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IMPACT OF INSOMNIA ON PHYSICAL AND MENTAL HEALTH AND ITS ASSOCIATED RISK FACTORS AMONG ADULTS: A LITERATURE REVIEW

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Abstract

Insomnia, a prevalent sleep disorder, significantly impacts both physical and mental health. This literature review aims to explore the effects of insomnia on various health outcomes and to identify adult risk factors associated with the condition. The review is based on an extensive search of electronic databases, including PubMed, Scopus, PsycINFO, and Google Scholar, targeting studies published between 2013 and 2023. Keywords such as "insomnia," "sleep disorders," "physical health," "mental health," and "risk factors" were used. Out of the fifty articles identified, 21 were included in this study. The findings reveal a high prevalence of insomnia among adults, with adverse effects on physical and mental health, including increased risks for cardiovascular disease, metabolic issues, impaired immune function, and chronic pain. The study underscores the bidirectional relationship between insomnia and health, where insomnia can lead to or worsen physical and mental health disorders, which, in turn, negatively affect sleep quality. Moreover, insomnia is closely associated with mental health issues such as depression, anxiety, and substance abuse. The review identifies several risk factors for insomnia, including sociodemographic factors (e.g., older age, female gender), lifestyle habits (e.g., sedentary behavior, irregular sleep patterns), comorbidities (e.g., chronic pain, mental health disorders), and psychological factors (e.g., stress, trauma history). It also highlights the role of genetic and environmental factors in the susceptibility to insomnia. The analysis concludes by emphasizing the critical need for comprehensive evaluations and treatments of insomnia to improve overall adult health.

Keywords: *Insomnia, Sleep Disorder, Physical Health, Mental Health, Risk Factors.*

INTRODUCTION

Many people who suffer from insomnia are diagnosed with a medical or psychiatric condition. Insufficient and/or poor-quality sleep is referred to as sleep chaos. As a result, poor quality of sleep occurs since it is difficult to fall asleep. Insomnia is becoming worse today [1]. Insomniacs have lower energy and moods due to insufficient sleep.

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Insomnia not only de-energizes you, making you moody and fatigued, but it may also affect your physical and mental health, your job, and your quality of life [2]. As a result, sleep has both short-term and long-term adverse effects on physical and mental health. Sleep loss may impair cognitive performance as well [3]. In addition, those who suffer from insomnia may have a difficult time focusing on any given activity during the day [4]. One of the side effects of insomnia is having an unrefreshed or unsatisfying night's sleep, as well as getting up early in the morning. Sleep patterns are also altering because of the many aspects of our lifestyle [5].

Disruption of sleep is very common, and it happens in many nations, particularly among the general population. As a result of poor sleep [6]. It is very uncommon for people to say that they feel lethargic after they get up following a good night's sleep. Their attitude, energy, thinking ability, and task-based performance may all be negatively affected [7]. It has been discovered that primary insomnia and secondary insomnia have different causes.

Primary insomnia has nothing to do with a health issue other than stress, a new job, or other life events [8]. If you suffer from asthma, depression, or discomfort while you are asleep, it may be that you have secondary, or additional, sleep problems. sleeplessness may come in many different forms Insomnia that occurs over shorter intervals is known as short-term insomnia, whereas insomnia that is long-term is referred to as long-term insomnia. Individual capacity to sustain job physical and social performance, as well as quality of life, is greatly affected by insomnia [9].

Rest is critical to good health. Regardless of the cause of poor sleep, both physically and psychologically, it may impact the body and mind. Some depend on sleeping medications to sleep, and others use alcohol to do the same [10]. Among the general population, one in three persons experience some degree of sleeplessness.

As you age, your chance of experiencing insomnia increases, and it is more frequent in women than men. Without an excellent night's sleep, you will not be able to do your activity as effectively during the day, nor will you be able to think properly [11]. Health is equally dependent on both sleep quality and quantity. sleeping is a naturally occurring phenomenon and human biology has its requirements. A lack of sleep is as bad for your health as doing too much [12].

The prevalence of insomnia varies across different studies and populations. While it is challenging to provide an exact figure, it is estimated that a significant portion of the global population experiences insomnia at some point in their lives. Studies have indicated that approximately 10% to 30% of adults worldwide suffer from chronic insomnia, while transient or occasional insomnia affects an even larger percentage of the population, according to a study published in the Indian Journal of Psychiatry in 2018, the overall prevalence of insomnia in India was estimated to be around 9.9%. However, it's important to note that this prevalence may vary among different age groups and populations within the country [13].

