

## Depressions, Anxiety, Stress and Sleep Quality among Working Women

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*In the modern time, females have broken all boundaries and have taken on the roles of a leader, provider, protector and creator. However, over time, the burden of responsibilities has had a strong impact on their mental health and physical health. Thus, this study used a descriptive correlational design with the sample of sixty working women to assess the impact of depression, anxiety, and stress on the quality of sleep among the working women. The research concludes that, working women need to take immediate steps to improve their quality of sleep and focus on improving their mental health.*

**Keywords:** Depression, anxiety, stress, sleep quality

### Introduction

Mental disease is linked to a large amount of morbidity and impairment. Only two out of every five persons with a mood, anxiety, or drug use disorder seek help within the first year of the condition's inception. Although men and women have nearly comparable rates of psychiatric diseases, there are significant gender disparities in the patterns of mental illness.

The gender-specific variables and processes that promote and protect mental health and encourage resilience to stress and adversity have garnered far more attention than the morbidity linked with mental disease. Men and women have varying levels of power and influence over socioeconomic factors of their mental health and lifestyles, as well as their social position, status, and treatment in society, as well as their vulnerability and exposure to certain mental health hazards. Gender disparities in the incidence of common mental diseases such as depression, anxiety, and somatic symptoms are particularly noticeable.

### Gender specific risk factors

Depression, anxiety, somatic symptoms, and high rates of comorbidity are all linked to interrelated and co-occurring risk factors such gender roles, stresses, and unpleasant life events and experiences. Gender-based violence, socioeconomic deprivation, poor income and income disparity, low or subservient social standing and rank, and unrelenting duty for the care of

others are all risk factors for prevalent mental illnesses that disproportionately impact women. Women are the biggest single group of persons afflicted by PTSD due to the high incidence of sexual violence to which they are subjected and the equally high rate of Post Traumatic Stress Disorder (PTSD) as a result of such abuse.

Violence-related mental health issues are also under-reported. Women are hesitant to divulge a history of violent victimization unless their doctors specifically inquire about it. When victimization goes unnoticed, the complexity of violence-related health consequences grows, resulting in high and costly usage of the health and mental health care systems.

Anxiety and/or depressive disorders affect up to 20% of persons seeking primary health care in underdeveloped nations. According to research, there are three primary variables that are extremely defensive against the development of mental illnesses, particularly depression.

### Mental Health & Sleep

During sleep, brain activity varies, rising and decreasing across the many sleep phases that make up the sleep cycle. Overall brain activity slows during NREM (non-rapid eye movement) sleep, although there are short bursts of energy. Because brain activity increases fast during REM sleep, this stage is connected with more intense dreaming.

Each stage is important for brain health because it allows activity in different sections of the brain to increase or decrease, allowing for improved thinking,

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learning, and remembering. The brain works to assess and store ideas and memories during sleeping, and it appears that not getting enough sleep is particularly hazardous to the consolidation of pleasant emotional content. As a result, the conventional assumption that sleep issues were an indication of mental illness is being called into doubt more and more. Instead, it's becoming obvious that sleep and mental health have a bidirectional link, with sleeping disorders being both a cause and a result of mental health issues.

### **Depression**

Depressive disorders affect roughly twice as many women as they do males. Depression may strike anybody at any age. Normal hormonal fluctuations might cause mood swings and depressive moods. Hormonal changes, on the other hand, do not produce depression. Females experience depression at a greater incidence than males after puberty. Girls are more prone than males to acquire depression before they reach puberty because they enter puberty sooner. There is indication that the gender discrepancy in depression may persist throughout one's lifetime.

Mood can be affected by dramatic hormonal changes that occur during pregnancy. Other factors that may raise the risk of depression during pregnancy or during attempts to conceive include changes in lifestyle or employment, as well as other stressful events, problems in relationships, depression in the past, postpartum depression, inadequate social support, unexpected or unplanned pregnancy, miscarriage, and infertility.

Depression risk may rise during the perimenopause stage, when hormone levels vary unpredictably as women approach menopause. Depression risk may also increase after early menopause or following menopause, when estrogen levels are much lower in both cases.

The majority of women who have troublesome menopausal symptoms do not develop depression. However, the variables may raise the risk, includes sleep disruption, anxiety or depression history, life's unpleasant occurrences, weight gain or having a higher body mass index, early menopause, life circumstances and culture.

