



## Prevalence, knowledge and perception of insomnia and hypersomnia condition among young adult population – A questionnaire-based survey

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### ABSTRACT

In the present modern mechanical world, humans are living like a machine without proper food at the right time, without sleep at the right time or even without any relaxation. There is a concept that even food stands next to sleep for a human's life. Sleep plays a major role in human life for the proper functioning of the brain. Any disturbances in sleep for prolonged duration or period may create serious effects in the body and its functioning. Sleeplessness is known clinically as insomnia, a sleep-related disorder wherein the affected people have problems in sleeping. They may have difficulty falling asleep or staying asleep as long as desired. Hypersomnia, on the other hand, is a neurological disorder of excessive times spent sleeping or excessive sleep. It can have many possible causes and problems with functioning. The study setting is done using online Google forms, including 100 participants. The sampling method is a random sampling method. Well-structured questionnaires were prepared and circulated among those 100 participants. According to the results, 74% of the adults who took the survey are aware that insomnia is sleeplessness. More than 50% of the adults feel that insomnia and hypersomnia lead to death, and 53% of the adults believe that insomnia and hypersomnia are age-related. It can be concluded that awareness of such sleep disorders can be helpful for future generations.



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### INTRODUCTION

Sleep features an important role within the progress of management for chief clinical depression based conditions. Reduced quality of sleep may be a common sign of major depressive disorder and one in every of the primary predominant remaining indications subsequent to anti-depressant management. Significantly these remaining sleep turbulences are prognostic of decline in major depressive disorder (MDD) diminution ([Rethorst et al., 2015](#)).

Most of the psychiatric disorder conditions such as mood disorders, schizophrenia or neurotic disorders are associated with sleep problems of various types. Of all such conditions, insomnia is the

most widespread and most significant in psychiatry (Johnson *et al.*, 2020). Majority of subjects with depression complain about sleep-related problems, especially insomnia. The pharmacological remedies for insomnia related to severe depression and stress may alleviate the duration for curing of depression (Sekar *et al.*, 2019). Though several pharmacological remedies are available most seems ineffective unless the root cause of depression is found and rectified. Previous literature has reported the association between depression and stress with insomnia. It could be inferred as a result of a comorbid form of insomnia and shortening of time in bed. Nevertheless, still, many studies did not evaluate the relationship between depression and time in bed (TIB) (Furihata *et al.*, 2012; Seppan *et al.*, 2018). Clinical causes associated with insomnia include psychiatric diagnosis, gender, chronic pain, lack of regular alcohol consumption, etc., (Krell and Kapur, 2005).

Some studies have researched on a genetic basis with special emphasis on single nucleotide polymorphisms (SNPs). It was investigated that SNPs present within the promoter region of the melatonin receptor genes called MTNR are associated with schizophrenia and also with sleep disturbances like insomnia and hypersomnia conditions among schizophrenic patients (Park *et al.*, 2011; Krishna and Babu, 2016).

Insomnia leads to several psychological and health-related problems. It drastically decreases the quality of life of the individual suffering from it. It is also related to vitality, behaviour, general health, individual perception of their life happenings, comorbidities, etc. As a fact, clinicians should not forget to pay attention to insomnia and sleep-related disorders (Katz and Mchorney, 2002). Proper diagnosis, prognosis, and treatment for this disorder in medical setup may significantly improve their health and quality of life.

In contrast to insomnia, hypersomnia is a relatively minor health defect which is an atypical form of depression. It is more prevalent among the younger population than the middle-aged and old-aged population (Keerthana and Thenmozhi, 2016). It seems more due to several factors such as the modern digital gadgets used during late night, lifestyle modification, work-related alterations, psychological impacts, etc. A study reported that around 50% of the subjects were below 20 years old, 40% of the subjects were below 30 years of age and 10% of subjects in their 50 years (Nandhini *et al.*, 2018). In some studies, it was reported that the incidence was more seen in females of all age groups than

males. Some subjects with depression and stress may suffer both hypersomnia and insomnia during similar episodes of depression (Nutt *et al.*, 2008; Thejeswar and Thenmozhi, 2015). Some studies reported that not all sleep disorders are similar to insomnia accounts to be the most typical problem. But if the subjects have both the sleep disorders together, i.e. insomnia and hypersomnia are considered as "double trouble" as both have a severe impact on health with underlying depression conditions (Sriram *et al.*, 2015).