There are several compelling reasons for scientists to delve deeper into the risks and consequences of insomnia. Affecting a significant portion of the population, the health impacts of insomnia are not fully understood. This study aims to clarify the potential repercussions of chronic sleep disruption on both physical and mental health. Understanding insomnia's effect on physical health is vital, as sleep is crucial for immune function, metabolism, cardiovascular health, and neurocognitive functioning. Identifying these impacts can help healthcare professionals develop targeted interventions to mitigate risks and improve health outcomes.

Investigating the link between insomnia and mental health is equally important due to the strong association between sleep disturbances and conditions such as depression, anxiety, and mood disorders.

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Sleep deprivation can exacerbate existing mental health issues and contribute to the development of new ones. By highlighting the bidirectional relationship between insomnia and mental health, this research could pave the way for holistic treatment approaches.

Moreover, early diagnosis, prevention, and treatment of insomnia rely on recognizing specific risk factors. By identifying demographic, lifestyle, and psychological factors that increase insomnia risk, healthcare professionals can implement targeted screening and prevention strategies. This knowledge can also guide individuals at higher risk in making informed lifestyle changes and seeking appropriate support.

Research on the impacts of insomnia and its risk factors is essential to enhance our understanding of chronic sleep disturbance's health effects and to inform the development of effective treatments for those with insomnia. This review study aims to assess the impact of insomnia on physical and mental health and to identify the negative consequences associated with it.

METHODS

For this literature review, a systematic approach was employed to gather and analyze relevant studies on the impact of insomnia on the physical and mental health of adults, as well as its associated risk factors. A comprehensive search was conducted in electronic databases such as PubMed, Scopus, PsycINFO, and Google Scholar to identify relevant studies published from 2013 to 2023.

The search terms included variations of "insomnia," "sleep disorders," "physical health," "mental health," and "risk factors." Studies were included if they focused on adult populations, examined the impact of insomnia on physical and mental health outcomes, and investigated the associated risk factors. Only peer-reviewed articles written in English were considered. Studies that solely focused on specific populations [e.g., specific medical conditions or psychiatric disorders] or those without sufficient relevance to the research objectives were excluded.

Initially, titles and abstracts of the identified articles were screened to assess their relevance to the research objectives. Subsequently, full-text articles that met the inclusion criteria were retrieved and thoroughly reviewed for final selection. Out of the fifty articles identified, 21 were included in this study. The study incorporated a survey, review articles, a cross-sectional study, and interviews, all conducted and written in English.

Data were extracted from the selected studies using a predetermined data extraction form. The extracted information included study characteristics, sample characteristics, measures used to assess insomnia, physical and mental health outcomes, and identified risk factors. The extracted data were synthesized and analyzed thematically. Key findings related to the impact of insomnia on physical and mental health outcomes, as well as the identified risk factors, were summarized and presented systematically.

Any discrepancies or inconsistencies were resolved through discussion. The findings were interpreted and discussed in light of the research objectives, comparing and contrasting the results across studies. The implications of the findings for clinical practice, policy development, and future research were explored.

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RESULT

Table 1: Analysis of the Reviewed Articles

S.NO	Author	Methods	Conclusion	Type
1	**Jenna L. Gress-Smith et al** in 2013	Two studies were conducted; the first evaluated the prevalence and comorbidity of depressive symptoms and insomnia in 1338 students (ages 18–23 years) from a large Southwestern University. A second study investigated perceived stress as a potential mediator of the relation between self-reported childhood adversity and concurrent depressive symptoms and insomnia.	Results support the high prevalence of depressive symptoms and insomnia among undergraduates. The risk for depressive and insomnia symptoms may be increased among students who experienced greater levels of childhood adversity.	Survey
2	**Julio Fernandez-Mendoza** et al in 2014	Based on findings that insomnia with objective short sleep duration is associated with activation of both limbs of the stress system and other indices of physiological hyperarousal, which should affect adversely physical and mental health.	Interestingly, both insomnia phenotypes are associated with mental health, although most likely through different pathophysiological mechanisms	Review
3	**Madeleine Blank et al** in 2015	A total of 6,483 individuals aged between 13–18 y in the National Comorbidity Survey-Adolescent Supplement (NCS-A) with both individual and parental reports of mental health were included in this study. Participants were classified with insomnia symptoms if they reported difficulty initiating sleep, difficulty maintaining sleep, and/or early morning awakening, nearly every day for at least 2 w in the past year.	Insomnia symptoms are reported by one-third of adolescents in the general population. Insomnia symptoms, even in the absence of concomitant depression or other mental disorders, are associated with serious health conditions, risk factors, and suicidality. Comorbid mental disorders potentiate the effect of insomnia symptoms on both physical and mental health. Further evaluation of the causes and effective interventions to reduce insomnia symptoms may have a significant effect on public health.	National representative cross-sectional study
4	**Nils Sandman et al** in 2015	Nightmare frequency as well as several items related to socioeconomic status, sleep, mental well-being, life satisfaction, alcohol use, medication, and physical well-being were recorded with a questionnaire.	Symptoms of depression and insomnia were the strongest predictors of frequent nightmares in this dataset. Additionally, a wide variety of factors related to psychological and physical well-being were associated with nightmare frequency with modest effect sizes. Hence, Nightmare frequency appears to have a strong connection with sleep and mood problems, but is also associated with a variety of measures of psychological and physical well-being.	Two independent cross-sectional