### **Stress and anxiety on the Rise for Women**

Though they report similar average stress levels, women are more likely than men to report that their stress levels are on the rise. They are also much more likely than men to report physical and emotional symptoms of stress. When comparing women with each

other, there is also appear to be differences in the ways that married and single women experience stress. These extra health concerns can emerge in women exposed to stress for extended periods of time, in addition to the stress-related symptoms. Women are more likely than men to suffer from anxiety, depression, and other psychiatric diseases such as panic disorder and obsessive-compulsive disorder. Furthermore, blood pressure and heart rate rise as a result of stress, and women are more likely than men to suffer from tension headaches. Stress-related weight gain is more common in women than in men. Women who are more stressed have a harder time getting pregnant than women who are less stressed. Premenstrual syndrome becomes more severe as stress levels rise. Women's anxiety disorders are on the rise as they try to balance job, kids, relationships, health, and any sort of a social life. Women are twice as likely as males to suffer anxiety disorders, according to the Anxiety and Depression Association of America (ADAA).

### **Review of Literature**

Bartels et al. (2021) examined the effect of work-related stress and road noise exposure on self-rated sleep and potential additive interaction effects. They found a non-significant trend for an additive interaction between bedroom window orientation and job strain. Noise levels modeled for the most exposed façade likely overestimate the actual exposure and thus may not be a precise predictor of poor sleep. Bedroom window orientation seems more relevant. Potential additive interaction effects between bedroom window orientation and job strain should be considered when interpreting epidemiological study results on noise-induced sleep disturbances.

A study done by Bani-Issa et al. (2020) tried to assess levels of stress among women healthcare professionals using measures of their cortisol levels, subjective stress, and quality of sleep. The findings support the need to examine shift work patterns and stress coping strategies among women healthcare professionals to promote their health and productivity and maintain workplace safety.

Cheung and Yip (2015) examined the weighted prevalence and associated risk factors of depression, anxiety, and stress among Hong Kong nurses. It confirmed further positive correlations between depression and divorce, widowhood and separation, job dissatisfaction, disturbances with colleagues, low physical activity levels, and sleep problems. Marital

status, general medicine, sleep problems, and a lack of leisure were significantly correlated with anxiety. Stress was significantly associated with younger age, clinical inexperience, past-year disturbances with colleagues, low physical activity, no leisure, and drinking alcohol. Nurses were more depressed, anxious, and stressed than the local general population, with over one-third of our respondents classified as subject to these disorders.

Cho, et al. (2013) investigated the relationship between job stress, sleep quality, and depressive symptoms in female workers. From March 2011 to August 2011, 4,833 female workers in the manufacturing, finance, and service fields at 16 workplaces in Yeungnam province. This study showed that the depressive symptoms of female workers are closely related to their job stress and sleep quality. In particular, the lack of reward and subjective sleep factors are the greatest contributors to depression.

Hall et al. (2015) evaluated whether levels of upsetting life events measured over a 9-year period prospectively predict subjective and objective sleep outcomes in midlife women. Chronic stress is prospectively associated with sleep disturbance in midlife women, even after adjusting for acute stressors at the time of the sleep study and other factors known to disrupt sleep. These results are consistent with current models of stress that emphasize the cumulative effect of stressors on health over time.

Herring, Kline, and O'Connor (2015) studied the effects of exercise on sleep among young women with Generalized Anxiety Disorder. Short-term exercise training improves sleep outcomes among GAD patients, especially for RET and weekend sleep. Findings suggest improved sleep may be associated with reduced clinical severity among GAD patients.

Huang et al. (2019) studied the association between emotional distress (measured as anxiety and depression) and sleep quality for women undergoing IVF treatment. This study revealed that some women, when receiving early-stage IVF treatments, were anxious, depressed, and had sleep disturbances. Anxiety was significantly associated with sleep quality. It is suggested that medical care professionals understand these common issues when assisting women undergoing these complicated reproductive treatments.

Lee et al. (2013) describes the sleep characteristics and examine the associations among perceived stress,

sleep disturbances, depressive symptoms, and physical symptoms among female college students. The majority of them slept less than 6 hours during the weekdays and experienced moderate fatigue. High stress levels are associated with sleep disturbances, less nocturnal total sleep time, higher fatigue severity, and more depressive symptoms. Perceived stress and sleep disturbances are significant predictors of depressive symptoms and physical symptoms. Compared to the good sleepers, the poor sleepers reported more daytime sleepiness, depressive symptoms, and physical symptoms. Interventions to reduce stress and improve sleep are critically needed in college education.

