A PRELIMINARY SURVEY OF MENTAL HEALTH IN A NEW TOWN IN SINGAPORE

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SYNOPSIS

A preliminary survey of mental health in Woodlands New Town was conducted by means of a personal interview questionnaire. 21.8% of the respondents, 15 to 55 years were found to be neurotic by the criteria of the study. There were significantly higher rates of neurosis among females (especially single), Indians, persons with chronic illness, persons who had excessive leisure time and persons who considered religion very important. No significiant association was found between neurosis and educational level or type of work. Worry was the most common of 5 selected psychiatric symptoms. The majority of persons experienced no change in the severity or frequency of psychiatric symptoms since moving to Woodlands.

INTRODUCTION

Estimates of the prevalence of mental health in Singapore at present have been based on records of admissions to Woodbridge Hospital and attendances at psychiatric outpatient clinics. Estimates of this type are limited in value as persons with severe mental illness (e.g. schizophrenia and psychoses) tend to be over-represented since these are the persons who present themselves at such centres. The proportion of persons with less severe forms of mental illness (e.g. anxiety and depressive neuroses), are not easily estimated as they usually do not seek treatment. The prevalence of mental ill-health in a community may be determined more accurately by psychiatric field surveys.

Field surveys to study the prevalence of mental ill-health in Singapore will be of increasing importance because of postulates that rapid urbanization, such as Singapore is experiencing, may be associated with increasing mental ill-health. This can only be shown only if base-line data is available and follow-up studies are conducted.

Psychiatric field investigations are also a method of generating epidemiological data which may serve to bring to light the aetiology of mental ill-health.

This reported study was conducted as part of the annual 'Community Health Survey' carried out by third-year medical undergraduates in the 'Social Medicine and Public Health' course. It was conducted in Woodlands New Town in May 1981. The objective of the study was to obtain preliminary data about the prevalence of mental ill-health and selected psychiatric symptoms in Woodlands New Town, and to determine the demographic characteristics and social factors associated with the mentally ill.

Woodlands New Town is a government high-rise housing estate of 6 537 units with a population of about 37 000 people during the period of this study. It has been occupied in stages since 1974.

METHODS

Out of the 6 537 units, a sample of 150 units was taken, giving a sampling fraction of 1:44. The 150 units were selected by Random Stratified sampling.

For the mental health survey, a 22-item questionnaire was used. This questionnaire was developed and validated by the Cornell University Medical College for the Midtown Manhattan Survey (1). The questionnaire consists of 22 questions dealing with very common psychiatric symptoms. The questionnaire was administered to persons in the selected units in their own homes by third-year medical students. Only persons aged 15 to 55 years were interviewed. Respondents scored 1 point for the presence of a psychiatric symptom. The number of points was then summed. As the questions dealt mainly with symptoms of neurosis (and depression), respondents who scored 5 points and above were termed 'neurotics'.

In addition, 5 symptoms of the 22 in the questionnaire were selected for special study. These were low spirits, nervousness, worries, headaches and insomnia. The prevalence of these individual symptoms was studied.

Demographic information on respondents was obtained. Further questions on the importance of religion, presence of chronic illness and the amount of leisure time were also asked. Out of a total of 402 persons aged 15-55 years, 344 were interviewed giving a response rate of 85.5%.

RESULTS

1. Distribution of scores

A comparison of the distribution of the scores for the Woodlands study and the midtown Manhattan study was made (Fig. 1).