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5	**Panita Limpawattanaa et al** in 2015	Participants were older patients who were admitted to the ICU of Srinagarind Medical School, KhonKaen, Thailand from May 2013 to August 2014. Baseline characteristics were collected. Delirium was rated by trained clinical researchers using the Confusion Assessment Method for the ICU (CAM-ICU). Demographic data were analyzed using descriptive statistics. Regression analyses were used to analyze the outcomes.	The prevalence and incidence of delirium of older adults in the ICU setting in this study was high and comparable to prior studies. There are several significant risk factors associated with delirium which could be modified. These factors should be considered when designing effective preventive strategies of delirium.	Cross-sectional
6	**Lindsay H. Dewa et al** in 2016	A cross-sectional study of 237 prisoners aged 18 to 72 years, across two male prisons and one female prison in North England. We used the Sleep Condition Indicator to measure probable DSM-V insomnia disorder (ID) and the Pittsburgh Sleep Quality Index to examine sleep quality. Multiple demographic, sleep, clinical and forensic self-reported measures were recorded to identify any associations with insomnia.	For the first time we have established the prevalence and associated factors of insomnia in a large sample of adult English prisoners. ID and poor sleep quality are common, especially in female prisoners. These findings underline the need for dedicated treatment pathways to improve screening, assessment and treatment of insomnia in prison.	cross-sectional
7	**Maria Evandrou et al** in 2017	Using bivariate and multivariate logistic regression models, is conducted using the United Nations Population Fund Project Building Knowledge Base on Ageing in India survey. Elder abuse (physical and/or emotional) emanating from family members in the previous month before the survey is examined. Multivariate models are run on the total analytical sample and for men and women separately	Elder abuse in India is currently a neglected phenomenon, and greater recognition of the link between abuse and mental health is critical to improve the wellbeing of vulnerable older adults, some of whom may be 'hidden' within well-off households.	Cross-sectional
8	**Swapna Bhaskar et al** in 2017	A cross-sectional study was done in the family medicine OPD at St. Philomena's Hospital, Bengaluru. All adult patients attending the OPD from September 1 to October 30, 2015 were enrolled in the study after obtaining written consent. Athens Insomnia Scale was used to diagnose insomnia and information regarding medical co morbidities was collected. Data was analyzed for the prevalence of insomnia and its association with co morbidities.	Insomnia is a common sleep disorder which is many times missed by a primary care physician until/unless asked for. Since there is a higher incidence with increasing age and co morbidities such as diabetes, all patients, especially middle-aged and diabetics, should be screened for insomnia by the primary care physician with a self assessed questionnaire and counseled.	Cross-sectional
9	**Daniel J. Taylor et al** in 2017	Healthy young adult college students (N = 133) with Insomnia (n = 65) or No Insomnia (n = 68) were compared on influenza serum antibody levels pre- and four weeks postvaccination. Volunteers underwent structured clinical interviews for sleep disorders to ensure insomnia diagnoses, as well as psychiatric interviews,	Results indicate insomnia may be a risk factor for lowered immunity to the influenza virus. Influenza virus infection.	Cross-sectional

