Research Paper

Occupation, poverty and mental health improvement in Ghana

Travail, pauvreté et amélioration de la santé mentale au Ghana

William Boyce [a],[*], Shoba Raja [b], Rima Ghosh Patranabish [b],
Truelove Bekoe [c], Dominic Deme-der [c], Owen Gallupe [a]

[a] *Faculty of Health Sciences, McArthur Hall, Queen's University, 99, University Avenue, Kingston, Ontario K7L 3N6, Canada*
[b] *Policy and Practice, BasicNeeds, Bangalore, India*
[c] *BasicNeeds, Tamale, Ghana*

Abstract

This study examines the relationship between a number of socioeconomic indicators (asset ownership, assets purchased, change in income, food shortage, kept job after illness) and two outcomes: improvement in mental illness and stability of mental illness. A sample of urban and rural Ghanaians reporting a mental illness ($n = 400$) was used. This focus on changes in mental illness differs from much previous work that examines mental illness status (i.e., whether or not a person has a mental illness). It was found that maintaining employment after the onset of illness was associated with both mental illness improvement and stability. Income increases were related to stability of mental illness only. Asset and food shortage measures were not found to be significant correlates of mental illness improvement or stability. This study indicates that measures taken to protect jobs and social status after the onset of mental illness symptoms are likely to facilitate improvements in mental health.
© 2009 Association ALTER. Published by Elsevier Masson SAS. All rights reserved.

Keywords: Mental illness; Socioeconomic status; Poverty; Ghana; Sub-Saharan Africa

Résumé

Cette étude examine la relation entre un certain nombre d'indicateurs socioéconomiques (biens possédés, biens acquis, changement dans le niveau de revenu, insuffisance alimentaire, maintien dans l'emploi après une maladie) et deux variables expliquées : amélioration de la maladie mentale et stabilité de l'état de santé

* Corresponding author.
  E-mail address: boycew@queensu.ca (W. Boyce).

mentale. Nous avons utilisé un échantillon d'habitants du Ghana vivant en milieu rural ayant déclaré une maladie mentale ($n = 400$). L'accent mis sur les changements relatifs à la maladie mentale innove par rapport à des travaux antérieurs qui examinent le statut de santé mentale (c'est-à-dire le fait d'avoir ou pas une maladie mentale). Les résultats montrent que le maintien dans l'emploi après le déclenchement de la maladie était lié à la fois à l'amélioration de l'état de santé du malade et à la stabilisation de la maladie. L'augmentation de revenu apparait liée uniquement à la stabilisation de la maladie. Les mesures relatives aux biens et au manque de nourriture n'apparaissent pas comme significativement corrélées à l'amélioration de l'état de santé ou bien à sa stabilisation. Cette étude montre que les mesures prises pour protéger l'emploi et le statut social des individus ayant déclaré une maladie mentale sont de nature à favoriser une amélioration de la santé mentale.

Mental illness in developing countries

Mental illness refers to mental health problems, or disorders, that include psychological distress, common mental disorders (e.g., depression, anxiety), severe mental psychoses, substance abuse disorders, abnormal personality traits and progressive organic dementias (WHO, 1993). Mental illness is a major, although treatable, problem in developing countries. The social and economic costs of mental illness in developing countries are high (Benegal et al., 1997; Suleiman et al., 1997) while prevalence rates have been found to range from a low of 8% to a high of 73% (Parry, 1996) depending on the sample population examined. Studies utilising random or total sampling yield prevalence rates of mental illness between 20 and 30% (Patel and Kleinman, 2003). Murray and Lopez (1997) indicate that prevalence rates for categories encompassing various mental illnesses are higher for developing regions than for regions with established market economies. However, few studies examine the rate of recovery, relapse, or stability of mental illness in developing countries. This may reflect a bias towards assuming mental illness is a stigmatized, untreatable condition.

Socioeconomic status (SES) has been identified as an important factor in determining the general health situation of a population. Socioeconomic inequalities have also been associated with various chronic diseases including cardiovascular disorders and mental illness. It is well established that those with lower SES tend to have worse mental health (Dohrenwend, 1990; Fryers et al., 2003). Much previous work has examined this relationship both in the context of affluent countries (e.g., Skantze et al., 1992; Taylor et al., 2004) and some in the context of developing countries (e.g., Bahar et al., 1992; Gureje et al., 2006).

