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A Study Among Hong Kong Chinese Females Investigates The Relationship Between Headache And Insomnia, Anxiety, And Depression.

Wu EnQi^{1*}, Farra Aidah Binti Jumuddin²

^{1*}Research Scholar Lincoln University College Malaysia

²Lincoln University College Malaysia

Email: wu@lincoln.edu.my

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Abstract

There is a strong association between sleep apnea, headaches, and mood problems in the general population, according to a study. With SDBD, you'll get headaches first thing in the morning every day. Perimenopausal women are more prone to headaches, poor mood, and disturbed sleep than women in either the pre- or post-menopausal stages.

According to Leger et al. (2000) and Li et al. (2002), after one-month, fewer cases of insomnia were reported by both Caucasians and Hong Kong Chinese (11% vs 29%). According to studies conducted by Cheung (2000) and Hagen et al. (2000), 37% of Hong Kong Chinese and 38% of White people would have regular headaches within a year. Compared to Caucasians, Hong Kong Chinese had lower rates of depression (2% vs. 13%) and higher rates of anxiety (9% vs. 4%), respectively, throughout their lives. (Hasin et al., 2005; Grant et al., 2005; Chen et al., 1993). According to Parker et al. (2001), variations in depression prevalence might be caused by people's unwillingness to acknowledge they have a mental health issue or by the outward signs of their illness. Theoretically, various populations in Hong Kong will link sleeplessness, headaches, and mood in different ways due to these disparities in prevalence. When studying the Chinese community in Hong Kong for the aim of studying headaches, sleeplessness, and mental health difficulties, the advantages are substantial.

Keywords: mood disorder, insomnia, headache, Anxiety

Introduction

Some of the most common health problems are chronic headaches and sleeplessness. Epidemiological studies have placed the whole population's incidence of insomnia between 9 and 15 percent. (Aldao, A., 2019) asserts. Headaches are among the most common neurological diseases.

According to recent research, 47% of the global population has headaches on a regular basis. As a complex behavioural and physiological process, sleep is much more than a mere diversion from our everyday lives. Ensuring enough sleep is crucial for the proper functioning of the body and mind. It allows the body to recharge and be ready for the day ahead. Having trouble falling asleep or staying asleep is a common problem that impacts many people throughout their lives. Because insomnia always reduces either the quantity or quality of nighttime sleep, it has a detrimental impact on how well a person performs throughout the day (Asadi-Lari, 2018) .

Compared to men, women are more prone to headaches and sleeplessness, which are often accompanied by snoring, depression, and anxiety. Most of these studies focused on the Caucasian population and were conducted in Europe and North America. Individuals voluntarily seeking treatment for symptoms including severe and persistent insomnia and headaches constituted the bulk of these studies. There was a lack of research on the correlation between depression and insomnia in the Chinese population. It is possible to identify the causes of headaches and establish a connection between headaches, mental health issues, and insufficient sleep. In order to develop public health initiatives, this data may be used. So, decided to find out what causes headaches in middle-aged Chinese women and if there's a connection between insomnia, sadness, anxiety, and headaches in general.

Background of the Study

Per the International Classification of Sleep Disorders (ICSD), "insomnia is defined as" a "nightly complaint of an inadequate quantity of sleep or not feeling refreshed after the usual sleep period" in relation to sleep. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (Baglioni, C., 2019) classifies it as "clinically severe discomfort or impairment," specifically as "difficulty starting or sustaining sleep, or non-restorative sleep." The variable nature of insomnia means that its precise pathophysiology is still a mystery. Insomnia may be a standalone sickness with its own pathophysiology, or it can be a comorbid disorder caused by several physical and mental health issues (Buysse, D 2018). The incidence of insomnia varies substantially depending on the study population, methodology, and definition of the condition. Stricter criteria often lead to a decrease in prevalence. The frequency of insomnia varied between 9 percent and 29 percent in population samples. Ten percent to fifty percent of clinical samples have this condition. (Hatoum et al., 1998; Simon and VonKorff, 1997; Ohayon and Roth, 2003; Katz and McHorney, 1998; Ustun et al., 1996). Approximately 12% of the overall population in Hong Kong has insomnia on a monthly basis. A higher incidence of the syndrome (18 percent) was seen among women in their mid-thirties and forties, according to Chung and Tang (2006). According to many studies (Frank, E., 2019), insomnia is more often seen in females than males.

