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Research Paper

Vulnerability in Security Guards Developing Bipolar Disorder

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ABSTRACT

The research aims to understand how sleep cycles can have an adverse effect on individuals who have night shifts in their duty. The study was conducted on security guards working during the night shift, the sample included 70 security guards. The age group was between 20 to 60 male individuals. Their sleep cycles are measured with the help of the Pittsburg Sleep Quality Index and their vulnerability towards bipolar disorder was measured with the help of the Hypomanic Personality Scale (HPS), the scale has 48 items and it is a true and false questionnaire. The data was collected with the google form. The research is a correlational study, the data was analyzed with the help of SPSS software. The research study inferred that there is a significant positive correlation between sleep quality and bipolar disorder. The correlation coefficient is .275.

Keywords: *Sleep quality, Bipolar disorder, Vulnerability, Security guards, Nightshift*

This chapter will give us an overview of the research variables. In Bipolar disorder, genes play a primary factor in contributing towards the development of Bipolar disorder in individuals. However, in this research, we will be analysing if sleep is a contributor towards the risk for developing bipolar disorder in healthy individuals, who are professionals working during their night shifts and how their sleep cycle may have an effect towards making them vulnerable for bipolar disorder. The research will study the correlation between risk factors of disturbed sleep quality and the development of bipolar disorder

SLEEP QUALITY

Poor sleep quality is a sign, and it is characterised by trouble falling and staying asleep. Extensive research has shown that poor sleep quality raises the risk of mental health concerns such as depression and anxiety. Sleep is a recurrent state of relaxation marked by altered consciousness, decreased sensory activity, muscle inhibition, and significantly diminished interaction with outside entities. sleep is divided into two parts: REM (rapid eye movement) sleep, during which dreams occur, and non-REM sleep. Sleep is a stage in which the body repairs and rebuilds its immunological, neurological, metabolic, and muscular systems. Sleep quality is difficult to define and cannot be objectively measured. For some, it may refer to how they feel throughout the day (whether they are well rested or not). According to a study conducted by Harvey et al., both insomniac and normal sleeper groups

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defined sleep quality based on how tired they felt upon waking. The advantages of getting enough sleep include feeling rested, having normal reflexes, and having positive relationships. Sleep deprivation causes fatigue, irritability, daytime dysfunction, slowed responses, and an increase in caffeine and alcohol consumption. To assess sleep quality, four items are typically assessed sleep latency, sleep-waking, wakefulness, and self-efficiency.

The amount of time it takes you to fall asleep is referred to as sleep latency. Drifting off within 30 minutes of coming to bed implies that you are getting a decent night's sleep. Sleep waking: This is a measurement of how frequently you wake up during the night. Frequent nighttime waking can disrupt your sleep cycle and reduce the quality of your sleep. Waking up only once or not at all indicates that your sleep is of high quality.

Wakefulness refers to the number of minutes you spend awake after falling asleep for the first time. People with good sleep quality are awake for no more than 20 minutes at a time during the night. Sleep architecture varies consistently and significantly with age. There are significant changes in how sleep is begun and sustained from infancy to maturity, as well as the proportion of time spent in each stage of sleep and total sleep efficiency (i.e., how successfully sleep is initiated and maintained). Sleep efficiency decreases with age, according to a common pattern.

HISTORY OF SLEEP QUALITY

Bunning, a German researcher, discovered the presence of the biological clock in 1935 and discovered that it is inherited in all animals. Only two years later, Loomis, Harvey, and Hobart found the five stages of sleep and labelled the brain waves associated with each as alpha, low voltage, spindles, spindles plus random, and random waves. During this time, the structure of sleep as we know it now was being revealed. By 1925, Nathaniel Kleitman, who later continued on to become one of the field's most famous scientists, had begun researching the pathophysiology of sleep. He discovered REM sleep and went on to research sleep and wakefulness, cerebral cortex activity in mentation, consciousness, voluntary movement, and the effects of sleep deprivation. The Stanford University Sleep Disorders Clinic was established in the summer of 1970 to diagnose and treat patients with sleep disorders. They had observed periodic breathing in several patients with Pickwickian syndrome. Their main clinical interest, however, was in managing patients with narcolepsy and developing diagnostic and treatment approaches for people who complained of insomnia.