In developing countries, the relationship between SES and mental health is exacerbated by globalising economies reducing public funds for provision of mental health services in favor of privatisation of health services which disadvantages the poor disproportionately (Okasha, 2006; Sharma, 2006). In countries with systems of social welfare and accessible mental health care, people with a mental illness are likely to be able to maintain adequate levels of housing and sustenance. In countries without these supports, mentally ill persons are subject to very difficult life circumstances if living on their own, or to place a severe strain on their families if they cannot contribute economically (Martyns-Yellowe, 1992; Zimmer et al., 2004).

Linking SES and mental illness in developing countries

Research on the influence of SES on health is important for policy makers in developing countries, where limited resources make it crucial to use existing health care resources in the most cost-effective way. Although the relationship between measures of SES, such as income, and emotional distress has been acknowledged (Patel et al., 1999), its role in most epidemiological studies has been underconceptualized and limited to that of a confounding variable.

There is, additionally, no consensus on what exactly SES is or how to measure it. For example, SES may be measured in terms of (among other things) assets owned, quality of housing, personal income, disposable income, occupational status, educational level, ability to provide the necessities of life, access to luxuries, or various combinations of these factors.

Furthermore, valid measures of SES are likely to differ between more and less developed countries. For example, having household electricity may not adequately distinguish between levels of SES in North America or Europe where access to electricity is routine, although it may be a strong indicator of SES in rural Africa. Similarly, cash income may be a good indicator of SES in developed countries though it may not have any relationship to SES in barter economies or herding societies where a person may be very well off despite rarely handling money.

Certain studies have examined the relationship between different SES measures and mental health outcomes in developing countries. A cross section has been reviewed here to provide an overview of common findings. Patel and Kleinman (2003) reviewed 11 community studies in developing countries and found that level of education had the most consistent association with mental health. Araya et al. (2003) found lower education, a recent income decrease, and poor housing were related to mental disorders in their urban Chilean sample. Similarly, Ludermir and Lewis (2001) found lower education and lower income to be associated with mental disorders in Brazil.

Mumford et al. (2000) in their sample of Pakistani urban poor, found that lower levels of education of the head of the household were related to higher levels of mental disorder, especially for women. They also found that household income was most strongly correlated with mental health for men and that household income, number of appliances, and the head of the household's level of education was most strongly correlated with mental health for women. However, a composite measure of "general wealth" was insignificant in multivariate analysis.

Bhagwanjee et al. (1998), in their sample of rural South Africans, found higher prevalence rates on a variety of mental illnesses among those with the lowest incomes and those with no formal education. Interestingly, they also found that unemployed individuals had lower rates of depression although this finding is confounded by the fact that many who reported being "employed" are likely to be involved in informal, insecure work.

Bahar et al. (1992) found improvements in standard of living to be related to improved mental health in their Indonesian sample. In particular, they found permanent housing, higher income, more education, television ownership, and household tap water and electricity to be related to better mental health.

This brief review illustrates that education and income measures of SES are the most consistent predictors of mental illness status in developing countries. Occupation, asset, and housing measures are also important factors in mental illness status, although they may be more predictive of mental health progress.

Most studies examining mental health in developing countries have examined prevalence of mental illness "status" (that is, diagnosis) and its relationship to SES. Few have addressed the socioeconomic predictors of mental health "progress" (for example, rehabilitation, recovery,

relapse) among mentally ill persons in a developing country. Given the variation in appropriate measures of SES across national contexts, this study, working with generally accepted measures, attempts to identify the components of SES which impact upon mental health progress in the context of a developing country in Africa.

Methods

Study setting

An international NGO (www.basicneeds.org) provides mental health and development programmes in eight low and middle income countries in Asia, Africa and South America. The model of practice includes community mental health services, capacity building, sustainable livelihoods, research and administration. BasicNeeds' largest programme is in Ghana, with widespread geographical coverage (45% of the country) and both urban and rural intervention work. Well established programme support in Ghana and resources from the International Development Research Centre allowed for the undertaking of this study.