Several studies have shown that the prevalence of irritable sleep apnea increases with age. Sleep deprivation may lead to lethargy, low energy, trouble concentrating, and a bad attitude, according to the National Heart, Lung, and Blood Institute Working Group on Insomnia, 1999. A lack of energy and headaches are some common complaints among insomniacs. According to Hatoum et al. (1998) and Zammit et al. (1999), a person's quality of life might be negatively affected by insomnia. Accidents and absenteeism are both made worse by not getting enough sleep. Insomnia was estimated to cost the US economy US\$21 billion in 2006.

purpose of the research

In the general population, there is a high correlation between sleep apnea, headaches, and other mood issues. Morning headaches in particular were associated with SDBD. Compared to women who were either pre- or post-menopausal, those who were in the perimenopausal stage were more likely to have headaches, poor mood, and trouble sleeping (Fortier-Brochu, É., 2018).

After a month, fewer Hong Kong Chinese (11% vs. 29%) reported being unable to sleep than Caucasians. According to studies conducted by Cheung (2000) and Hagen et al. (2000), the one-year prevalence of headaches among Caucasians in Hong Kong would be 38% and among Chinese, 37%. The lifetime prevalence of depression was 2%, anxiety was 9%, and 4%, respectively, among

Hong Kong Chinese compared to Caucasians. A person's denial of having a mental illness or the outward manifestation of symptoms could be associated with the large variance in depression prevalence, according to Parker et al. (2001) (Cuijpers, P., 2019). Because of this, was assume that the frequency of headaches, insomnia, and low mood in the Hong Kong Chinese population was different from that in the Caucasians. Studying the correlation between insomnia, migraines, and mental health issues among Chinese people in Hong Kong is a valuable endeavour.

Literature Review

"Insomnia is defined as" a "nightly complaint of an inadequate quantity of sleep or not feeling refreshed after the usual sleep period" according to the International Classification of Sleep Disorders (ICSD). (Clarke, G. N.,2019) In the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) it is categorized as "clinically severe discomfort or impairment," meaning "difficulty starting or sustaining sleep, or non-restorative sleep." Part of the reason why the precise pathophysiology of insomnia is still unknown is that it may have different manifestations depending on whether it is a standalone sickness with its own pathophysiology, or a comorbid condition caused by various physical and mental health issues The incidence of insomnia varies substantially depending on the study population, methodology, and definition of the condition. Stricter criteria often lead to a decrease in prevalence. Insomnia was seen in 9–29% of the people surveyed. Ten percent to fifty percent of clinical samples have this condition. (Hatoum et al., 1998; Simon and VonKorff, 1997; Ohayon and Roth, 2003; Katz and McHorney, 1998; Ustun et al., 1996). According to Li et al. (2002), around 12% of the overall population in Hong Kong has insomnia on a monthly basis. A higher incidence of the syndrome (18 percent) was seen among women in their mid-thirties and forties, according to Chung and Tang (2006). As previously noted, insomnia is more often seen in females than males.

According to many studies (Chen, P. L.,2019), irritable sleep apnea is more prevalent in older adults. Sleep deprivation may lead to lethargy, low energy, trouble concentrating, and a bad attitude, according to the National Heart, Lung, and Blood Institute Working Group on Insomnia, 1999. A lack of energy and headaches are some common complaints among insomniacs. Insomnia may negatively affect a person's quality of life. Lack of sleep might increase the likelihood of accidents and absence. Insomnia was estimated to cost the US economy US\$21 billion in 2006 (Buysse, D.J.,2019).

