

INSOMNIA IN THE COMMUNITY

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ABSTRACT

This study is the first to document the prevalence of insomnia in Malays and Chinese in a Singapore community. The overall rate of insomnia was low at 15.3% with females and Malays at higher risk. Patients with insomnia had significantly higher sleep latency, awakenings at night, as well as a report of not feeling fresh throughout the day. There was an association between insomnia patients with increased stress levels, especially at home, and a higher rate of co-morbid minor psychiatric disorder. However, most patients do not seek medical help, and even less resort to sleeping pills.

Keywords: prevalence, insomnia, Singapore, stress, psychiatric

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INTRODUCTION

Insomnia is a common complaint in many communities. Prevalence rates in the US has been reported to be one-third of the general population⁽¹⁾ with half of these having sought medical advice.

There is no universally accepted definition of insomnia although most include the perceptions of the patients and the effects of disturbed sleep on daytime functioning. Women and the elderly have also been cited to have higher rates of insomnia.

In Singapore, no study of insomnia has been conducted in the general population. This paper describes such a project, which is part of a larger study on the prevalence of neurotic disorders in Chinese and Malays. It seeks to elicit the prevalence rate of insomnia, the demographic profile of affected individuals as well as linking it to the level of stressors that they are experiencing.

METHODOLOGY

An area in Clementi bounded by Clementi Road, Ayer Rajah Road and Clementi Avenue 6 was chosen for the site of the study. One in three Chinese households and all Malay households were surveyed. Indians and persons of other ethnic origin were excluded as the expected number of affected individuals was deemed too low to make a valid analysis. If a Chinese household refused, or was absent after 2 visits, then the one on the right was visited. An oversampling of Malays was done in order to have a larger number for comparison with Chinese for an analysis of ethnic differences in the prevalence of neuroses and insomnia. The subjects were stratified by age. One subject per household was selected. The criteria for entering into the study were: (a) ages between 15-55, (b) residence in the designated area, (c) of Malay or Chinese ethnic group. The subjects were interviewed by interviewers of the same ethnic group using an instrument comprising 3 parts:

- a) Demographic data
- b) Parts of the Diagnostic Interview Schedule⁽²⁾ covering 6 disorders viz: generalised anxiety disorder, panic disorder, obsessive compulsive disorder, phobic disorder, dysthymia, major depression.
- c) a section with questions on
 - i) insomnia
 - ii) level of stress
 - iii) suicidal behaviour

Only data describing c(i) and (ii) will be discussed. The questions on insomnia dealt with whether they perceived themselves as having insomnia for the past year, their pattern of sleep ie what time they slept, whether they had difficulty falling asleep, if they had multiple awakenings and what treatment they sought for insomnia.

The questions on stress included one on a visual analogue scale⁽³⁾ (VAS) rating the level of stress the subjects perceived themselves to be suffering from and the sources of this stress. This was a measure of ongoing life stress as perceived by the subject and was not an independent measure of stress. Holmes and Rahe's Life Events Scale⁽⁴⁾ and other versions^(5,6) give arbitrary loadings for major life events; these may not be applicable in different communities and to different individuals. In addition, they tend to measure events rather than ongoing difficulties which are chronic stressors to an individual.

Visual analogue scales have been used previously in stress research - a completed study of stress in Singapore professionals⁽⁷⁾ also used it as a measure of overall stress.

RESULTS

Two thousand four hundred and eighteen individuals were surveyed, with 370 cases reported to have sleep problems. This gave a prevalence rate of 15.3% (male 12.9%, female 17.5%).

The subjects were divided into two groups, those who had complaints of insomnia and those who did not. An analysis of the two groups by various variables was done.

The demographic profile of insomnia subjects compared to the non-insomnia group showed more females are affected, the female/male ratio being 57% vs 43%. Proportionately more Malays complain of insomnia as compared with their Chinese counterparts. Malays comprise 28.4% of the insomnia subjects and 22.4% in the non-insomnia group. As regards age, there appears to be no significant increase in insomnia with increasing age.