Ghana is a democratic republic, with a population of approximately 21 million people (2005 estimate), 59.1% of whom are in the 15–64 age group. The population growth rate of Ghanaians is 1.25% and average life expectancy is about 58 years. Ghana is considered to be a low-income country with one third of its population still living below the poverty line, even though this level has declined from an estimate of 51.7% in 1991–1992 (Ghana Statistical Service, 2000). Economic disparities exist between southern urbanized and northern rural Ghana. Of the 39.5% national incidence of poverty in 1998–1999, the greater Accra region accounts for only 0.05% of the total. Extreme poverty is higher in the northern regions of the country, ranging between 57 and 80%.

Poverty in many developing countries can also be construed in terms of shortfalls in access to certain fundamental needs including food. Ghana is particularly susceptible to food insecurity as demonstrated by Appiah-Kubi and Osei-Akoto (1995) who confirmed that 4.8%, 11.6%, 50% and 73.3% of households in the Volta Basin of Northern Ghana do not have access to adequate food in April, May, June and July respectively.

Government policy mandates that mental health services are free in Ghana. In addition, psychotropic drugs and anticonvulsants are on the essential drug list and people with mental illness and epilepsy are entitled to free treatment at all public health institutions. However, only a few people who suffer from mental disorders get the necessary free treatment due to the lack of sufficient and accessible treatment centers. Attempts were made to decentralise mental health care in Ghana in the early 1990s, with the aim of integrating mental health service into the primary health care delivery system. However, due to resource constraints, the regional hospital and subarea polyclinics have not been able to fulfill this new directive.

The private institutions in Accra and Tamale are another option for treatment, but are reserved for the handful of patients who can afford the high costs of treatment. Traditional and faith healers form another major source of care for people with mental health problems in Ghana.

Study population and sampling methodology

The BasicNeeds programme in Ghana that targets mentally ill people and their families formed the source population for the study in 2006. The urban Accra programme had a total of 1163 persons with mental illness in its four subareas at the time of the survey. Fifty persons with mental

illness or their caregivers[1] were selected from each of the four subareas with considerations for balancing the sample by gender and illness severity. The Northern Ghana rural programme had a total of 13,343 persons enrolled and from these 100 mentally ill people or caregivers were selected from both the Tamale and Bawku subareas. Thus, a total of 400 mentally ill individuals were recruited. Initial diagnoses of mental illness were done by trained psychiatrists through clinical interviews. In areas where the study was undertaken, community psychiatric nurses classified participating persons into diagnostic groups of epilepsy, severe, and common mental disorders as per WHO guidelines on the classification of mental disorders. Respondents were voluntarily a part of this study and could choose not to participate in it at any point. An informed consent procedure was approved by an ethics committee of the University of Development Studies in Tamale.

Data collection

Survey training was provided for 65 community psychiatric nurses, volunteers and field staff who then administered a penultimate version of the instrument in the field. After quality control assessments, 25 volunteers, three BasicNeeds staffs, three community psychiatric nurses and three partner NGO staffs were selected to administer the final questionnaire. This paper describes the results of the survey for the following.

Mental health progress outcomes

Two distinct outcomes were identified.

Improvement in mental illness

This item was classified into two categories: no improvement reported (decline, no change) versus improvement. This is an internalized assessment of one's mental health progress and, to a certain degree, is subjective.

Stability of mental illness symptoms

This item asks about the last time the person experienced the illness: 1–2 months; 3–6 months; 7–12 months; over a year. This measure is an externally observable assessment of mental health as it refers to sleeplessness, appetite changes, dizziness, etc. Responses were dichotomized into two categories (unstable: last experienced symptoms of mental illness 6 months ago or less; stable: 7 months ago or more).

While these two outcomes are related ($r = 0.213$), they address different aspects of positive mental health. For example, individuals reporting an improvement in their illness may have last experienced symptoms just an hour before their interview, but the symptoms may be less severe than a month before. These individuals would therefore report an improvement in their illness, but also instability.

Socioeconomic predictors

Five different markers that tap various components of SES relevant in this context are utilised: asset ownership; asset purchases; income fluctuation; ability to secure basic food necessities and

---

[1] Caregivers in most cases were family members and served as proxy respondents for severely ill persons.

a measure of occupational stability. Educational status was not used as it was not likely to change during the progress of illness.