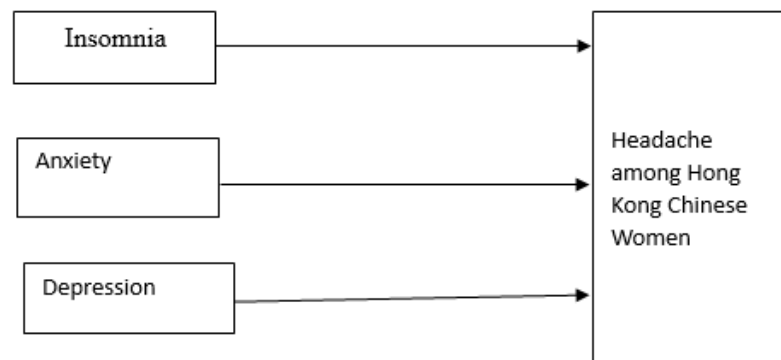
Research Questions

1. Is there "any relationship existing between sleeplessness, mood problems, and headaches of chinese" women?
2. What "are the risk factor existing for" the same?

Research Methodology

After reviewing the study, the local "institutional review board" gave its enthusiastic approval. Ten women's groups and community centres out of 39 that the author contacted in Hong Kong gave their permission to participate in the research. Prospective members will be contacted after their participation in the group's scheduled seminars and gatherings held at local community centres. An explanation of the study's aims and methods will be provided to the participants. After reading the risks and benefits, every participant had to sign a consent form to show they were in. Because people are eager to take part in the research, we may say that this is a convenient sample.

Conceptual Framework of the Study



Results

The current study included 725 individuals. The sample had a mean age of 20.53 (SD = 1.92) years old (range: 17–24), with men making up 29.4% of the group. Table 2.1 provides a summary of the sample's descriptive data. The majority of the participants (around 76%) were college freshmen. 6.3% of the participants identified as now or formerly suffering from a mental disorder, and 10.6% of the participants identified as having an illness or injury in one's past or present. Insomnia was diagnosed in 42.7% of the sample using the criteria established by ISI 10.

Insomnia participants and non-insomnia participants did not differ in terms of gender, age, work status, or level of education (Table 2.1). Insomnia sufferers, however, were more likely to report health issues than those who did not (15.8% vs. 6.7%, $p.001$). Participants with insomnia were also more likely to have a history or current diagnosis of a mental disorder than those without insomnia (10.3% vs 3.4%, $p.001$). Insomnia sufferers were also more likely to report having had or currently having a sleep disturbance (4.2% vs. 0.5%, $p=.001$).

Table 2.2 shows that item 5a of the PSQI (difficulty starting sleep) was reported by about 30% of the insomnia group, compared to 3.9% of the control group ($p.001$). Item 5b of the PSQI indicates that those with insomnia are more likely to have trouble staying asleep at least three times per week than those without insomnia (24.2% vs. 5.3%, $p.001$). Individuals with insomnia reported a mean of 410 minutes (SD=96.16) of sleep time each night, considerably fewer than individuals without insomnia (450 minutes, SD=75.43, $p.001$).

Comparing individuals with and without insomnia, those with insomnia were significantly more likely to report moderate or severe depression symptoms using the DASS–D ($p.001$). The percentage of people with insomnia who also reported moderate to severe anxiety on the DASS–A was substantially higher than the percentage of people who reported the same on the DASS–S (45.2% vs. 18.8%, $p.001$), and the same was true for the DASS–S. The mean total MFI score (as a proxy for sleep quality) was considerably greater in the insomnia group compared to the control group ($t=-8.34$, $p.001$). The KIDSCREEN scores of participants with insomnia were considerably lower than those of participants without insomnia" ($t=10.88$, $p.001$).

Variables	Entire sample (n=725)	Without Insomnia (n=415)	With Insomnia ^a (n=310)	t or χ^2
Gender				
Male, n (%)	213 (29.4)	139 (31.1)	84 (27.1)	-
				1.5
				3
Age, mean (SD)	20.53 (1.92)	20.43 (1.91)	20.65 (1.93)	0.0
				2
Employment				.23
Full-time Student, n (%)	612 (84.4)	348 (83.9)	264 (85.2)	
Student with Part-time job, n (%)	113 (15.5)	67 (16.1)	46 (14.8)	
Education				1.3
				1
Postgraduate studies, n (%)	170 (23.5)	91 (21.9)	79 (25.6)	
Undergraduate studies, n (%)	554 (76.5)	324 (78.1)	230 (74.4)	
Diagnosed medical problem (past/present) ^b , n (%)	77 (10.6)	28 (6.7)	49 (15.8)	15.
				34*
Diagnosed psychiatric disorder (past/present) ^c , n (%)	46 (6.3)	14 (3.4)	32 (10.3)	14.
				42*
				*
Diagnosed sleep disorder (past/present) ^d , n (%)	15 (2.1)	2 (0.5)	13 (4.2)	12.
				07*