Maestro-Gonzalez et al. (2021) analyzed the quality of sleep of the Spanish population during the lockdown due to COVID-19. Cross-sectional descriptive study using a web-based survey design. Findings show that the Spanish population has experienced poor quality sleep during the lockdown period. Being a woman, working in rotating shifts, having suffered from COVID-19 or having someone close suffer from COVID-19, being unemployed or being affected by a Temporary Redundancy Scheme, as well as spending long hours in bed, were associated with poorer sleep quality. On the contrary, being older and sleeping longer hours were associated with better sleep quality.

Magnusson et al. (2020) investigated the associations between sleep and occupational balance among women. In particular, aspects related to the number of occupations, adequate time to perform them, and the time spent recovering and sleeping were associated with good sleep quality. Balance among physical, social, intellectual, and restful occupations was associated with difficulty awakening and snoring. The results support the need for occupational therapists to focus on occupational balance to improve women's sleep.

Rao et al. (2017) examines the effects of a mind sound resonance technique (MSRT) intervention for 1 month on perceived stress, quality of sleep, cognitive function, state and trait anxiety, psychological distress, and fatigue among female teachers. The study was a randomized, controlled trial. In the current study, the practice of MSRT facilitated a reduction in levels of stress, anxiety, fatigue, and psychological distress. The relaxation technique also enhanced the levels of self-esteem and quality of sleep among female teachers working in primary schools.

Wang et al. (2019) investigated the relationship between female college students' sleep quality, smartphone dependence, and health-related behaviors and identified predictors of sleep quality. Smartphone dependence is associated with poor sleep quality among female college students. Improving health-related behaviors (nutritional behavior, self-actualization, interpersonal support, and stress management behavior) can also promote improvement in sleep quality.

#### **Rationale of the study**

Women are more vulnerable to poor mental health due to social and economic circumstances. Women find it simpler to express their emotions and have greater social networks, both of which can benefit their mental health, yet around one in every five women suffers from common mental health issues like sadness or anxiety. While there are a variety of reasons why these issues occur, several risk factors are common among women, like dual roles, societal expectations, etc. Apart from this, the capacity to manage emotions is harmed when they don't get adequate sleep. In the long term, this may raise the chances of developing mental health issues. As a result, illnesses like worry and sadness may interrupt sleep even more.

In women, both depression and anxiety are much more frequent than in men, and with the vast number of women in professional jobs, the prevalence of depression and anxiety is not likely to diminish. Therefore, this research is focused on assessing the association between depression, anxiety, stress, and quality of sleep among working women. This report will allow us to consider the various types of problems that each working woman faces and how she interacts with them.

#### **Objectives**

To assess the levels of Depression, Anxiety and Stress among the working women.

To assess the Quality of Sleep among the working women.

To find out the relationship between Depression, Anxiety, Stress and the Quality of Sleep among the working women.

#### **Method**

##### **Sample**

In the present study, to ensure uniformity and objectivity, women who are educated (graduate or above), aged between 24 and 59 years, and employed in the public sector, private sector, or self-employed for more than 1 year were considered. Purposive

sampling was used to obtain sample from the population. The total sample consisted of 60 working women. The participants were required to submit a duly filled and signed demographic sheet and consent form before participating.

#### **Research Design**

In this research, a descriptive-correlational design was used. Descriptive correlational studies describe the variables and the relationships that occur naturally between and among them. This design allows the testing of expected relationships between and among variables and the making of predictions. It can also be used to assess these relationships in everyday life events.

#### **Tools**

***The Depression, Anxiety, and Stress Scale—21 Items (DASS 21)***, developed by Lovibond, S.H., and Lovibond, P.F. (1996), is a set of three self-report scales designed to measure the emotional states of depression, anxiety, and stress. Each of the three DASS-21 scales contains seven items, divided into subscales with similar content. In completing the DASS, the individual is required to indicate the presence of a symptom over the previous week. Each item is scored from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week). The reliability of DASS-21 showed that it has excellent Cronbach's alpha values of 0.81, 0.89, and 0.78 for the subscales of depression, anxiety, and stress, respectively. It was found to have excellent internal consistency and discriminative, concurrent, and convergent validities.