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		physical examinations, and drug testing to ensure comorbid health problems were not potential confounds.		
10	**Philippe Joaquim et al** in 2017	A PUBMED search was performed for articles indexed to June 2016 involving human subjects, excluding papers in languages other than English, Spanish and Portuguese and case reports. Eligible studies were those using a clear definition of insomnia and reporting quantitative data on prevalence rates and risk factors. The search included the following terms: insomnia, sleep disorder(s), sleep disturbance(s) and sleep-wake in the title and abstract; and epilep* in the title. 425 papers were reviewed and 31 were selected for the final analysis (21 adult and 10 paediatric). Twentyone studies used a control group. Two reviewer authors independently extracted all data and a third author resolved disagreements.	Insomnia symptoms and insomnia disorder are highly prevalent among PWE based on a limited number of studies with variable inclusion criteria and methodology. Excessive daytime sleepiness (EDS) was not found to be related to insomnia disorder or symptoms, and the exclusion of individuals with EDS may explain the higher frequencies of insomnia found in some studies. Additional investigations are needed given the potential impact of insomnia on seizure control, mood and QOL in PWE	Cross-sectional
11	**Sahil Bajaj et al** in 2020	A web-survey (N = 391) on sociodemographic characteristics, COVID-19 related worry, sleep health (insomnia and daytime sleepiness), and depression was conducted during the initial 21-days of the COVID-19 stringent lockdown in India. Multiple regression analyses showed that variables, including sex, age, income level, and worry score, contributed to the significant regression equation for insomnia but not for daytime sleepiness. Specifically, the female, younger, lower income, and highly worried populations contributed significantly more than the male, elderly, higher income, and less worried populations, respectively, to the prediction of insomnia.	Mediation analyses showed that insomnia, but not daytime sleepiness, fully mediated the relationship between worry score and severity of depressive symptoms. We provide evidence that the female, younger, lower income, and worried populations may be at higher risk for insomnia during pandemic situations. Current evidence gives hope that improving sleep may reduce depressive symptoms during a pandemic situation. This underscores the importance of the implementation of effective public health policies in conjunction with strategical responses to the COVID-19 pandemic.	Web survey
12	**Cyrille Kossigan Kokou-Kpoloua et al** in 2020	Participants (N = 556) completed the Insomnia Severity Index, UCLA Loneliness scale, and provided information on sociodemographics, antecedents of mental and physical health conditions, and COVID-19-related stressful life events. In our sample, 19.1% met the diagnostic criteria of clinical insomnia, which was twice lower than that reported in the study by Voitsidis et al., but close to those found among Chinese and Italian populations.	We confirmed COVID-19-related worries and loneliness to be the major contributing factors to clinical insomnia, in addition to education status, being infected by the virus and pre-existing mental health illness. These findings underscore that sleep-related problems should be an important component of mental health interventions during pandemics.	Cross-sectional

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13	**Christoph Pieha et al** in 2020	An online survey was performed through Qualtrics® after four weeks of lockdown in Austria to recruit a representative sample regarding gender, age, education, and region. Indicators of mental health were quality of life (WHO-QOL BREF), well-being (WHO-5), depression (PHQ-9), anxiety (GAD-7), stress (PSS-10), and sleep quality (ISI).	Depressive symptoms (21%) and anxiety symptoms (19%) are higher during COVID-19 compared to previous epidemiological data. 16% rated over the cut-off for moderate or severe clinical insomnia. The COVID-19 pandemic and lockdown seems particularly stressful for younger adults (< 35 years), women, people without work, and low income.	Web survey
14	**Yu Wang et al** in 2020	A total of 484 COVID-19 inpatients in Wuhan Tongji Hospital were selected and interviewed with standardized assessment tools. Insomnia disorder was measured by the Chinese version of the Insomnia Severity Index (ISI-7), a total score of 8 or more was accepted as the threshold for diagnosing insomnia disorder.	Given the high rate of insomnia disorder status among COVID-19 inpatients in Wuhan, China, and its negative effects, follow-up assessments and appropriate psychological interventions for insomnia disorder are needed in this population.	Interview
15	**Cynthia A. Pate et al** in the 2020	A BRFSS sample of 39 321 adults with asthma was used in this study. We examined the association between fair/poor health, ≥14 mentally unhealthy days, ≥14 physically unhealthy days, and ≥14 days of activity limitation and selected explanatory variables (sex, race/ethnicity, age, annual household income, healthcare coverage, physical activity, smoking status, Body Mass Index (BMI), having a coexisting disease, and being diagnosed with depression) using multivariable logistic regression models.	Multiple factors were associated with impaired HRQoL. Providing strategies to address potential risk factors such as low income, physically inactive, smoker, and obese or underweight should be considered to improve HRQoL among adults with asthma.	Cross-sectional
16	**Yan Guo et al** in 2020	Participants aged 18 years or above were recruited in a cross-sectional online survey using snowball sampling from February 26-29, 2020. The survey included questions on demographics, family relationships, chronic diseases, quarantine conditions, lifestyle, COVID-19 infection, and anxiety and depressive symptoms. Logistic regression analyses were conducted to identify factors associated with elevated anxiety or depressive symptoms.	The findings highlight an urgent need for psychological support for populations at high risk for elevated anxiety or depressive symptoms during the COVID-19 pandemic	Survey
17	**Ajit Bhalchandra Dahale** et al in 2020	A multicenter, cross-sectional survey was administered to 1,770 elderly primary care patients from 71 government primary health centers in Kerala, India, from May to December 2016. Insomnia was evaluated using the Insomnia Severity Index. Basic demographics and information about medical illness were collected.	Insomnia in the elderly is frequent in primary care patients in India and has multiple negative health correlates. This study reiterates the need for more awareness with regard to detection and management of insomnia in the elderly population.	Cross-sectional

