PREVALENCE OF PSYCHIATRIC ILLNESS IN AN URBAN COMMUNITY IN GHANA

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SUMMARY
One hundred and ninety-four apparently healthy subjects of an urban community of Bantama, a borough in the Kumasi Metropolis, were interviewed and examined for mental illness using SRQ and ICD-10 diagnostic criteria. Sixty-six subjects or 34.02% were males while 128 or 65.98% were females. The prevalence of mental illness in the community was found to be 27.51%. The commonest illness was depressive disorder which formed 38 or 19.59%. The study shows that roughly one in four of the supposedly healthy population has various degrees and types of mental illness. Health policy makers need to realise this for any effective health planning. The need for intensive public health education on mental health is emphasised. The need to train more mental health workers, like psychiatrists and psychiatric nurses, is similarly emphasised.

Keywords: prevalence, psychiatric illness, healthy population, urban community.

INTRODUCTION
Little is known about rates of psychiatric illness in 'healthy' populations in Ghana. Many people in our part of the world still see mental illness as being a visitation of the gods or the work of some malevolent being. Consequently many mentally ill patients find themselves at spiritualist homes and traditional healing centres or they still remain in the community accepting their plight as something to live with. Others may not even recognise that they have a mental illness. This arouses the interest to find out how many people in the supposedly healthy population actually have mental illness and what kind of illness these could be. This study, therefore, aimed at determining the prevalence and kinds of psychiatric illness in a 'healthy' population of Bantama, a borough in Kumasi in the Ashanti Region of Ghana. The results provide answers to some of these questions which will help future planners in the provision of appropriate mental health services to the community including preventive measures.

SUBJECTS AND METHOD
One hundred and ninety-four people were seen. The population studied was from the community of Bantama, one of the boroughs of the Kumasi Metropolis. Bantama is a residential area with quite a lot of trading activities at anytime. By simple cluster sampling, forty housing units were included in the study. The study was conducted during working hours. Only willing persons in these houses in the cluster were included. The investigator carried along a stethoscope and sphygmomanometer to examine those with minor medical complaints. Minor illnesses were treated and medical advice was given as necessary. That served as an incentive to get the co-operation of the people.

Willing subjects were taken through history using standard methods of history taking and mental state examination for specific diagnoses according to the criteria of ICD-10 (International Classification of Diseases, 10th edition). A standard instrument of Self-Reporting Questionnaire (SRQ) by T.I. Harding, in its vernacular translation by Asure and Majodina, was used to determine case-ness of mental illness. A questionnaire prepared by the author to elicit demographic features was also administered.

A cut-off score of 11 was set for the SRQ instrument using clinical diagnosis with ICD-10 diagnostic criteria. Cases that score 11 or higher were thus considered to be positive for mental illness and those scoring below 11 were negative. At this cut-off score the sensitivity was 78.57%, specificity 87.07% and overall miscalculation rate (error margin) was 14.81%. At lower values sensitivity was too high, specificity too low and error margin was too high.

RESULTS
One hundred and ninety-four people were interviewed and examined. There were 66 (34.02%) males and 128 (65.98%) females (Table 1). The oldest was 95 years and the youngest 17 years, mean age 39.68 years (SD 18.07). The commonest age group was the third decade (21-30) who con-
stituted 80 or 41.24% of the total population (Table 2). The extremes of the ages i.e. the first decade and the eighth and above, were the least represented. There was nobody ten years old or younger while four (19%) were seventy years and above. The age group of five cases (2.57%) could not be determined as it was not possible to interview them owing to the incoherence of their speech.

Table 1 Gender distribution of subjects

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>66</td>
<td>34.02</td>
</tr>
<tr>
<td>Female</td>
<td>128</td>
<td>65.98</td>
</tr>
<tr>
<td>Total</td>
<td>194</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2 Age distribution of subject