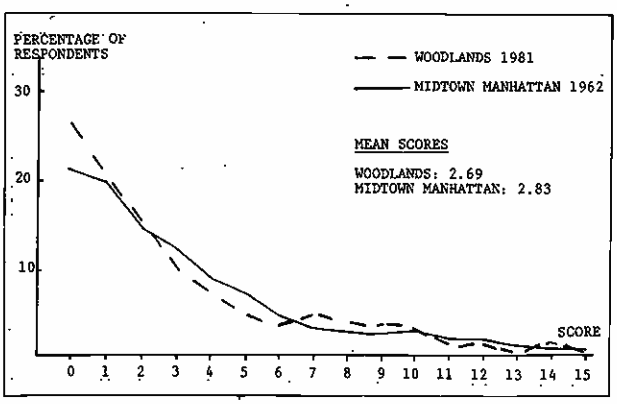

FIG 1

The distribution for the two populations were found to be very close. The mean score for the Woodlands study was 2.69, whilst the mean score for the midtown Manhattan study was 2.83. In the Woodlands study, 21.8% of the respondents scored 5 points or more. In the midtown Manhattan study, 22.6% scored 5 points or more.

2. Rate of neurosis by sex

The rate of neurosis of females is 2½ time that of males (Table 1). This finding was statistically significant.

	SEX	
	MALES	FEMALES
NON-NEUROTIC	131 (87.9%)	138 (70.8%)
NEUROTIC	18 (12.1%)	57 (29.2%)
TOTAL	149 (100%)	195 (100%)

$X^2 = 13.5829$ for 1 d.f. $p < 0.001$

TABLE 1

3. Rate of neurosis by age

The rate of neurosis was studied in 10-year age groups (Fig. 2). The rate of neurosis was highest in the 15-24 year age group and lowest in the 45-55 year age group. The differences, however, were not significant. All ages have therefore been considered together in the following analyses.

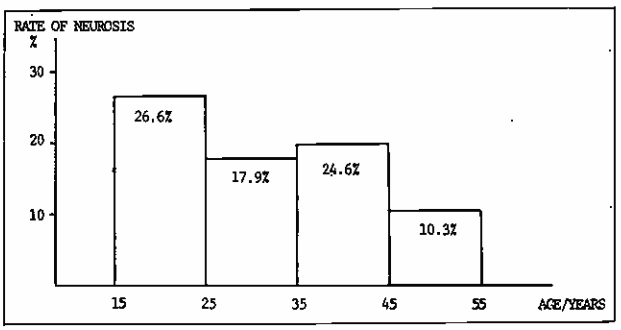

FIG 2

4. Rate of neurosis by ethnic group

The rates of neurosis for the different ethnic groups were studied (Table 2). Ethnic groups other than Chinese, Malay and Indians have been excluded because of their small numbers. The proportion of males and females was approximately equal for all 3 ethnic groups and have been considered together.

There is a significantly higher rate of neurosis among Indians (34.6%). The rates for Malays and Chinese was 16.4% and 18.9% respectively. Malays had the lowest rate among the 3 ethnic groups.

	ETHNIC GROUP		
	CHINESE	MALAY	INDIAN
NON-NEUROTIC	163 (81.1%)	46 (83.6%)	53 (65.4%)
NEUROTIC	38 (18.9%)	9 (16.4%)	28 (34.6%)
TOTAL	201 (100%)	55 (100%)	81 (100%)

$X^2 = 9.5767$ for 2 d.f. $0.02 > p > 0.01$

TABLE 2

5. Rate of neurosis by marital status and sex

The rate of neurosis by marital status and sex (Table 3) was studied. In both sexes, singles have higher rates than the married. Single females have the highest rates of neurosis (31.8%). The lowest rate was among married men (10.9%).

	MARITAL STATUS			
	SINGLE		MARRIED	
	MALE	FEMALE	MALE	FEMALE
NON-NEUROTIC	48 (85.7%)	58 (68.2%)	82 (89.1%)	76 (73.8%)
NEUROTIC	8 (14.3%)	27 (31.8%)	10 (10.9%)	27 (26.2%)
TOTAL	56 (100%)	85 (100%)	92 (100%)	103 (100%)

$X^2 = 12.6981$ for 3 d.f. $0.001 < p < 0.01$

TABLE 3

6. Rate of neurosis by educational level

When the rates of neurosis were correlated with the highest level of education attained (Table 4), the highest rate was found in persons who had completed secondary education. The lowest rates were found among those who completed upper secondary and tertiary education. However, the differences were not found to be statistically significant.