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18	**Balasankar Ganesan et al** in 2021	This paper provides an overview of risk factors that can cause suicide and outlines possible solutions to prevent suicide in this current COVID-19 pandemic.	The quarantined or isolated people may suffer from various issues such as physical inactivity, mental health, economic and social problems. As with the SARS outbreak in 2003, many suicide cases have been reported in connection with this current COVID-19 pandemic lockdown due to various factors such as social stigma, alcohol withdrawal syndrome, fear of COVID infection, loneliness, and other mental health issues.	Web survey
19	**S. Younes et al** in 2021	– A cross-sectional study was done on the Lebanese young population. Participants were 4397 males and females aged18 to 35 years who filled a self-administered online questionnaire. Three validated scales were used to measure the mental health status of the participants during the COVID-19 pandemic: 7-item Insomnia Severity Index for insomnia, the Patient Health Questionnaire 9-item depression module for depression, and the 7-item Generalized Anxiety Disorder scale for anxiety.	The findings of this study demonstrate the considerable impact of COVID-19 pandemic and lockdown on Lebanese young population's mental status such as anxiety, depression and insomnia. Further follow-up studies are warranted to assess the long-term mental effects that can be imposed by the pandemic.	Cross-sectional
20	**Supa Pengpid et al** in 2021	The sample included 72,262 middle-aged and older adults from a cross-sectional national community-dwelling survey in India in 2017–2018.	Loneliness is associated with poor physical health, poor mental health and health risk behaviour (physical inactivity), emphasising the need to consider loneliness in various physical and mental health contexts.	Cross-sectional
21	**Jonathan Charest et al** in 2023	compared the habits of 47 elite athletes over a four-day period to a group of non-athletes, using actigraphy; age of participants were not reported, but groups were matched for age and gender	Sleep issues can also increase risk of concussions and other injuries, and impair recovery following injury. Cognitive performance is also impacted in a number of domains, including vigilance, learning and memory, decision-making, and creativity. Sleep also plays important roles in mental health, which is important for not only athletic performance, but the well-being of athletes in general.	Cross-sectional

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DISCUSSION

The studies reviewed on the impact of insomnia on physical and mental health among adults shed light on the significant implications of this sleep disorder. The findings from these studies provide a basis for understanding the associations between insomnia and various health outcomes, including immune response, seizure control, quality of life, depressive symptoms, anxiety, health-related quality of life, and loneliness.

One notable finding is the potential impact of insomnia on immune response [14]. This study revealed that individuals with insomnia had lower levels of influenza serum antibodies, indicating a potential risk factor for decreased immunity to the virus. This finding highlights the importance of addressing insomnia not only for its immediate impact on sleep quality but also for its potential consequences on physical health and susceptibility to infections.

Moreover, the studies on insomnia among individuals with epilepsy [15], underscore the prevalence and negative impact of insomnia on this population. Insomnia was associated with a greater impairment in quality of life and depressive symptoms, emphasizing the need for targeted interventions to address insomnia in people with epilepsy. Understanding the impact of insomnia on specific populations, such as those with epilepsy, is crucial for providing appropriate support and improving overall well-being.

The studies conducted during the COVID-19 pandemic shed light on the unique challenges posed [16] and found significant associations between insomnia, pandemic-related worry, and depressive symptoms. This suggests that the pandemic and associated stressors have contributed to sleep disturbances, highlighting the need for effective strategies to address the mental health impact of such crises. The association between insomnia and mental health outcomes is further supported by the study conducted [17], which revealed a higher prevalence of clinical insomnia during the pandemic.