Sleep has been found to possess broad, systemic effects on cognition, emotion, performance, and physical functioning. Consequently, insomnia and sleep disturbance are often comorbid with other disorders, including other sleep disorders (such as apnea, narcolepsy, and sleep-wake biological time disorders), physical disorders (such as chronic pain and cancer), and psychological and psychiatric disorders such as habit, anxiety, and mood disorders (Bootzin and Epstein, 2011). Youths were having both of those problems had more severe depression than youths with only one sleep problem (Pratha and Thenmozhi, 2016). Hence, this disorder seems to have severe effects on a human's body and the mind which has to be dealt with carefully for proper and better treatment. Moreover, several awareness studies have to be carried out to create more knowledge among the population.

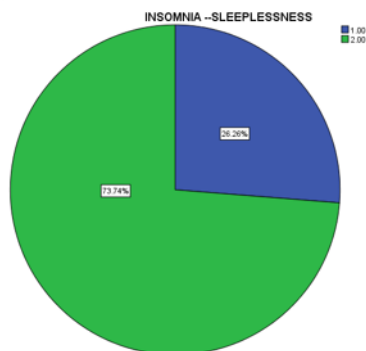
Most of the articles have detailed information on either insomnia or hypersomnia generally. There are no online surveys done yet with male and female subjects in relation to learning impact. So the aim of this study is to find out the knowledge and prevalence of insomnia and hypersomnia among adults, particularly in reference to learning efficiency and duration of sleep.

## MATERIALS AND METHODS

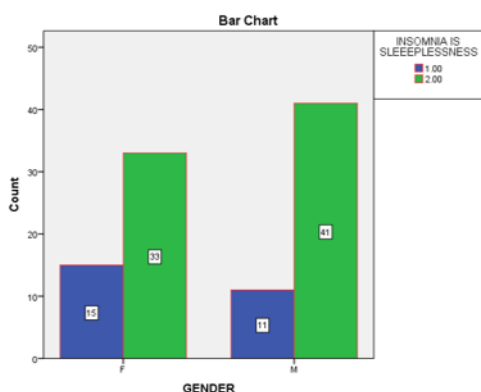
The study was an online survey conducted among the adult population with a sample size of 100 participants. Institutional Scientific Research Board approval was obtained. Sampling method was random sampling regarding the age group of above 25 years. A well-structured questionnaire was prepared and circulated using an online Google forms link. The purpose of the study was explained to the participants who took the survey, analytics were made using SPSS version 23.0 and to check the association, Chi-square analysis was done. Independent variables included are height, weight, and dependent variables included gender, age, diet and occupation.

**RESULTS AND DISCUSSION**

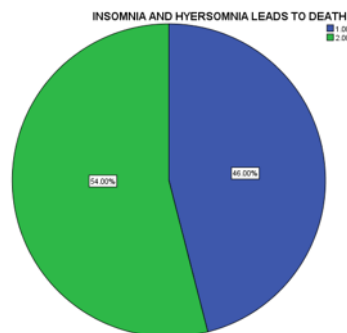
The survey data showed that adults having an awareness of insomnia were found to be 73.74%, and 26.26% were not aware of insomnia (Figure 1). Association analysis between gender with an awareness of insomnia showed Chi-square test,  $p=0.2$  ( $p>0.05$ ) indicated statistically not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.2$  ( $p>0.05$ , indicating statistically not significant) (Figure 2). The responses of adults believing in the thought that insomnia and hypersomnia lead to death showed 54% of adults believe in it, and the other 48% does not believe this concept. Pie chart represents that 54% of adults believe in it, and the other 48% does not believe (Figure 3). Association analysis between gender with awareness on insomnia and hypersomnia leading to death showed Chi-square test  $p=0.4$  ( $p>0.05$ ) indicated statistically not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.4$  ( $p>0.05$ , indicating statistically not significant) (Figure 4) (Samuel and Thenmozhi, 2015).