***Pittsburgh Sleep Quality Index (PSQI)*** developed by Buysse and his colleagues (1989), is a self-report questionnaire that assesses sleep quality over a 1-month time interval. The measure consists of 19 individual items, creating 7 components that produce one global score, and takes 5–10 minutes to complete. The tool is developed by researchers at the University of Pittsburgh. The component scores consist of subjective sleep quality, sleep latency (i.e., how long it takes to fall asleep), sleep duration, habitual sleep efficiency (i.e., the percentage of time in bed that one is asleep), sleep disturbances, use of sleeping medication, and daytime dysfunction. Each item is weighted on a 0–3 interval scale. The global PSQI score is then calculated by totaling the seven component scores, providing an overall score ranging from 0 to 21, where lower scores denote a healthier sleep quality.

**Process of Data Collection**

To find participants for this study, a random family survey was conducted to find working women. These participants were then informed about the details of the research. Those who showed interest were given a demographic sheet and consent form to fill out and submit. Those who deposited a duly filled and signed form were given a date and time when they were required to come online via Zoom meeting for the conduct of tests. The participants were divided into multiple groups of 15 members. The participants were shown tests via screen sharing and given a stipulated time to respond to the tests. After the interviews, the data were compiled for all the participants and analyzed using SPSS software.

**Results and Interpretation**

Descriptive and inferential statistics were used to analyze the data obtained after conducting the tests mentioned above. The mean, Standard deviation, and Karl-Pearson correlation coefficient methods were applied to analyze the data. SPSS 20 was used to do all the statistical calculations.

**Table 1**  
**Consolidated scores on Depression, Anxiety and Stress sub-scales of DASS 21 (N=60)**

Subscales	Mean	SD	Result Analysis
Depression	14.38	2.7	Moderate Depression
Anxiety	11.24	3.6	Moderate Anxiety
Stress	14.72	3.1	Normal Stress

The sub-scale of depression in DASS-21 assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. It represents the emotional state of an individual pertaining to the level of satisfaction with life. It was found that the sample of working women (mean=14.38, SD=2.7) have moderate levels of depression. Moderate level of depression is marked by two main symptoms: persistent low mood and decreased interest in activities, which may cause impairments in work, school, home, or social difficulties. Moderate depression among working women indicates that they are finding it difficult to manage multiple roles which is causing them difficulty in social activities, decreased productivity, difficulty concentrating, being irritable and lack of motivation to engage in new

activities. Thus, they need to find ways to relax themselves and cope with the symptoms.

The sub-scale of anxiety in DASS-21 assesses autonomic arousal, skeletal muscle effects, situational anxiety, and the subjective experience of anxious affect. It represents the thinking state of an individual pertaining to any situation in life. It was found that the sample of working women (mean=11.24, SD=3.6) indicates moderate levels of anxiety. Moderate anxiety includes feeling nervous, restless, or tense; having a sense of impending danger, panic, or doom; breathing rapidly (hyperventilation); sweating; and feeling weak or tired. However, people with moderate anxiety may have success managing their anxiety with the help of a doctor or through self-help strategies. Moderate anxiety among working women indicates that they are feeling on edge, are unable to control their worrying, or are unable to relax for several days or the majority of days in a week. The sub-scale of stress in DASS-21 assesses difficulty relaxing, nervous arousal, being easily upset or agitated, being irritable or over reactive, and being impatient. It represents the adaptive skills of an individual in any situation in life. It was found that the sample of working women (mean=14.72, SD=3.1) indicates normal levels of stress. Normal levels of stress among working women indicate that they are experiencing some difficulty adapting to the new situations of life and are required to constantly find new ways to keep everything in order to be successful.

**Table 2**  
**Consolidated scores on Pittsburgh Sleep Quality Index**

Quality of Sleep	N	Mean	SD	Result Analysis
	60	17.14	4.3	High Difficulty in Sleeping

The quality of sleep index assesses the difficulty or quality of sleep over a 1-month time interval. The index measures sleep quality on four measurements: amount of time spent in bed, amount of time spent in deep sleep, frequency of motion and intensity for each movement, and number of times the app registered you as fully awake. It was found that the sample of working women (mean=17.14, SD=4.3) score falls in the top 80<sup>th</sup> percentile of the score range, indicating high difficulty sleeping.