COVID-19-related worries, loneliness, and pre-existing mental health illnesses were identified as contributing factors. This finding emphasizes the importance of considering sleep-related problems, such as insomnia, as a significant aspect of mental health interventions during challenging times.

Furthermore, the impact of insomnia on vulnerable populations was highlighted in the study [18], which demonstrated higher rates of depressive symptoms, anxiety symptoms, and clinical insomnia among young adults, women, individuals without work, and those with low income during the pandemic. This suggests the need for targeted interventions to support these populations and address the mental health challenges they face.

The studies also examined the impact of insomnia on specific populations, such as COVID-19 inpatients [19] and individuals with asthma [20]. These studies revealed a high prevalence of insomnia among these groups and emphasized the need to address insomnia as part of their overall care and treatment.

Understanding the specific risk factors and consequences of insomnia within these populations allows for tailored interventions and support. Moreover, the study [21] examined the relationship between loneliness and health outcomes, including insomnia. Loneliness was associated with lower self-rated health, reduced life satisfaction, impaired cognitive functioning, and increased risk of depressive symptoms and insomnia.

These findings highlight the importance of considering loneliness in the context of overall well-being and mental health, as it can significantly impact sleep quality and other health outcomes. Inadequate sleep among athletes was found to be prevalent and associated with an increased risk of injuries and concussions.

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Recognizing the importance of sleep in athletic performance and mental well-being emphasizes the need for interventions and support systems to improve sleep quality and duration among athletes.

In a series of studies conducted by various researchers, the prevalence, comorbidities, and risk factors of depressive symptoms and insomnia were investigated among different populations. [23] conducted two studies to examine depressive symptoms and insomnia among college students. The first study involved a large sample of college students between the ages of 18 and 23 from a Southwestern University. The results showed that a significant proportion of students reported mild to moderate/severe depressive symptoms and insomnia. Specifically, 19% of students endorsed mild depressive symptoms, while 14.5% reported moderate to severe symptoms.

In terms of insomnia, 47% of students reported mild insomnia, and 22.5% endorsed moderate to severe insomnia severity. The second study aimed to explore the relationship between self-reported childhood adversity, perceived stress, depressive symptoms, and insomnia. The study included 447 undergraduates from two different universities. The findings indicated that self-reported childhood adversity predicted higher levels of depressive symptoms and insomnia severity. Perceived stress partially mediated this relationship, suggesting that stress plays a role in the development of depressive symptoms and insomnia among college students.

These studies shed light on the high prevalence of depressive symptoms and insomnia among college students and highlight the potential impact of childhood adversity on their mental well-being. [24] focused on the association between insomnia and physical health. Their research revealed that insomnia with objective short sleep duration, characterized by stress system activation and physiological hyperarousal, poses risks to both physical and mental health.

On the other hand, insomnia with normal sleep duration is associated with sleep misperception and cognitive-emotional arousal but poses risks to cardiometabolic and neurocognitive health. These findings highlight the importance of considering objective measures of sleep duration in evaluating and diagnosing insomnia. They also suggest that tailored interventions targeting the specific characteristics of each insomnia subtype may be more effective in improving health outcomes. [25] conducted a national cross-sectional study to determine the prevalence of insomnia symptoms among adolescents in the United States and their association with comorbid mental disorders.

The study found that approximately one-third of adolescents reported experiencing insomnia symptoms for at least two weeks in the previous year. These symptoms were strongly associated with various mental disorders, including mood, anxiety, behavior, substance use, and eating disorders.

Adolescents with insomnia symptoms were also more likely to report suicidality, poor perceived mental health, chronic medical conditions, smoking, and obesity compared to those without insomnia symptoms. The study underscored the significant impact of insomnia symptoms on the physical and mental health of adolescents and highlighted the need for early intervention and support.

The study [26] aimed to identify risk factors for experiencing frequent nightmares among the general adult population in Finland. The study revealed that symptoms of depression and insomnia were the most influential factors in predicting frequent nightmares. Additionally, various measures of psychological and physical well-being showed modest associations with nightmare frequency. These findings suggest the close links between sleep, mood problems, and overall well-being and emphasize the need to address both mental and sleep-related issues for improved health outcomes. [27]

Investigated the prevalence, incidence, and risk factors of delirium among older Thai adults in the intensive care unit [ICU]. The study found a high prevalence and incidence of delirium in this population, particularly among mechanically ventilated patients. The study identified several independent predisposing and precipitating factors for delirium, including age, functional status,

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disease severity, presence of pneumonia, cognitive impairment, depression, previous stroke, number of additional drugs, bed changes, physical restraints, sleep deprivation, use of bladder catheters, and mechanical ventilation. These findings highlight the importance of recognizing and addressing modifiable risk factors to prevent and manage delirium in the ICU setting.