Asset ownership

Eleven items were summed to create this measure. Owning a house, livestock, farm implements, television, radio, tape player, car, motorbike, bicycle, land, and refrigerator were each scored 1. Non-ownership of any item was scored 0. After summing the components, this measure was dichotomised approximately at the median creating equal groups of "fewer" = 0 and "more" = 1 assets. Ownership of three assets or less is considered "fewer". There are admittedly problems with the weighting of the individual asset items. For example, owning a car is likely an indicator of higher SES than owning a tape player although they are considered of equal importance in this analysis. As there are no Ghanaian general population data available, weighting the items based on proportion of the population that owns a particular item (Subramanian et al., 2005), using factor analytically derived weights (Sahn and Stifel, 2000), or principle component analysis weights (Filmer and Pritchett, 2001) are not good options. Such weighting may be misleading in terms of the relative affluence associated with ownership of particular items. Of the variables in this study, Sahn and Stifel (2000) provide general population-based weights for ownership of a radio, TV, refrigerator, bicycle, and motorized transport (car and motorbike) in Ghana, but not for other items of importance in rural areas (house, livestock, farm implements, tape player, land) that are included in our asset ownership measure. There is precedent for using an equally weighted additive asset measure (Guilkey and Jayne, 1997).

Assets purchased recently

For the 11 asset items listed above, subjects were asked if they had purchased these assets in the past 6 months and responses were summed. Due to small reported numbers of assets purchased, this variable was dichotomised into 0 = no assets purchased, 1 = at least one asset purchased in the past 6 months.

Change in income

Increases in income may be associated with positive mental health outcomes. This is a dichotomous variable (0 = no increase, 1 = increase).

Food shortage

This item asked if there are periods in the past year when the household did not have enough food (0 = yes, 1 = no).

Kept job after illness

Unemployment is an indicator of low SES. Losing a job after the onset of mental illness symptoms may also exacerbate the effect of the illness. This is a dichotomous variable (0 = did not keep job after onset of illness, 1 = kept job after onset of illness).

As the goal of this study was to determine the specific components of SES that influence mental health progress, collinearity among the various SES measures is a concern due to their conceptual overlap. However, the highest correlation between the predictors was low ($r = 0.314$, between change in income and kept job after illness) indicating that collinearity is not a significant issue.

Table 1
Number of cases and percentages for SES variables and mental illness outcomes.

Variable	*n*	%
Asset ownership		
Fewer	195	49.2
More	201	50.8
Assets purchased		
None	258	65.3
At least 1	137	34.7
Change in income		
No increase	325	81.5
Increase	74	18.5
Food shortage		
Yes	297	74.8
No	100	25.2
Kept job after illness		
No	220	60.4
Yes	144	39.6
Improvement in illness		
No improvement	34	8.6
Improvement	360	91.4
Stability of mental illness		
Unstable	266	67.3
Stable	129	32.7

Analysis

SES variables were entered together into separate binary logistic regression models for both mental illness outcomes. Possible confounding factors are age, gender, and location (urban/rural) which are controlled in the multivariate analysis.

Results

Descriptive results

The mean age of the sample was 40.0 years and 58.9% of the sample was female.[2] Regarding the SES variables, the assets variable was divided into two groups with either "fewer" or "more" assets (Table 1). The majority of the sample had not purchased any assets in the past 6 months and had not experienced an increase in income. Most reported food shortages and did not keep their job after the onset of mental illness symptoms. Descriptive data are available from other sources (article in preparation).

The vast majority (91.4%) of the sample had experienced an improvement in their mental illness but 67.3% also reported that their condition had not stabilised (i.e. the majority had experienced symptoms in the past 6 months).

---

[2] A higher proportion of females in the urban site agreed to participate in the study, principally due to their availability. Similarly, a slightly higher proportion of men in the rural site participated, principally due to cultural reasons.

Table 2
Logistic regression on improvement in illness: no improvement (reference group) versus improvement, adjusted for age, gender, and location (urban or rural).

Variable	OR	95% CI
Asset ownership		
Fewer	1.00	
More	0.76	0.32–1.77
Assets purchased		
None	1.00	
At least 1	1.74	0.58–5.23
Change in income		
No increase	1.00	
Increase	2.12	0.47–9.62
Food shortage		
Yes	1.00	
No	0.49	0.20–1.23
Kept job after illness		
No	1.00	
Yes	4.86[*]	1.51–15.63

Hosmer and Lemeshow: 0.127.
[*] $p < 0.01$.