Table 2.1. Demographics of the sample by participants with and without Insomnia"

"Notes. a. The cut-off score of ISI total ≥ 10 was used to determine insomnia cases; b. Diagnosed medical problems included eczema and rhinitis; c. Diagnosed psychiatric disorders included major depressive disorders and anxiety disorders; d. Diagnosed sleep disorders included insomnia, bruxism, nightmares"

Difficulty Maintaining Sleep (DMS) ^c , n (%)	97 (13.4)	22 (5.3)	75 (24.2)	54.65**
Sleep duration ^d (mins)	433.09 (87.16)	450.22 (75.43)	410.32 (96.16)	6.04**
Mood-related measures				
DASS-Depression ^e , n (%)	233 (32.1)	81 (19.5)	152 (49.0)	70.87**
DASS-Anxiety ^f , n (%)	276 (38.1)	94 (22.7)	182 (58.7)	97.86**
DASS-Stress ^g , n (%)	218 (30.1)	78 (18.8)	140 (45.2)	58.67**
Fatigue level				
MFI General fatigue subscale	10.96 (2.17)	10.29 (2.06)	11.85 (1.98)	-10.28**
MFI Physical fatigue subscale	10.70 (3.73)	10.14 (3.63)	11.45 (3.73)	-4.72**
MFI Reduced action subscale	9.87 (3.29)	9.24 (3.34)	10.70 (3.04)	-6.14**
MFI Reduced motivation subscale	10.23 (3.36)	9.64 (3.40)	11.03 (3.15)	-5.61**
MFI Mental fatigue subscale	9.26 (3.05)	8.68 (3.17)	10.04 (2.69)	-6.26**
MFI total score	51.02 (12.04)	47.99 (12.16)	55.07 (10.62)	-8.34**
Quality of life				
KIDSCREEN total	83.17 (14.77)	87.87 (14.56)	76.86 (12.70)	10.88**

Activate \

Variables	Entire sample (n=725)	Without Insomnia (n=415)	With Insomnia ^a (n=310)	t or χ^2
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Sleep measures

Difficulty Initiating Sleep (DIS) ^b , n (%)	109 (15.0)	16 (3.9)	93 (30.0)	94.95**
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* p<.05; ** p<.00

Research Design

Throughout a two-week period, we measured the intensity of insomnia and its influence on participants' everyday life using a questionnaire that was established by Morin in 1993. The following factors are evaluated: one's level of satisfaction with their current sleep pattern; the severity of problems with sleep onset, maintenance, and early morning awakening; the extent to which these problems interfere with daily functioning; the extent to which others notice an impairment in one's quality of life; and the level of distress caused by these problems. The questionnaire consists of seven items. On a five-point Likert scale, from "okay" (not at all) to "very much," each item is measured. The potential range of scores is 0 to 28. Less than five minutes to

complete the first test and one minute to finish the second. Savard et al. (2005), Bastien and al (2005), and other preliminary studies all point to 1ST's validity and reliability as a tool for evaluating individuals' self-reported sleep problems. The Chinese version of ISI will be sent to us. Using pilot research of ten multilingual mental inpatients, we will demonstrate that there are substantial inter-correlations between the Chinese version of the ISI, the original English version, and a physician-rated version of the 1ST. A Pearson correlation value of 0.98 was observed between the Chinese 1ST and the physician-rated version of the 1ST, whereas a correlation coefficient of 0.95 was found between the English 1ST and the Chinese 1ST.