	EDUCATIONAL LEVEL				
	NONE	PRIMARY	SECONDARY	UPPER SECONDARY	TERTIARY
NON-NEUROTIC	69 (77.5%)	100 (82.6%)	67 (69.1%)	25 (89.3%)	7 (100%)
NEUROTIC	20 (22.5%)	21 (17.4%)	30 (30.9%)	3 (10.7%)	0 (0%)
TOTAL	89 (100%)	121 (100%)	97 (100%)	28 (100%)	7 (100%)

TABLE 4

7. Rate of neurosis by occupational groups

The rates of neurosis for the various occupational groups, including housewives and students were studied (Table 5). The highest rates of neurosis were found among students. This was followed by those in the clerical/lower managerial category. The lowest rates were found in the military and uniformed personnel i.e. police and firemen. However, no statistically significant difference was obtained.

TYPE OF WORK	NON-NEUROTIC	NEUROTIC	TOTAL
PROFESSIONAL/ADMINISTRATION/ UPPER MANAGERIAL	12 (85.7%)	2 (14.3%)	14 (100%)
CLERICAL/LOWER MANAGERIAL	29 (72.5%)	11 (27.5%)	40 (100%)
SALES/SERVICES	49 (83.1%)	10 (16.9%)	59 (100%)
FACTORY WORKERS/LABOURERS	70 (76.9%)	21 (23.1%)	91 (100%)
MILITARY/UNIFORMED PERSONNEL	17 (89.5%)	2 (10.5%)	19 (100%)
HOUSEWIFE	51 (81.0%)	12 (19.0%)	63 (100%)
STUDENT	20 (66.7%)	10 (33.3%)	30 (100%)
OTHERS	11 (78.6%)	3 (21.1%)	14 (100%)

TABLE 5

8. Rate of neurosis by importance of religion.

The question, "Is religion important to you?" was asked of the respondents. The highest rate of neurosis was found in those who considered religion 'very important', with slightly higher rates in those who considered religion 'quite important' than 'not important' (Table 6).

	IMPORTANCE OF RELIGION		
	VERY IMPORTANT	QUITE IMPORTANT	NOT IMPORTANT
NON-NEUROTIC	81 (68.1%)	9 (82.3%)	93 (83.8%)
NEUROTIC	38 (31.9%)	1 (17.7%)	18 (16.2%)
TOTAL	119 (100%)	96 (100%)	111 (100%)

X^2 corr. = 10.334 for 2 d.f. $0.01 > p > 0.001$

TABLE 6

9. Rate of neurosis by chronic illness

Chronic illnesses in the sample included hypertension, diabetes mellitus, chronic obstructive lung disease, cerebrovascular accidents and ischaemic heart disease. The rate of neurosis in those who were chronically ill was compared to those without chronic illness (Table 7). A higher rate of neurosis was found in those with chronic illness.

	NO CHRONIC ILLNESS	CHRONIC ILLNESS
NON-NEUROTIC	232 (80.8%)	37 (64.9%)
NEUROTIC	55 (19.2%)	20 (35.1%)
TOTAL	287 (100%)	57 (100%)

X^2 corr. = 6.1698 for 1 d.f. $0.02 > p > 0.01$

TABLE 7

10. Rate of neurosis by leisure time

The rate of neurosis was highest in those respondents

who had excessive leisure time (Table 8). The lowest rate was in those who found their leisure time adequate with slightly higher rates in those with inadequte leisure time.

	LEISURE TIME		
	ADEQUATE	INADEQUATE	EXCESSIVE
NON-NEUROTIC	177 (80.8%)	82 (75.2%)	8 (57.1%)
NEUROTIC	42 (19.2%)	27 (24.8%)	6 (42.9%)
TOTAL	219 (100%)	109 (100%)	14 (100%)

X^2 corr. = 3.8867 for 2d.f. $0.05 > p > 0.02$

TABLE 8

11. Selected psychiatric symptoms

5 psychiatric symptoms were selected from the 22 in the questionnaire. These symptoms were low spirits, worries, nervousness, insomnia and headaches. The proportion of residents with these symptoms was determined (Table 9).