Multivariate analysis

Entering the SES variables into the multivariate binary logistic regression model on the "improvement in illness" outcome resulted in a single variable reaching significance–having kept one's job after the onset of mental illness symptoms (Table 2). Those who kept their jobs were almost five times as likely to report experiencing an improvement in illness (OR = 4.86, 95% CI = 1.51–15.63). The wide confidence interval here is due to the fact that there is minimal variability in the outcome (91.4% report an improvement in their illness).

Two SES variables significantly predict the "stability of mental illness" outcome (Table 3). As with improvement in illness, maintaining employment after the onset of illness is associated with stability of mental illness. Those who managed to keep their jobs were over twice as likely to report that their illness was stable (OR = 2.19, 95% CI = 1.27–3.78). Those who experienced an increase in their level of incomes were almost twice as likely to report that their illness had stabilised (OR = 1.77, 95% CI = 1.01–3.10).

Differences in age, gender and urban/rural location did not affect these results.

Discussion

Employment and improvement in mental illness

The results of this study indicate that maintaining employment after the onset of mental illness is more important in predicting positive changes in mental health among a mentally ill population in Ghana than are changes in assets and food availability. The main finding suggests that maintaining one's socioeconomic position (associated with occupation, in particular) may lessen the self-perception of the impact of mental illness. Maintaining employment could have a triple influence on mental health improvement. First, when income flow remains steady, the employed individual

Table 3
Logistic regression on stability of mental illness: unstable (reference) versus stable, adjusted for age, gender, and location (urban or rural).

Variable	OR	95% CI
Asset ownership		
Fewer	1.00	
More	0.73	0.45–1.19
Assets purchased		
None	1.00	
At least 1	0.88	0.50–1.53
Change in income		
No increase	1.00	
Increase	1.77[*]	1.01–3.10
Food shortage		
Yes	1.00	
No	1.08	0.62–1.90
Kept job after illness		
No	1.00	
Yes	2.19[**]	1.27–3.78

Hosmer and Lemeshow: 0.093.
[*] $p < 0.05$.
[**] $p < 0.01$.

is more likely to afford the costs of mental health treatments, which may stabilize the symptoms. Second, the social costs of mental illness are lessened when the individual who keeps a job can avoid, to a certain degree, the personal stigma of being labelled mentally ill. Third, for those who maintain their occupation, the self-esteem loss from unemployment itself is avoided. All of these factors are likely to promote positive internalized impressions of one's mental health.

Furthermore, the "social security" of having continued employment in an extremely harsh socioeconomic environment could be a significant factor in good mental health. Patel et al. (1999) noted that relative poverty or the perception that one is worse off than one's neighbours is a risk factor for mental disorders, in addition to absolute poverty. In India and Zimbabwe, being in debt is a particular source of stress and worry. Patel et al. also concluded that demographic and political changes in rural societies mean that many older people suffer from loneliness and economic hardship, which can increase their vulnerability to mental illness. Similarly, in a study in the Volta region of Ghana, Avotri and Walters (1999) found that the combination of financial insecurity and financial and emotional responsibility for children, together with heavy workloads, exacted a heavy toll in particular on women's emotional health.

The outcome-specific effect of experiencing a change in one's income is interesting. In this analysis, increased income is not associated with a subjective improvement in mental health, but it is (along with employment) related to stability of mental illness symptoms. It might be the case that those individuals with increased incomes (for whatever reason) then have increases in self-esteem. This psychological boost may positively impact on reactive, or stress-related symptoms, even without any subjective improvement in their mental health status that can be recognized by themselves. At the same time, these symptomatically stable persons are better able to function in society, making them more likely to be rewarded with increased income. The findings of this study add to "the riddle that low SES can be either a cause or a consequence of psychopathology" (Dohrenwend, 1990, p. 45).

The lack of significance of the asset variables and food shortages in subjective mental health improvement and symptom relief suggests that, in Ghana, mentally ill persons are responsive most to the positive social exchange dynamics of continued employment and the valued social status of increased earnings, which are both symbolic measures of worth in many societies. The lack of association of common household conveniences, or even food availability, with mental health progress suggests that these material conditions are somewhat less related to mental health improvement in Ghana. These findings contrast with surveys in Brazil, Zimbabwe, India and Chile that reveal a consistent relationship between absolute poverty and common mental disorders (Patel et al., 1999). These surveys also show close associations of the level of prevalence of mental disorders with indicators of impoverishment as measured by hunger, level of debt and education. Similarly in Indonesia, lower rates of depression and other mental disorders are found to be related to higher levels of education and access to commodities such as electricity, which are indicators of well-being.