<table>
<thead>
<tr>
<th>Age group</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>0(0)</td>
<td>0(0)</td>
<td>0(0)</td>
</tr>
<tr>
<td>11-20</td>
<td>0(0)</td>
<td>14(7.22)</td>
<td>14(7.22)</td>
</tr>
<tr>
<td>21-30</td>
<td>38(19.59)</td>
<td>43(22.16)</td>
<td>81(41.24)</td>
</tr>
<tr>
<td>31-40</td>
<td>14(7.22)</td>
<td>15(7.73)</td>
<td>29(14.95)</td>
</tr>
<tr>
<td>41-50</td>
<td>0(0)</td>
<td>14(7.22)</td>
<td>14(7.22)</td>
</tr>
<tr>
<td>51-60</td>
<td>9(4.64)</td>
<td>14(7.22)</td>
<td>23(12.37)</td>
</tr>
<tr>
<td>61-70</td>
<td>0(0)</td>
<td>9(4.64)</td>
<td>9(4.64)</td>
</tr>
<tr>
<td>70+</td>
<td>5(2.57)</td>
<td>14(7.22)</td>
<td>19(9.79)</td>
</tr>
<tr>
<td>unknown</td>
<td>0(0)</td>
<td>5(2.57)</td>
<td>5(2.57)</td>
</tr>
<tr>
<td>Total</td>
<td>66(34.02)</td>
<td>128(65.98)</td>
<td>194(100)</td>
</tr>
</tbody>
</table>

Most of the subjects had some basic formal education. One hundred and four (53.61%) of the subjects had up to basic education (middle or junior secondary school, equivalent to level 0-1 of the International Standard Classification of Education, ISCED³), of whom 62 (31.96%) were females and 43 or 22.16% were males. Twenty-four (12.36%) had secondary cycle education and these were 9 or 4.64% females and 14.64% and 14 or 7.22% males. Only 4 or 2.06% of the subjects had tertiary education and all were males. Fifty-seven (29.38%) of the subjects had no formal education at all, with females forming the bulk of this figure – 52 or 26.80% were females and 5 or 2.58% were males. There was no information on five (2.58%) of the subjects and all were females. Figure 1 show the educational background of the subjects.

Figure 1 Education of subjects

For their occupation most of the subjects were low-income earners. Thirty-three or 17.01% of them were petty traders, of whom five (2.58%) were males and 28 (14.43%) were females. Thirty (15.47%) indicated their occupation as farming (Major Group 921 according to the terminology of International Standard Classification of Occupations, ISCO-88, by International Labour Organization, ILO⁵). Of the 30 farmers 5 (2.58%) were males and 25 (12.89%) were females. Twenty-three (11.86%) were traditional caterers or ‘chopbar’ keepers and these were all females. Nineteen (9.79%) claimed to be unemployed and again they were all females. Fourteen (7.22%) were hairdressers and were all females. This is Major Group 513 according to ILO terminology⁶. Fourteen (7.22%) of the subjects were also mechanics and these were all males. Other occupational groupings, which were also represented by all males, included carpenters (4.36%); security workers (4.12%); welders and sprayers (2.58%); and lottowriters (2.58%). Fourteen or 7.22% were pupils and students, and of these nine were females and five were males. Ten (5.16%) declared their occupation as dress-makers with equal numbers of tailors and seamstresses. For five subjects their occupation was not known and they were all females.

Seventy-five of the subjects were married of which there were 47 females and 28 males. Twenty-nine (14.95%) were divorced including 24 females and five males. Twenty-eight (14.95%) were widowed and these were all females. Fifty-seven (29.38%) were single, and these comprised 24 females and 33 males. The marital status of five subjects, all females, was not known because they could not communicate.
While only 14 (7.22%) subjects who were all female claimed not to belong to any religious group, 47 (24.23%) were Roman Catholics; 47 (24.23%) were Pentecostals; 28 (14.43%) were Methodists and 19 (9.80%) were Presbyterians. There were 14 (7.22%) Baptists and 10 (5.16%) belonged to the Church of Christ. There were 5 (2.5%) Seventh Day Adventists, and 5 (2.58%) Anglicans. For another 5 (2.58%), all females, the religion was not known. Table 3 shows the psychiatric disorders found in the subjects.