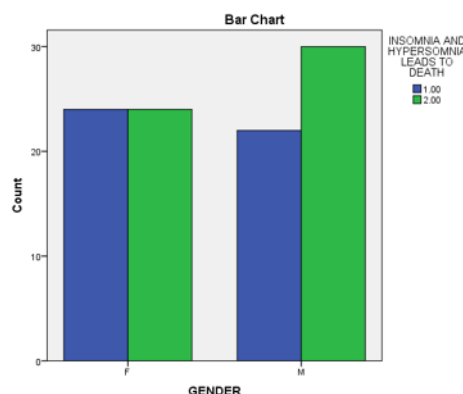
**Figure 1:** The pie chart shows the distribution of adults having an awareness of insomnia



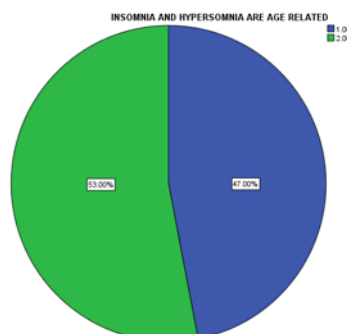
**Figure 2:** Bar graph showing the correlation of gender with an awareness of insomnia



**Figure 3:** The pie chart shows the distribution of adults believing in insomnia and hypersomnia leads to death.



**Figure 4:** Bar graph showing the correlation of gender with awareness on insomnia and hypersomnia leading to death



**Figure 5:** Pie chart shows the distribution of adults having an awareness of insomnia and hypersomnia being age-related

The data showed that 53% of the participants are aware and 47% of the participants are not aware of the fact that the adults have an awareness of insomnia and hypersomnia being age-related. Pie chart shows that 53% are aware, and 47% are not aware of it (Figure 5). Association analysis between gender with participants responses on the thought that insomnia and hypersomnia are age-related showed Chi-square test  $p=0.4$  ( $p>0.05$ ) indicated statisti-

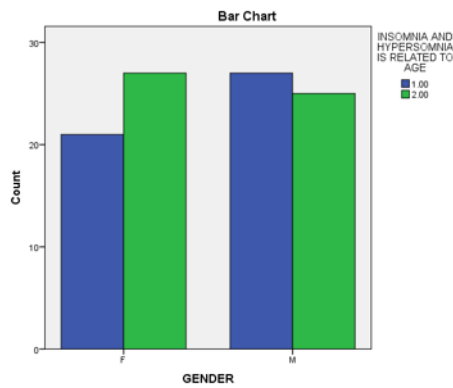


Figure 6: Bar graph showing correlation of gender with participants thinking that insomnia and hypersomnia are age-related

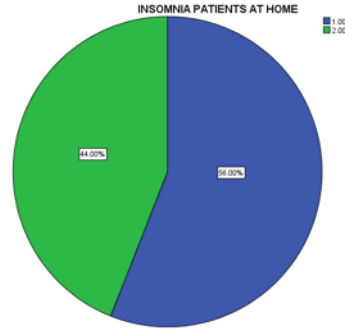


Figure 9: The pie chart shows the distribution of people having insomnia patients at home