Limitations

Inconsistencies that were noted in the data set are likely due to the use of community volunteers in collecting and recording the data. While involving local community members was invaluable in terms of legitimating the study in the eyes of participants, there is a trade-off when it comes to interview and recording consistency. While training was provided, the volunteers were not research professionals and cannot be held to the same standards. Certain variables could not be used in the analysis because of these inconsistencies. The tendency was towards inconsistency in open-ended questions and items which required a numerical value to be recorded (e.g., income, expenditure). Categorical response variables were generally recorded consistently.

We believe, however, that the value of involving the community in the data collection process vastly outweighed the problems associated with getting some unusable data.

Conclusion

The above findings emphasize that mental illness is not just a clinical issue but also a socioeconomic problem. The tremendous socioeconomic impact of mental illness is not yet part of serious policy discourses or decision-making in Ghana and this is highlighted by the exclusion of affected individuals and their families in poverty reduction strategies and related policy discussions.

The implications of this study point directly to the need for measures to protect jobs and social status after onset of mental illness in developing countries. These are the fundamental strategic objectives of integrated mental health and development programmes (Underhill, 2002). As it is likely that the social aspect of work is as important as the economic aspect in determining mental health outcomes, the solution cannot simply be to provide funds that come without effort to the individuals who seek treatment. Protecting jobs in many developing countries, however, is complicated by the fact that many jobs are seasonal or informal and the logistics of enforcing such legislation. As well, subsistence farmers are unlikely to be protected by employment legislation when they are not employed by others and are not actively participating in the cash economy.

These challenges highlight the additional need for more fundamental education-based changes in public perceptions of mental illness. If mental health issues were seen in the same light as physical health issues, individuals who experience mental health problems would be less likely to lose their job when problems begin and, if they can no longer perform their work, would be less likely to experience the negative social implications that can aggravate a preexisting mental illness.

Acknowledgements

The authors wish to thank the International Development Research Centre (IDRC) Canada, for its financial support in carrying out this study. Our gratitude goes to all staff and members of BasicNeeds Ghana. We especially thank Lance Montia, former programme manager, and Peter Yaro, programme manager BasicNeeds Ghana.

References

Appiah-Kubi, K. & Osei-Akoto (1995). Das sozioökonomische Gefälle zwischen Stadt und Land in Afrika: Zur politischen Ökonomie der wirtschaftlichen Entwicklung des ländlichen Raums in Ghana. Frankfurt am Main.

Araya, R., Lewis, G., Rojas, G., & Fritsch, R. (2003). Education and income: which is more important for mental health? *Journal of Epidemiology and Community Health*, *57*, 501–505.

Avotri, J. Y., & Walters, V. (1999). "You just look at our work and see if you have any freedom on Earth". Ghanaian women's accounts of their work and health [p. 42]. *Social Science & Medicine*, *48*, 1123–1133.

Bahar, E., Henderson, A. S., & Mackinnon, A. J. (1992). An epidemiological study of mental health and socioeconomic conditions in Sumatra, Indonesia. *Acta Psychiatrica Scandinavica*, *85*, 257–263.

Benegal V., Velayudhan A., Kumar, C.P., Jain, S., & Janakiramaiah, N. The social cost of alcoholism in India. Fourth Workshop on Costs and Assessments in Psychiatry, Venice, 1997

Bhagwanjee, A., Parekh, A., Paruk, Z., Petersen, I., & Subedar, H. (1998). Prevalence of minor psychiatric disorders in an adult African rural community in South Africa. *Psychological Medicine*, *28*, 1137–1147.

Dohrenwend, B. P. (1990). Socioeconomic status (SES) and psychiatric disorders: Are the issues still compelling? *Social Psychiatry and Psychiatric Epidemiology*, *25*, 41–47.

Filmer, D., & Pritchett, L. H. (2001). Estimating wealth effects without expenditure data—or tears: An application to educational enrolments in states of India. *Demography*, *38*(1), 115–132.