Worries seem to be the most frequent of the 5 complaints, being present in 29.4% of the respondents. Low spirits, nervousness, insomnia and headaches for long periods were found in about 1 out of 10 respondents.

PSYCHIATRIC SYMPTOMS	NO. INTERVIEWED	NO. WITH SYMPTOMS	%
LOW SPIRITS	344	29	8.4
WORRIES	344	101	29.4
NERVOUSNESS	344	34	9.9
INSOMNIA	344	34	9.9
HEADACHES	344	45	13.1

TABLE 9

12. Change in psychiatric symptoms since moving to the New Town

The change in the severity of frequency of the symptoms since moving to Woodlands New Town in those who complained of symptoms was studied (Fig. 3).

For all 5 symptoms, a similar pattern can be noted. The majority claimed that there was no change. For a smaller proportion, there was an increase and in an even smaller proportion there was a decrease in symptoms.

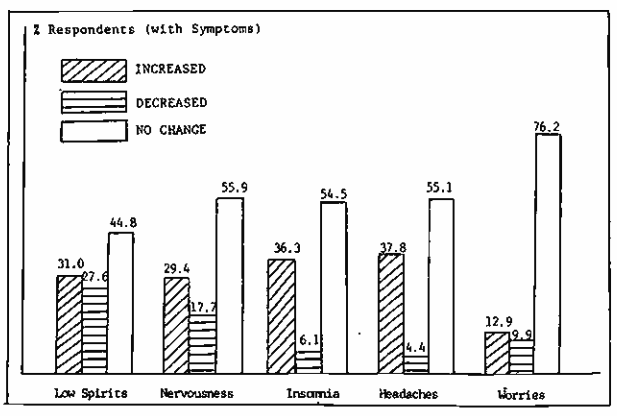

FIG 3

13. Proportion of respondents who sought treatment for 4 selected psychiatric symptoms

More than ½ of those with headaches, sought treatment. About 1/3 sought treatment for insomnia, and ¼ of those with nervousness sought treatment. Only 13.3% of those with low spirits sought treatment (Table 10).

	NO. WITH THE SYMPTOM	NO. WHO SOUGHT TREATMENT
NERVOUSNESS	39	10 (25.6%)
INSOMNIA	36	11 (30.6%)
HEADACHES	59	32 (54.2%)
LOW SPIRITS	30	4 (13.3%)

TABLE 10

14. Source of treatment for psychiatric symptoms

The general practitioner was the most common source of treatment (Fig. 4). A slightly smaller percentage of respondents self-medicated with western-type medicines or attended the hospital or outpatient services. 4 persons self-medicated with Chinese-type medicines. 3 respondents sought the aid of traditional practitioners – 2 sought the aid of a sinseh and 1 a bomoh. None of those with symptoms had been to a Chinese temple medium.