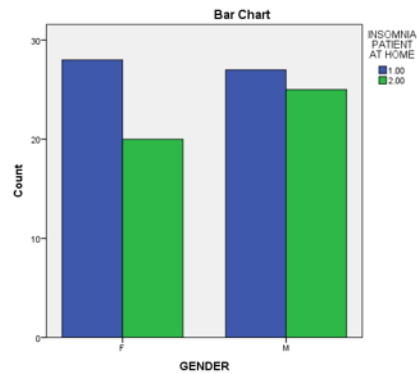


Figure 10: Bar graph showing the correlation of gender with having insomnia

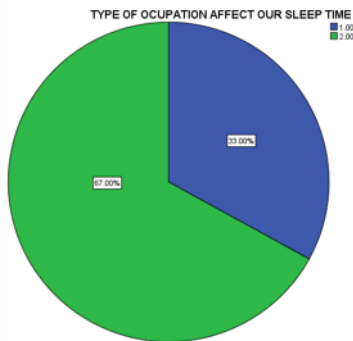


Figure 7: The pie chart shows the distribution of adults having an awareness of the type of occupation affecting our sleep time

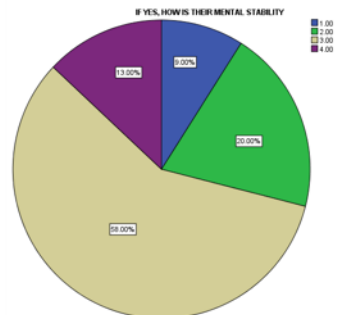


Figure 11: The pie chart shows the distribution of the mental stability of insomnia patients

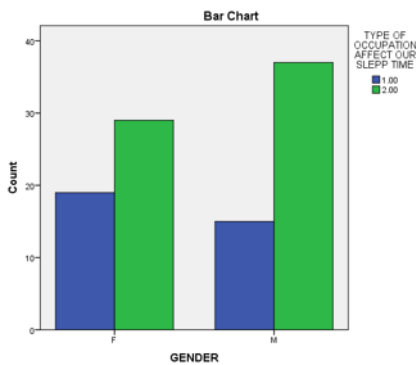


Figure 8: Bar graph showing correlation of gender with the type of occupation affecting sleep time

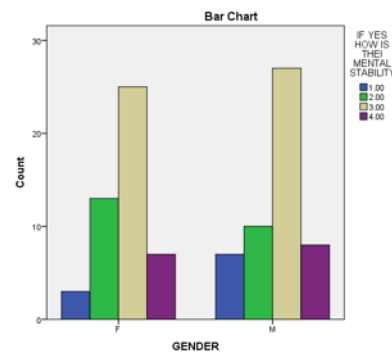
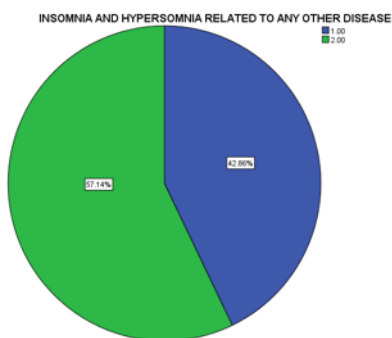
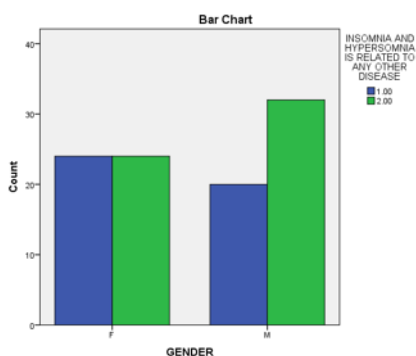


Figure 12: Bar graph showing the correlation of gender with mental stability among insomnia patients



**Figure 13: The pie chart shows the distribution of adults having an awareness of insomnia and hypersomnia is related to any other disease**



**Figure 14: Bar graph showing the correlation of gender with awareness on insomnia and hypersomnia being related to any other diseases**

cally not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.4$  ( $p>0.05$ , indicating statistically not significant) (Figure 6) (Soehner *et al.*, 2014).