The sleep profile in insomnia and non-insomnia subjects shows that even in insomnia subjects, only about a quarter of them took longer than 30 minutes to fall asleep, compared to a smaller proportion of 6% of non-insomnia subjects. But it was interesting that there were a few (N=14) in the non-insomnia

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Table I - Profile of insomnia and non-insomnia subjects

	Non-insomnia subjects	Insomnia subjects	Significance levels
<i>Demographic Profile</i>			
<i>Sleep problems</i>			
Yes	–	370 (15.3 %)	
No	2048 (84.7%)	–	
<i>Sex</i>			
Male	1050 (51.3%)	159 (43.0 %)	p<0.01
Female	998 (48.7%)	211 (57.0 %)	
<i>Race</i>			
Chinese	1589 (77.6%)	265 (71.6 %)	p<0.05
Malay	459 (22.4%)	105 (28.4 %)	
<i>Age</i>			
15 - 29	925 (45.2%)	151 (40.8 %)	n.s.
30 - 49	925 (45.2%)	173 (46.85%)	
50+	198 (9.6%)	46 (12.4 %)	
<i>Sleep Profile</i>			
<i>Sleep latency (time taken to sleep)</i>			
0 - 30 mins	1922 (93.8%)	273 (73.8%)	p<0.001
31 - 60 mins	112 (5.5%)	66 (17.8%)	
61 - 120 mins	12 (0.6%)	26 (7.0%)	
>120 mins	2 (0.1%)	5 (1.4%)	
<i>Wakenings at night</i>			
Nil	1220 (59.6%)	151 (40.8%)	p<0.001
Once or more	828 (40.4%)	219 (59.2%)	
<i>Feeling not fresh throughout the day</i>			
Yes	300 (14.6%)	129 (34.9%)	p<0.001
No	1748 (85.4%)	241 (65.1%)	
<i>Treatment Profile</i>			
<i>Sleeping pills</i>			
No	2044 (99.8%)	318 (85.9%)	p<0.001
Occasionally	3 (0.1%)	43 (11.6%)	
Weekly	1 (0.0%)	4 (1.1%)	
Daily	–	5 (1.4%)	
<i>Sought treatment</i>			
Yes	–	80 (21.6%)	
No	–	290 (88.4%)	
<i>Therapist:-</i>			
(a) Psychiatrist	–	6 (7.5%)	
(b) Western trained doctor	–	50 (62.5%)	
(c) Counsellor	–	3 (3.7%)	
(d) Native healer	–	8 (10.0%)	
(e) Native medicine	–	13 (16.3%)	
Total	–	80 (100%)	

group who took more than 1 hour to sleep and yet did not think they had a sleep problem. From an analysis of these 14 subjects, only one was in the 20-30 years age group while 13 were above 30 years of age. Of those in the above 30 age group, 38% were above 50. This would imply that these patients were older and found it normal. The other measures of sleep showed similarly that although the insomnia subjects had significantly more disturbed sleep, yet a sizeable number of non-insomnia subjects showed the same sleep pattern except that they did not complain of insomnia. Again, amongst the patients who had disturbed sleep but did not complain of insomnia, the older age group was overrepresented.

The treatment profile revealed that most of the subjects (86%) who complained of insomnia are not on sleeping pills. Of those who are taking sleeping pills, only 5 are on it daily. Most of the

insomnia subjects did not seek help for their sleep, only about one fifth of them had done so. The majority of these individuals chose to see a Western trained doctor rather than seeking a native healer or taking traditional medication.

Table II showed that insomnia subjects had statistically significantly higher stress levels compared to non-insomnia

Table II – Stress in insomnia and non-insomnia subjects

	Non-insomnia subjects	Insomnia subjects	Significance levels
<i>Stress Level</i>			
Nil	0	125 (6.1%)	17 (4.6%)] p<0.001
Mild	1-3	697 (34.0%)	77 (20.8%)]
Moderate	4-6	1019 (49.8%)	200 (54.1%)]
Severe	7-10	207 (10.1%)	76 (20.5%)]
<i>Source of Stress*</i>			
Home	1164 (56.8%)	244 (65.0%)	p<0.01
Work	1345 (65.6%)	234 (63.0%)	n.s.
Others (including financial, noise, travel, recreation)	620 (30.2%)	129 (34.8%)	n.s.

* The above categories are not mutually exclusive.

Table III – Comparing main stressors at home in insomnia subjects and non-insomnia subjects

Source of Stress	Non-insomnia subjects	Insomnia subjects
Nil	884 (43.2%)	126 (34.1%)
Parents	331 (16.2%)	68 (18.4%)
In-law	11 (0.5%)	3 (0.8%)
Spouse	65 (3.2%)	27 (7.3%)
Children	602 (29.4%)	123 (33.2%)
Other	128 (6.3%)	21 (5.7%)
Siblings	27 (1.3%)	2 (0.5%)
Total	2084 (100%)	370 (100%)

p<.00036

subjects. Approximately 75% had reported that their stress level was in the moderate to severe range, compared to 60% in the non-insomnia group.