The questionnaire also looks at how often things like snoring and trouble falling or staying asleep happen, as well as how often non-regenerative sleep causes significant discomfort or impairment in daytime functioning. According to the DSM-IV criteria, the sleep disorder was detailed (APA, 1994).

Data Analysis

To be sure no one made a mistake, we input the data into an SPSS dataset using a "single-entry technique," and then compared the findings to the original surveys.

Participants are not included in the research if they "did not respond to queries about their age or whether they were pregnant." Summary statistics used to define the demographic and clinical aspects of the individuals, and all statistical analyses carried out using SPSS 15.0 for Windows (SPSS Inc, Chicago, IL). Subjects with an ISI score of 11 categorised as having an insomnia disorder, while those with an ISI score of 11 and a HADS anxiety score of 11 was categorised as having an anxiety disorder, based on the evidence that ISI scores below 10 are linked to subthreshold insomnia.

Discussion

Compared to their non-insomniac counterparts, those who suffer from insomnia were more likely to report additional symptoms including worry, stress, and sadness. This new finding lends credence to the theories put forward in earlier studies (Lund et al., 2010; Roberts et al., 2001; Johnson et al., 2006), which is in line with previous inquiries. In a cross-sectional research of college students (n=1125, aged 17-24), Lund et al. (2010) found that those who had trouble sleeping, as measured by the PSQI, had significantly greater levels of stress and negative mood indicators, such as anger, tension, hopelessness, and despair. In different massive school-based research (n=5423) (Roberts et al., 2001), the group of adolescents who experienced sleeplessness also reported significantly more disturbed mood and an increased risk of suicidal ideation. Insomnia and mood problems, such as depression, often coexist in youth. A meta-analysis found that insomnia was more common among depressed adolescents (d=1.08) than among their non-clinical peers. The relationship between current or past insomnia and a "history of anxiety disorders and severe depression was examined in previous research that employed retrospective data from 116 adolescents (ranging in age from 13 to 16). To diagnose insomnia according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, this research used structured interviews administered by trained interviewers. The criteria for identifying mood disorders are found in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (American Psychiatric Association, 2000) and the International Classification of Sleep Disorders, Revised (ICSD-R) (American Academy of Sleep Medicine, 2005). The criteria for identifying sleep disorders in children are found in the CDISC-IV (Shaffer, Fisher, Lucas, Dulcan, and Schwab-Stone, 2000). There is a direct correlation between sleeplessness and major depressive disorder; in fact, Johnson et al. (2006) found that depressed adolescents were four times more likely to have a

history of insomnia than their non-insomniac counterparts. In addition, Johnson et al. (2006) found that 69% of depressed people who also suffer from insomnia said that their insomnia started before their sadness did, indicating that insomnia might be a precursor to depression. Insomnia and other sleep disruptions at baseline were predictive of the development of severe depression over the follow-up period, according to a 15-year follow-up study of teens ($n=89$, age range = 22.8–27.6) (Goetz, Wolk, Coplan, Ryan, & Weissman, 2001). In community-based research of adolescents ($n=3134$, age range=11–17), depressive symptoms at one-year follow-up were similarly predicted by sleeplessness symptoms at baseline. Evidence suggests a robust association between insomnia and depression, making insomnia a risk factor for the latter. The results show that treating sleeplessness may be able to change the trajectory of depression.

Conclusion

People in their mid-50s When compared to younger Chinese women, older Chinese women are more likely to suffer from insomnia, sadness, and headaches. Anxiety, despair, sleeplessness, persistent snoring, and headaches of varied intensities are all associated. In this research, sociodemographic factors were not proven to be a confounding factor. A greater incidence of impairment is associated with headaches in patients, and the severity of disability is inversely proportional to headache intensity. Chronic snoring and insomnia are associated with an elevated risk of headaches, even after controlling for the presence of worry and depression. Compared to middle-aged Chinese women who do not snore, those who snore three times a week or more are five times more likely to report moderate to severe headaches. According to the study's findings, headaches in middle-aged women might be influenced by factors such as lack of sleep, snoring, anxiety, and sadness. (Buysse, D. J., 2018) Longitudinal cohort studies with large participant samples are necessary to determine the root causes of headache.

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