Fryers, T., Melzer, D., & Jenkins, R. (2003). Social inequalities and the common mental disorders: A systematic review of the evidence. *Social Psychiatry and Psychiatric Epidemiology*, *38*, 229–237.

Ghana Statistical Service, Ghana Living Standard Survey, *Report of the Fourth Round (GLSS 4)*. Accra, Government of Ghana, 2000.

Guilkey, D. K., & Jayne, S. (1997). Fertility transition in Zimbabwe: Determinants of contraceptive use and method choice. *Population Studies*, *51*(2), 173–189.

Gureje, O., Lasebikan, V. O., Kola, L., & Makanjuola, V. A. (2006). Lifetime and 12-month prevalence of mental disorders in the Nigerian Survey of Mental Health and Well-Being. *British Journal of Psychiatry*, *188*, 465–471.

Ludermir, A. B., & Lewis, G. (2001). Links between social class and common mental disorders in Northeast Brazil. *Social Psychiatry and Psychiatric Epidemiology*, *36*(3), 101–107.

Martyns-Yellowe, I. S. (1992). The burden of schizophrenia on the family: a study from Nigeria. *British Journal of Psychiatry*, *161*, 779–782.

Mumford, D. B., Minhas, F. A., Akhtar, I., Akhter, S., & Mubbashar, M. H. (2000). Stress and psychiatric disorder in urban Rawalpindi: Community survey. *The British Journal of Psychiatry*, *177*, 557–562.

Murray, C. J. L., & Lopez, A. D. (1997). Regional patterns of disability-free life expectancy and disability-adjusted life expectancy: Global Burden of Disease Study. *The Lancet*, *349*, 1347–1352.

Okasha, A. (2006). Globalization and mental health, WPA perspective. *Japanese Bulletin of Social Psychiatry*, *14*(Suppl.), 33–39.

Parry, C. D. H. (1996). A review of psychiatric epidemiology in Africa: Strategies for increasing validity when using instruments transculturally. *Transcultural Psychiatry*, *33*, 173–188.

Patel, V., Araya, R., de Lima, M., Ludermir, A., & Todd, C. (1999). Women, poverty and Common Mental Disorders in four restructuring societies. *Social Science and Medicine*, *49*(11), 1461–1471.

Patel, V., & Kleinman, A. (2003). Poverty and common mental disorders in developing countries. *Bulletin of the World Health Organization.*, *81*(8), 609–615.

Sahn, D. E., & Stifel, D. C. (2000). Poverty comparisons over time and across countries in Africa. *World Development*, *28*(12), 2123–2155.

Sharma, S. (2006). Globalization and diversity: Emerging challenges and opportunities in the field of health and mental health for developing countries. *Japanese Bulletin of Social Psychiatry*, *14*(Suppl.), 3–9.

Skantze, K., Malm, U., Dencker, S. J., May, P. R., & Corrigan, P. (1992). Comparison of quality of life with standard of living in schizophrenic outpatients. *British Journal of Psychiatry*, *161*, 797–801.

Subramanian, S. V., Nandy, S., Irving, M., Gordon, D., & Davey, G. (2005). Role of socioeconomic markers and state prohibition policy in predicting alcohol consumption among men and women in India: a multilevel statistical analysis. *Bulletin of the World Health Organization*, *83*(11), 829–836.

Suleiman, T. G., Ohaeri, J. U., Lawal, R. A., Haruna, A. Y., & Orija, O. B. (1997). Financial cost of treating outpatients with schizophrenia in Nigeria. *British Journal of Psychiatry*, *171*(10), 364–368.

Taylor, R., Page, A., Morrell, S., Carter, G., & Harrison, J. (2004). Socioeconomic differentials in mental disorders and suicide attempts in Australia. *British Journal of Psychiatry*, *185*, 486–493.

Underhill, C. (2002). Mental health and development. Thomas M. & Thomas M.J. (Eds.), Selected readings in community-based rehabilitation series 2: Disability and rehabilitation issues in South Asia, *Asia Pacific Disability Rehabilitation Journal*, Bangalore.

WHO (1993). The ICD-10 Classification of mental and behavioural disorders: Diagnostic criteria for research. Geneva: World Health Organization.

Zimmer, Z., Chayovan, N., Lin, H., & Natividad, J. (2004). How indicators of socioeconomic status relate to physical functioning of older adults in three Asian societies. *Research on Aging*, *26*, 224–258.