanmi A, Ohaeri BM (1999) The opinion of caregivers of some women with breast and cervical cancer on aspects of the disease. W Afr Med J 18: 6–12
13. Ohaeri JU, Shokunbi WA (2001) The opinion of caregivers of sickle cell disease sufferers on aspects of the disease. E Afr Med J 78: 174–179
14. Ohaeri JU (2001) Caregiver burden and psychotic patients' perception of social support in a Nigerian setting. Soc Psychiatry Psychiatr Epidemiol 36: 86–93
15. Jenkins JH, Schumacher JG (1999) Family burden of schizophrenia and depressive illness: specifying the effects of ethnicity, gender and social ecology. Br J Psychiatry 174: 31–38
16. Ohaeri JU (1998) Perception of the social support role of the extended family network by some Nigerians with schizophrenia and affective disorders. Soc Sci Med 47: 1463–1472
17. Ohaeri JU Campbell OB, Ilesanmi AO, Omigbodun AO (1999) The psychosocial burden of caring for some Nigerian women with breast and cervical cancer. Soc Sci Med 49: 1541–1549
18. Platt S (1985) Measuring the burden of psychiatric illness on the family: an evaluation of some rating scales. Psychol Med 15: 383–393
19. Hoening J, Hamilton W (1966) The schizophrenic patient in the community and his effect on the household. International J Soc Psychiatry 12: 165–176
20. Angermeyer MC, Matschinger H (1996) Relatives' beliefs about the causes of schizophrenia. Acta Psychiatrica Scand 93: 199–204
21. Odejide AO (1978) Traditional (native) psychiatric practice; its role in modern psychiatry in a developing country. The Psychiatric J Univ Ottawa 4: 297–301
22. Erinosho OA, Ayorinde A (1978) A comparative study of opinion and knowledge about mental illness in different societies. Psychiatry 4: 403–410
23. Odejide Ao, Olatawura MO (1979) A survey of community attitudes to the concept and treatment of mental illness in Ibadan, Nigeria. Nigerian Med J 9: 343–347
24. Prince R (1973) Some Yoruba views on the causes and modes of treatment of antisocial behavior. Afr J Psychiatry 2: 133–137
25. Ohaeri JU (1992) The alternative traditional medicine: clinical psychiatric encounters with syncretic church attenders. Medicare Journal 5(6): 8–10
26. Goldberg DP (1972) The detection of psychiatric illness by questionnaire. Maudsley Monograph, No 21, Oxford University Press
27. Ohaeri JU, Odejide AO (1994) Somatization symptoms among patients attending PHC facilities in a rural community in Nigeria. Am J Psychiatry 151: 728–731
28. Ohaeri JU, Adeyinka OA, Enyidah SN, Osuntokun BO (1995) The schizophrenic and manic brains in Nigerian Africans: brain CT scan findings. Br J Psychiatry 166: 496–500
29. Perlick D, Clarkin JF, Sirey J, Rame P, Greenfield S, Struening E, Rosenheck R (1999) Burden experienced by caregivers of persons with bipolar affective disorder. Br J Psychiatry 175: 56–62
30. Ohaeri JU (1988) African traditional medicine: a stage in the people's history. Afr Notes 12: 24–28
31. McGovern D, Hemmings P (1994) A follow-up of second generation Afro-Caribbeans and white British with a first admission diagnosis of schizophrenia: attitudes to mental illness and psychiatric services of relatives and patients. Soc Sci Med 38: 117–127
32. Angermeyer MC, Matschinger H (1994) Lay beliefs about schizophrenic disorder: the results of a population survey in Germany. Acta Psychiatrica Scand 89 (suppl. 382): 39–45
33. Alem A, Jackobson L, Araya M (1999) How are mental disorders seen and where is help sought in a rural Ethiopian community? A key informant study in Butajira, Ethiopia. Acta Psychiatr Scand 100 (suppl. 397): 40–47
34. Jorm AF (2000) Mental health literacy: Public knowledge and beliefs about mental disorders. Br J Psychiatry 177: 396–401
35. Barondes SH, Alberts BM, Andreasen NC et al. (1997) Workshop on schizophrenia. Proc Natl Acad Sci 94: 1612–1614
36. Scazufca M, Kuipers E (1999) Coping strategies in relatives of people with schizophrenia before and after psychiatric admission. Br J Psychiatry 174: 154–158
37. Tennakoon LA, Fannon D, Doku V et al. (2000) Experience of caregiving: relatives of people experiencing a first episode of psychosis. Br J Psychiatry 177: 529–533
38. Scazufca M, Kuipers E (1998) Stability of expressed emotion in relatives of those with schizophrenia and its relationship with burden of care and perception of patients' social functioning. Psychol Med 28: 453–461