High levels of difficulty sleeping show that working women are not able to get enough sleep. Sleep loss can make it more challenging to maintain focus, attention, and vigilance. Feeling drowsy and trying to stay awake takes a lot of mental energy, making it more difficult to stay focused on long tasks and those that require concentration. Trying to work while under slept or with disturbed sleep can significantly impact job performance. Without enough sleep, processes throughout the body work sub optimally. Neurons in the brain become overworked, impairing thinking, slowing physical reactions, and leaving people feeling emotionally drained. Therefore, working women need to take immediate measures to improve their quality of sleep.

**Table 3**  
**Correlation scores on scale of Quality of Sleep and DASS-21**

Subscales of DASS	Quality of Sleep
Depression	-0.63
Anxiety	-0.54
Stress	-0.67

Karl Pearson's coefficient of correlation was conducted to find out the correlation between depression, anxiety, stress, and quality of sleep. The correlation between the depression and quality of sleep ( $r = -0.63$ ), anxiety and quality of sleep ( $r = -.54$ ), stress and quality of sleep ( $r = -0.67$ ), indicating strong negative correlations which implies that, an increase in the levels of depression, anxiety, or stress is related to a fall in the quality of sleep, and a decrease in the levels of depression, anxiety, or stress is related to an increase in the quality of sleep. When applied here, it means that working women who had high levels of depression, anxiety, or stress had poor levels of sleep or high levels of sleep difficulty. Depression, anxiety, and stress are mental health issues that impair the psychological functioning of an individual, making them feel distressed, lack control, choice, and autonomy, have low self-esteem and confidence, have a sense of not being part of society, have diminished physical activity, and have a sense of hopelessness and demoralization. This causes an individual to have physical impacts like headaches, fatigue, digestive problems, an upset stomach, insomnia, restlessness, and difficulty concentrating.

## Discussion

On the basis of the results obtained, the null hypotheses were evaluated, and the following observations were obtained:

The first null hypothesis states that there is no impact of Depression on the Quality of Sleep among working women. Karl Pearson's coefficient of correlation was conducted to find out the correlation between depression and quality of sleep, representing the impact of depression on the quality of sleep. It was found that the correlation between the depression sub-scale of the DASS and quality of sleep was  $-0.63$ , indicating a strong negative correlation. This implies that an increase in depression levels is related to a decrease in the quality of sleep. Hence, *the first null hypothesis is rejected* and the alternate hypothesis is accepted, which states that there is a significant impact of Depression on the Quality of Sleep among working women.

The second null hypothesis states that there is no impact of Anxiety on the Quality of Sleep among working women. Karl Pearson's coefficient of correlation was conducted to find out the correlation between anxiety and quality of sleep, representing the impact of anxiety on the quality of sleep. It was found that the correlation between the anxiety sub-scale of the DASS and quality of sleep was  $-0.54$ , indicating a strong negative correlation. This implies that an increase in the levels of anxiety is related to decrease in the quality of sleep. Hence, *the second null hypothesis is rejected*, and the alternate hypothesis is accepted which states that there is significant impact of Anxiety on the Quality of Sleep among working women.

The third null hypothesis states that there is no impact of Stress on the Quality of Sleep among working women. Karl Pearson's coefficient of correlation was used to find out the correlation between stress and quality of sleep, representing the impact of stress on the quality of sleep. It was found that the correlation between the stress sub-scale of the DASS and quality of sleep was  $-0.67$ , indicating a strong negative correlation. This implies that an increase in stress levels is related to a decrease in the quality of sleep. Hence, *the third null hypothesis is rejected* and the alternate hypothesis is accepted, which states that there is a significant impact of Stress on the Quality of Sleep among working women.

## Conclusion

The results have high implications for working women, their families, employers, and mental health practitioners working with women. It was found that working women have poor sleep quality and moderate levels of depression, anxiety, and stress. Therefore, working women need to take immediate steps to improve their quality of sleep and focus on improving their mental health. For this, they need to consult doctors and psychologists to help set up a daily routine that will help them improve their state

of mind, provide physical relaxation, and develop a better sleep cycle.

For further research, it is suggested that longitudinal research be conducted to observe changes in sleep quality and mental health among working women. A comparative study can be conducted with a sample division of women employed in the private sector, the public sector, and the self-employed. A comparative study can also be conducted between the male and female working populations.

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