Table 3 Psychiatric Disorders in Subjects

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive Illness</td>
<td>5 (2.58)</td>
<td>33 (17.01)</td>
<td>38 (19.59)</td>
</tr>
<tr>
<td>Schizophrenic Illness</td>
<td>0 (0)</td>
<td>5 (2.58)</td>
<td>5 (2.58)</td>
</tr>
<tr>
<td>Somatisation Disorder</td>
<td>5 (2.58)</td>
<td>0 (0)</td>
<td>5 (2.58)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10 (5.16)</strong></td>
<td><strong>38 (19.59)</strong></td>
<td><strong>48 (24.75)</strong></td>
</tr>
</tbody>
</table>

Prevalence of psychiatric illness:

Table 4 Prevalence of Psychiatric Illness

<table>
<thead>
<tr>
<th>ICD – 10</th>
<th>Case</th>
<th>Non-Case</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SRQ≥11 or more</strong></td>
<td><strong>Case</strong></td>
<td><strong>A</strong> = True Positive</td>
</tr>
<tr>
<td><strong>SRQ≥11 or more</strong></td>
<td><strong>Non-case</strong></td>
<td><strong>B</strong> = False Positive</td>
</tr>
</tbody>
</table>

Sensitivity (of SRQ) = A/(A + C) x 100 = 33/42 x 100 = 78.57%
Specificity (of SRQ) = D/(B + D) x 100 = 128/147 x 100 = 87.07%

Odds Ratio (Overall Miscalculation Rate) = (B x C)/(A x D) x 100 = (19 x 33)/128 x 100 = 0.1481%

Five (2.58%) of the subjects could not be interviewed due to dereliction and negative reality testing of psychosis. All these five cases were ICD cases. So for calculating Sensitivity and Specificity, 189 instead of 194 was used.

Prevalence by SRQ (n=189) = (A+B)/(A+B+C+D) x 100 = 52/189 x 100 = 27.51%.

Prevalence by ICD-10 (n=189) = (A+C)/(A+B+C+D) x 100 = 42/189 x 100 = 22.22%.

If n=194 for ICD cases, i.e. including those who could not be assessed by SRQ due to dereliction, then: ICD Prevalence (n=194) = (42 + 5)/194 x 100 = 24.23%.

There is no statistically significant difference between the two prevalences of 22.22% and 24.23% by ICD – 10 (test statistic by test of proportions is z=0.4879 and p = 0.312>0.05 at 95% confidence interval) therefore for purposes of comparison 22.22 (n=189) is used.

By a similar test of proportions there is no statistically significant difference between SRQ Prevalence of 27.51% and ICD-10 prevalence of 22.22% (test statistic z= 1.2161 and p = 0.111 > 0.05 confidence interval).

Prevalence of psychiatric illness in this study, using the study instrument of SRQ, is therefore taken as 27.51%.

**DISCUSSION**

One hundred and ninety-four apparently mentally healthy subjects were studied. There were more females than males in the study subjects (Table1). This conforms to the pattern of more females in the general population as evidenced in the last population census 2000, which showed more females than males in the general population, in the proportion of 1.04:1. Another reason for the gender difference might be that some of them were housewives even though they might have stated
their occupation as unemployed (19 females forming 9.79% of the total population were unemployed while no male was unemployed). The commonest age group was 21-30 years comprising 41.24% of subjects. This is a high proportion of subjects in the productive age groups who should have been at work places during the period of study. This may underscore the high unemployment rate in the country.

Though most of the subjects (104 subjects or 53.66%) had basic first cycle education (equivalent to Level 0-1 of the International Standard Classification of Education, ISCED5), the level of education was generally low. Only four (2.06%) had tertiary education (Level 5) and this conforms to the general population in Ghana. The male/female literacy rates correspond to the findings by Jalalad in 196110 and Birmingham et al13 of 1967, meaning women are still disadvantaged in education.

The subjects were mostly low salaried workers or income earners. Thirty-three (17.01%) traders described by ILO as major group 911 and 30 (15.47%) were peasant farmers (Group 921 of ILO5). This contributed to their low socio-economic status, a situation which predisposes towards greater incidence of mental illness as mental illness is thought to be higher in the lower socio-economic group12.

Many of the subjects (38.66%) were married; twenty-nine (14.95%) were divorced, fifty-seven (29.38%) were single (never married); and twenty-eight (14.43%) were widowed. Marriage is generally thought to have a stabilising effect against mental illness, at least against depression in both genders13.