The study [28] examined the prevalence of insomnia and associated factors in adult prisoners in England. The study revealed a high prevalence of possible DSM-V insomnia disorder among prisoners, particularly among females. Factors such as physical ill-health, depression, dysfunctional beliefs about sleep, poor sleep hygiene, and environmental factors in the prison were associated with insomnia. The study emphasized the need for improved screening and management of insomnia within the prison system to address the sleep-related issues faced by prisoners.

The study [29] investigated the association between elder abuse and psychological distress among older adults in India. The study found a higher prevalence of psychological distress among individuals who experienced abuse, even after controlling for demographic and socioeconomic factors.

The study also revealed an inverse relationship between household wealth and mental health, with the strongest association between elder abuse and poor mental health observed among older individuals in wealthier households.

These findings highlight the importance of recognizing elder abuse as a critical issue in India and underscore the need for greater attention to the link between abuse and mental health in older adults. The study [30] aimed to determine the prevalence of chronic insomnia among adult patients visiting a family medicine outpatient department in a hospital. The study found a significant prevalence of chronic insomnia, particularly among older individuals and those with diabetes.

Early diagnosis and appropriate management of insomnia were recommended to improve patient outcomes, considering the higher incidence of insomnia in older age groups and individuals with co-morbidities. The study [14] examined the impact of insomnia on influenza serum antibody levels in young adult college students. The study found that individuals with insomnia had lower levels of influenza serum antibodies, suggesting a potential risk factor for decreased immunity to the virus. The findings highlight the need to address insomnia as not only a sleep-related issue but also as a potential risk factor for compromised physical health.

These studies collectively contribute to our understanding of the prevalence, risk factors, comorbidities, and impact of insomnia on various populations. They underscore the importance of recognizing and addressing sleep-related issues as integral components of overall well-being and healthcare.

The findings emphasize the need for tailored interventions, early screening, and effective management strategies to address the complex relationship between insomnia and its physical and mental health consequences. The studies reviewed provide valuable insights into the impact of insomnia on physical and mental health among adults.

The findings highlight the associations between insomnia and various health outcomes, emphasizing the need for interventions and support to address this sleep disorder. Furthermore, understanding the risk factors and consequences of insomnia in specific populations allows for targeted interventions to improve overall well-being and mental health outcomes.

These findings contribute to the growing body of evidence on the significance of addressing insomnia as a public health concern and underscore the importance of sleep for optimal physical and mental health.

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Scope of the study

This study explores the broad impacts of insomnia on both physical and mental health, along with the associated risks. It aims to understand the prevalence of insomnia across different populations and demographics, shedding light on its incidence among various age groups, genders, and socioeconomic backgrounds.

This helps in understanding the public health implications of insomnia. Additionally, the study investigates insomnia's impact on physical health, examining its link to conditions like cardiovascular diseases, metabolic disorders, immune dysfunction, and neurocognitive impairments. It also explores the effects of sleep deprivation on mental health, focusing on issues such as depression, anxiety, and mood disorders, to better understand their prevalence and contributing factors among insomniacs.

Furthermore, the study looks into potential causes of insomnia, including modifiable factors like lifestyle choices, sleep hygiene, and stress levels, as well as non-modifiable factors such as genetic predisposition and demographic characteristics. By identifying these risk factors, the study aims to inform targeted prevention and intervention strategies. It calls for further research utilizing rigorous methodologies, including longitudinal designs and standardized measurement tools, to better understand the complex interplay between insomnia and health outcomes.

Limitations of the study

The limitations of the review include variability in measurement tools, the cross-sectional nature of many studies, reliance on self-reported data, lack of consensus on definitions and criteria, publication bias, limited generalizability, lack of intervention studies, and the knowledge cut-off date. Despite these limitations, the review underscores the need for comprehensive assessments and interventions targeting insomnia to promote overall well-being. Moreover, the exclusion of non-English studies and the cutoff date for included research pose additional constraints.

CONCLUSION

In conclusion, the literature review on the impact of insomnia on physical and mental health and its associated risk factors among adults provides valuable insights into the relationship between insomnia and various health outcomes. However, several limitations should be acknowledged. The review highlights the high prevalence of insomnia and its detrimental effects on both physical and mental health.

It emphasizes the bidirectional relationship between insomnia and health, with insomnia contributing to the development or exacerbation of physical and mental health conditions, and these conditions, in turn, influence sleep quality.