The insomnia group rated home stress higher than work stress although the difference is small. The converse was true for the non-insomnia group. In fact, home stress was the only source of stress that was significantly higher in the insomnia group when compared with the non-insomnia group. The stress in the insomnia group was attributed to immediate family members.

Focusing on home stressors, most of the insomnia patients attribute their stress to their children, followed by their parents and spouses.

Table IV shows the proportion of insomnia subjects who were concomitantly suffering from psychiatric disorders. The most common psychiatric disorder associated with insomnia was phobia, followed by depression and anxiety disorder.

DISCUSSION

This study shows that the perception of insomnia is rather subjective, and some non-insomniac subjects have a similar pattern of sleep to the insomnia group. It would appear that certain individuals tolerate a longer sleep latency or more awakenings

Table IV – Psychiatric disorders in insomnia and non-insomnia subjects

Psychiatric disorder*	Non-insomnia subjects	Insomnia subjects
Panic disorder	33 (1.6%)	17 (4.6%)
Anxiety disorder	133 (6.5%)	50 (13.5%)
Phobia	278 (13.6%)	76 (20.5%)
Dysthymia	53 (2.6%)	30 (8.1%)
Major depression	143 (7.0%)	73 (19.7%)
Obsessive compulsive disorder	65 (3.2%)	30 (8.1%)

p<0.001

* The above categories are not mutually exclusive.

in the night better than others. Those who did complain of insomnia comprised 15.3% of the total. This one-year prevalence rate of insomnia is not high compared to other countries - a nationwide survey in the US (1964) of 1.06 million men and women showed a prevalence of 21%⁽⁸⁾, and in regional surveys in Los Angeles⁽⁹⁾ it was 42.5%. A later survey - the US National Household Survey- of the use of psychotherapeutic medications found that 35% of the adult population of the US had suffered from insomnia the previous year⁽¹⁰⁾. A Bavarian study of one month prevalence of insomnia found it to be 28.5%⁽¹¹⁾.

In Western studies, difficulty with sleep appears to affect the elderly⁽¹²⁻¹⁴⁾ - half of all patients over 65 had difficulty in initiating and maintaining sleep^(15,16). This study restricted the ages of subjects to between 15 and 60 years, but the older subjects ie above 40 did not have significantly more frequent complaints of insomnia. Females are reported to suffer from insomnia more than males in many reports^(8,9,12,17). Similarly, in this study 57% of the cases were female, with the overall rate of female insomnia patients in the community standing at 17.5% vs 12.9% for male insomnia patients.

Although a sizeable number of subjects (15.3%) had complained of insomnia, only 14% of them took sleeping pills and even then, it was mainly confined to occasional usage. Altogether, only 21.6% sought medical help with the vast majority of these favouring seeing a Western trained doctor. This appears to indicate that they are able to cope well enough with insomnia or at the very least, do not deem it necessary to seek treatment for it.

The association between stress and insomnia is well known. Stress has been found to predate the onset of insomnia in three quarters of poor sleepers and is associated with family and personal problems^(19,20). In this study, there was positive association between insomnia and increased stress levels. Most of the problems was attributed to immediate family members but it is difficult to tease out whether this increased family stress was an associated finding or a causative effect of the insomnia.

Various studies have examined the association of minor psychiatric disorders with insomnia^(12,18,21), and the proportion ranged from 4.6% to 36%. In the American study⁽¹⁸⁾, slightly less than 1 in 5 of those with insomnia suffered from a psychiatric morbidity. Of these, the anxiety group had a higher level of insomnia complaints. However in our study, the most frequent psychiatric disorder associated with insomnia was phobic disorder, followed by major depression and anxiety disorder.

There was a significantly larger number of professionals with insomnia. The other occupational levels did not reveal any significant differences between the insomnia and non-insomnia groups. There was no significant difference between the insomnia and non-insomnia groups with respect to educational levels. Among the diploma and degree holders, there were more with insomnia although the difference was insignificant.

Looking at source of stress, home stress was a significant factor when comparing the insomniac and non insomniac groups. One of the possible explanations is that there is a larger percentage of housewives with insomnia compared to those without (26.8% of housewives have insomnia compared to 20.5% without insomnia).

It is hoped that this study of insomnia in the community would be able to give an estimate of the size of this common problem in Singapore. Although the overall figure of 15.3% is on the low side, the affected individuals are significantly stressed, and have a higher rate of minor psychiatric disorder. The heartening aspect of the study is that most insomnia patients are able to cope without resorting to frequent use and abuse of hypnotic medication.

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