The subjects belonged to different Christian denominations with as many as 24.23% being Roman Catholics. The same numbers were Pentecostals and only 7.22% claimed not be affiliated to any particular church. There was no Muslim and none claimed to belong to the African Traditional Religion. Some authors believe that religiosity has a stabilising effect against the generation of mental illness14,15,16. It may be that Bantana is not a strong Muslim Community hence no representation, but the relationship may be a spurious one reflecting the limitation in our data collection.

There were thirty-eight (19.59%) cases of depressive illness with females forming the majority (thirty-three cases or 17.01%). While it is difficult to determine and compare rates of depression because of problems of definition and methods, this figure of 19.59% seems rather on the high side compared to a study in the USA which puts the 30-day prevalence of major depressive illness at 4.9% in the overall population with the rate in women being almost two times that of men17. Our higher figure may be a yet another reflection of the fact that the sample population is not representative enough, or that of poor timing which may have selected depression-prone subjects.

Our findings of more females than males having depression correspond to the general trend that depression occurs more in women18,19. Reasons assigned for why depression occurs more in women include psycho-social factors: women serve multiple roles of wives, mothers, homemakers, workers, etc. which cumulatively could be stressful. Hormonal factors are also thought to play a role. A confounding factor of unemployment could have added to the high figure we obtained: our subjects were those at home during working hours.

There were five cases or 2.58% somatisation, all men. It seems interesting that women formed a greater proportion of the overt depressive illness while men took all the somatisation. It has been postulated that men are more likely to somatise as a cultural idiom of distress as they tend to conceal their emotions18,20. Schizophrenics formed five cases or 2.58% and these were all females. This figure is rather too large for the overall 1% in the general population and 14 per 1000 or 1.4% found by Sikanantey and Eaton in Labadi of Ghana in 198321. It may well be that male schizophrenic patients tend to be vagrant, or they are so violent they are not tolerated at home and hence were on the streets during the period of study. It would be interesting to study the gender distribution of vagrant psychotics. It could be that male schizophrenics, more than their female counterparts, tend to be admitted to the psychiatric institutions because of their violence, or because women are housekeepers and relatives tend not to accord admissions unless absolutely necessary. At Ankaful Psychiatric Hospital, there are more male admissions than female admissions and this explanation has been postulated22. Yet another explanation for the gender difference may be that our statistic was too small and sample not representative enough of the population.

The study did not capture other major categories of mental illness, particularly the neurotic cases. We
do not think this reflects the lack of such categories in the population. It is more likely due to the limitations of the study, especially the sample size. We recommend that in future a much bigger sample size be used.

All together the prevalence of psychiatric illness as found in this study judged with SRQ was 27.51%. This figure is comparable to the findings of Rumble, Swartz et al25 in a South African rural village where they found a prevalence of 27.1% though higher than that obtained by Turkson among medical students at Korle-Bu Teaching Hospital in Ghana. Turkson found an incidence rate of 0.4% per annum of student intake among students of one medical school in Ghana.

The study shows that there is a high prevalence of psychiatric illness in the ‘healthy’ population, and this may be due to factors mentioned earlier. While we many not able to generalise the finding to the whole population for reasons of limitation of the study (small sample size and timing of the study), the finding gives some idea of the overall prevalence in the community, that roughly one in four of the population has some mental illness of some sort and conservative estimates of the US population indicates that more than 22% of the population has mental illness3. This, however, seems not to be appreciated by health authorities and even among medical colleagues who therefore always look at training in mental health with suspicion. The study shows that health planners should take a critical look at the provision of both community and inpatient mental health services. It is suggested that mental health be considered a complete entity in the organisational flowchart in the Ministry of Health at par with the Teaching Hospitals and the newly established Ghana Health Service as a solution, or if it is made of the Ghana Health Service then it should get own division and directorate in the Health Service.

CONCLUSION

This study has shown that 27.51% of the healthy population studied has mental illness of various kinds, particularly depressive illness. There were limitations of the study and this may not allow generalisation to the whole population. Notwithstanding we get a rough idea that one in four of the apparently healthy population has mental illness and this calls for intensification of public health education on mental illness to avoid further worsening of the condition. It is also stressed that there is a great need to train more mental health personnel to handle this large number of patients.

REFERENCES


13. Bebbington, P.E. Marital status and depression: a study of English national admission