The data showed that 67% are aware, and 33% are not aware of the fact that adults have an awareness of the type of occupation affecting sleep time. Pie chart shows that 67% are aware, and 33% of adults are not aware (Figure 7). Association analysis between gender with the type of occupation affecting sleep time was done. Chi-square test showed  $p=0.2$  ( $p>0.05$ ) indicated statistically not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.2$  ( $p>0.05$ , indicating statistically not significant) (Figure 8). The survey data showed that 56% of the participants have insomnia patients at home, and the other 44% are not having any. Pie chart shows that 56% have an insomnia patient at home, and the other 44% are not having any (Figure 9). Association analysis between gender with the participants having insomnia patients at home. Chi-square test showed  $p=0.5$  ( $p>0.05$ ) depicting statis-

tically not significant association. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.5$  ( $p>0.05$  depicting statistically not significant correlation) (Figure 10) (Geoffroy *et al.*, 2018; Hafeez and Thenmozhi, 2016).

On analyzing the mental stability of the insomnia patients, showed that 9% are found to be active, 20% are hyperactive, 58% are dull, and 13% are depressed. Pie chart represents that 9% are found to be active, 20% are hyperactive, the majority is 58%, i.e., dull and 13% depressive (Figure 11). Association analysis between gender with mental stability among insomnia patients through Chi-square test showed  $p=0.2$  ( $p>0.05$ ) indicated statistically not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.2$  ( $p>0.05$  considered statistically not significant) (Figure 12). The distribution of responses of adults having an awareness of insomnia and hypersomnia related to any other diseases represented that 57% are aware, and 43% are not aware. Pie chart represents that 57% are aware, and 43% are not aware (Figure 13). Association analysis between gender with awareness on insomnia and hypersomnia being related to any other diseases was done and Chi-square test showed  $p=0.2$  ( $p>0.05$ ) predicting statistically not significant. X-axis showing gender and Y-axis is showing the number of participants. Chi-square test showing  $p=0.2$  ( $p>0.05$  considered statistically not significant) (Figure 14) (Dolsen and Harvey, 2017; Choudhari and Thenmozhi, 2016).

According to the present study, 74% of the adults chosen for the survey are aware that insomnia means sleeplessness. More than 50% of the adults feel that insomnia and hypersomnia lead to death, and 53% of adults feel that insomnia and hypersomnia are age-related. Almost 70% adults obey saying that the type of occupation affects our sleep, less than 50% of people have insomnia patients in their home, and so most of the patient's mental stability was found to be dull. 58% of adults think that insomnia and hypersomnia are related to any other disease.

In previous studies, it was found that females with depression were more prone to sleep disturbances than the male population. Also, in that study, age has no significant association with it (Liu *et al.*, 2007). This data was similar to the present study. In another study conducted in children, it was found that children with disturbances in sleep are more depressed than children without any sleep disturbances (Kannan and Thenmozhi, 2016). They had

more depressive disorder based symptoms and also several comorbid anxiety-based disorders (Menon and Thenmozhi, 2016).

Some studies showed that adults with various forms of sleep disturbances had socio-psychological and behavioural alterations when compared to children without sleep disorders in relation to the thoughts about life and death, anhedonia and thoughts of attempting suicides (Urrila *et al.*, 2012). Some studies reported that children with sleep disorders at a very early age had several associated problems in their later ages (Subashri and Thenmozhi, 2016). Thus sleep plays a vital role in human life. Scientifically saying sleep is more important than food for human life and survival. Any disturbances in sleep leading to insomnia or hypersomnia may lead to several detrimental effects in an individual's life, all of which ultimately reducing one's quality of life and their efficiency in day to day life activities.

## CONCLUSION

The findings of our study suggest a detailed link between sleep disturbances and the severity of depression in adults. In particular, the link between sleep disturbances and thoughts in reference to learning efficiency and duration of sleep has been significant. So it can be concluded that this study adds our understanding of sleep disorders like insomnia and hypersomnia in relation to learning efficiency and duration of sleep.

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## Conflict of Interest

The authors declare that there was no conflict of interest for this study.

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