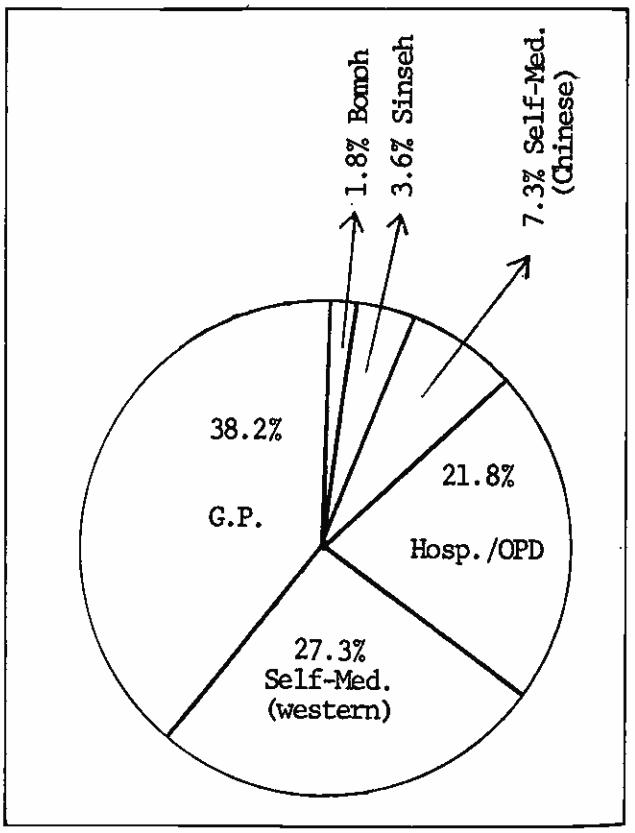

FIG 4

DISCUSSION

The main difficulty in psychiatric field investigations is that of choosing criteria to determine mental illness. This has meant that every investigation has had its own set of working definitions. This makes comparisons between different studies difficult. Leighton (2), however, suggests that if the published results of various psychiatric field investigations (3, 4, 5, 6, 7, 8, 9, 10, 11) are restated in terms of an adult range and interpreted conservatively, then it

would appear that many studies would agree in placing the prevalence of all mental disorders at 20% or more. This reported study demonstrates a prevalence of 21.8% for psychoneuroses. In Singapore, schizophrenia is estimated to be one-tenth the prevalence of neuroses (12). The prevalence of all mental disorders is thus likely to fall within Leighton's (2) estimate.

The extent to which the findings in the Woodlands New Town study is applicable to the rest of Singapore must be considered in the knowledge of the differences in the structures of the two populations. The population in Woodlands New Town has a higher proportion of persons in the younger age-groups, a higher proportion of females and Indians, compared to the population of Singapore. It would suggest that the prevalence rate of Singapore is lower than that of Woodlands New Town.

Higher rates of neurosis in females have been noted in most studies, among which are studies in two new housing estates in Great Britain (13, 14).

Indians have the highest rate of neurosis among the 3 main ethnic groups. Many investigations have speculated that differences in the prevalence of mental illness in various populations may be partly attributed to cultural factors i.e. different cultures produce personalities which are predisposed to mental disorders. This area has been examined by Leighton and Hughes (15) who concluded that these differences may have arisen from culture-bound psychological tests which were used. Whether such a limitation applies to this reported study is debatable, as the distribution of scores in the midtown Manhattan study and the Woodlands New Town study are comparable although both are different culturally.

Higher rates of neurosis in those who consider religion very important has been reported since Freud in 1908. The hypothesis proposed is that some of those who consider religion very important display obsessional neurosis which may manifest as anxiety or depression. The question asked in the survey, however, did not give an indication of the maturity of the respondent's religious understanding, which is probably an important modifying factor.

The observation of an association between chronic illness and neurosis in this study was also shown in a new housing estate in Great Britain (13). In Singapore a study of high-rise apartments showed an association between anxiety and depression on one hand and physical ill-health on the other (16).

In this study, the finding that the majority of person did not experience an increase in the severity or frequency of psychiatric symptoms after moving to Woodlands, seems to indicate that modern high-rise living does not give rise to mental ill-health. However, it must be considered that recall by persons may not be of high validity. A study of high-rise apartments in Singapore came to the same conclusion (16).

Differences in the proportion of persons seeking treatment for the various psychiatric symptoms can be explained by the fact that headaches, and to a lesser extent insomnia, are considered valid reasons for seeking treatment. On the other hand, nervousness and low spirits are generally not recognized as valid reasons for seeking treatment.

The source of treatment sought was mainly western-type medicine. Traditional medical practitioners — sinsehs, bomohs and temple mediums — were utilized by only a small proportion of persons. The general practitioner was the most common source of treatment. This re-emphasizes the role of the GP in the management of mental illness (17).

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