Overall, the literature review provides a foundation for future studies and emphasizes the importance of recognizing and addressing insomnia as a significant public health concern. By advancing our understanding of the impact of insomnia on physical and mental health, healthcare professionals can develop tailored interventions and strategies to mitigate the negative consequences and improve the overall health and quality of life of individuals experiencing insomnia.

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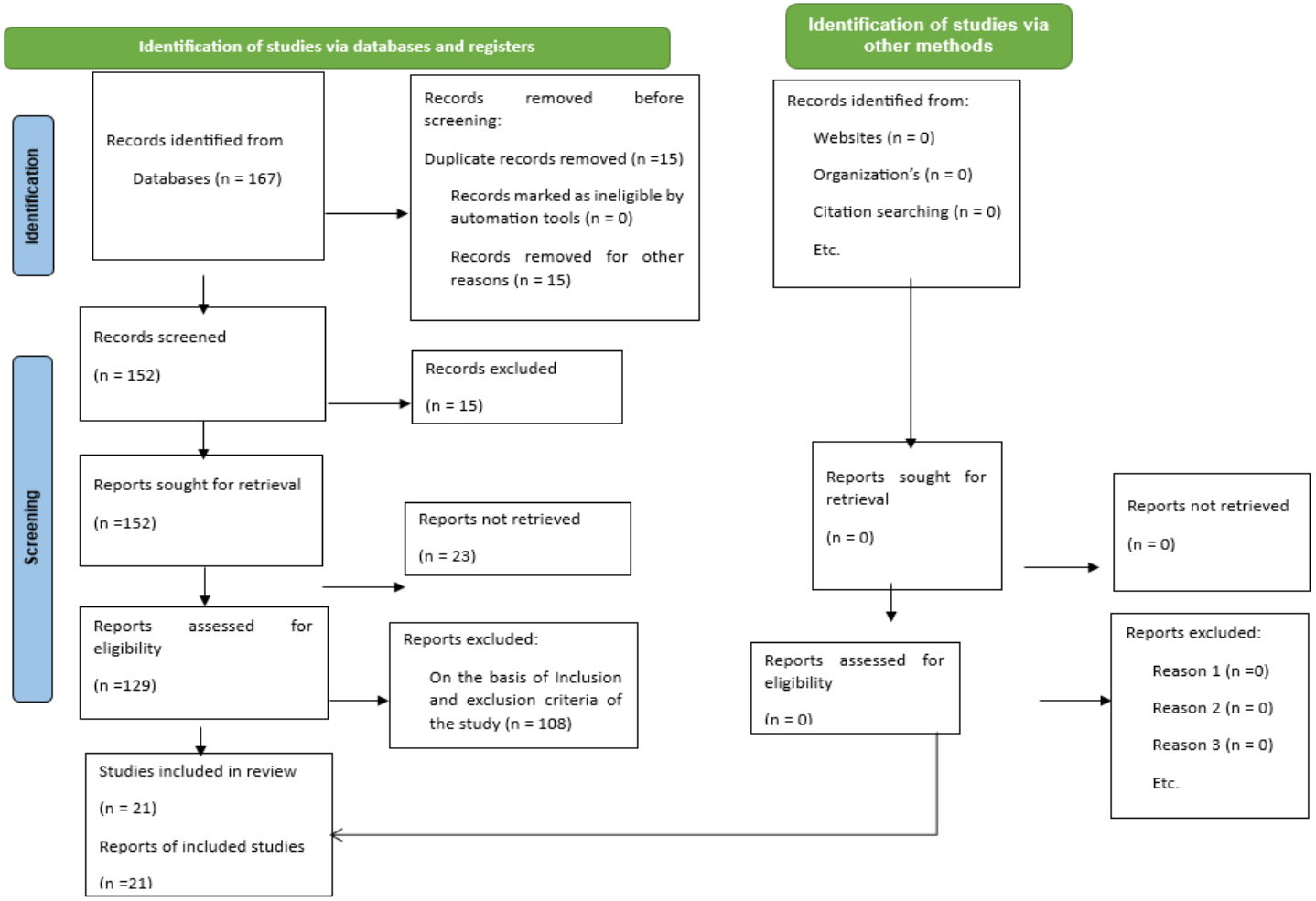

Figure 1: PRISMA flow diagram for the selection of studies via databases and registers. * Four database searches were completed in PubMed, Scopus, PsycINFO, and Google Scholar from 2013 to 2023

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