THEORIES OF SLEEP QUALITY

The two-process model explains the interplay of two key processes that are assumed to regulate the sleep-wake system, one that promotes sleep (process S) and one that maintains alertness (process C) (Gillette and Abbott, 2005). Process S is the sleep homeostatic drive. The need for sleep (process S) builds up throughout the day, peaks right before bedtime, and then diminishes throughout the night. Process C promotes wakefulness and is controlled by the circadian rhythm. Process C develops during the day to counterbalance Process S and increase wakefulness and alertness. This wake-promoting system, however, begins to wane around bedtime, which helps to improve sleep consolidation as the urge for sleep fades over the night (Gillette and Abbott, 2005). With a good night's sleep, the homeostatic drive for sleep decreases, the circadian awakening urge increases, and the cycle begins again. In the absence of process C, overall sleep time stays constant, but it is spread randomly throughout the day and night; hence, process C also serves to consolidate sleep and wake into relatively separate episodes (Gillette and Abbott, 2005). Importantly, by synchronising the circadian

rhythm, process C helps to keep sleep-wakefulness cycles in line with environmental light-dark cycles. The suprachiasmatic nucleus is in charge of controlling circadian rhythms in all organs. It receives direct input from a type of retinal nerve cell that acts as a brightness detector and can reset the clock genes in the SCN on a daily basis. The SCN then sends signals to the rest of the brain and body, synchronising all of the daily cycles with the external day-night cycle. The SCN's principal influence on sleep is due to a series of relays through the hypothalamic dorsomedial nucleus, which signals to the wake-sleep systems to coordinate their activity with the day-night cycles. The SCN also regulates eating cycles, locomotor activity, and hormones such as corticosteroids (Chou et al., 2003). Animals must modify their daily cycles to survive under certain conditions (e.g., restricted food availability), when the external temperature changes, or even when they are under behavioural stress (e.g., the need to avoid a predator). In such cases, the dorsomedial nucleus may enter a new daily cycle that is fully out of phase with the SCN and the light- dark cycle, and its signals may also disrupt the daily cycles of sleep, activity, food, and corticosteroid hormone secretion (Saper et al., 2005).

BIPOLAR DISORDER

Bipolar disorder is a highly heritable disorder, with genetic variables accounting for up to 85 percent of the diversity in risk. 1,2 The best predictor of the disorder's development is still family history. Studies 3–6 of late adolescent and young adult offspring of BP parents had a higher rate of recurrent major depression, BP type I (BPI), and BPII at the start of their lives. Adolescent kids of BP probands (the first identified subjects in a family/genetic study) had an 8-to 10-fold increased lifetime risk of BP and a 3-fold increased lifetime risk of serious affective disorders in general. Studies of probands with bipolar disorder offspring have often indicated a general increase in psychiatric diagnoses in childhood. Bipolar illness, like many other mental diseases, has an underlying hereditary component that increases sensitivity to and causes the disorder, most commonly during adolescence or early adulthood, and usually in response to stressful life situations (Goodwin and Jamison 2007) Bipolar disorder, also known as manic–depressive disorder, is an affective disorder characterised by pronounced mood swings with recurrent cycles of hypo-mania, increased energy levels, decreased desire for sleep, racing thoughts, speech pressure, frequent agitation, confusion, and distraction, heightened libido, and, in severe cases, hallucinations and delusions, as well as severe depression and severe depression episodes (chaos, emotional emptiness, despair, self-stigma, doo) (Goodwin and Jamison 2007). The condition is characterised by a spectrum in which hypo-manic and depressive symptoms emerge with great diversity and amplitude among patients, and these symptoms frequently co-occur (mixed states) (Phelps 2006). The condition affects between 3 and 8 percentage of the human population (Goodwin and Jamison 2007), albeit these figures may be higher because current diagnostic issues make distinguishing between unipolar and bipolar depression difficult (Bauer).

HISTORY OF BIPOLAR DISORDER

As early as the first century in Greece, Aretaeus of Cappadocia began the process of describing symptoms in the medical area. For many decades, his observations on the relationship between mania and depression went mostly overlooked. The phrases "mania" and "melancholia," which are now the contemporary terms "manic" and "depressive," were coined by the ancient Greeks and Romans. They even noticed that bathing with lithium salts calmed manic folks and raised depressed people's spirits. Lithium is becoming a frequent medication for persons suffering from bipolar illness. Aristotle, the Greek philosopher, not only recognised melancholy as a condition, but also mentioned it as a motivation for great.

Robert Burton wrote the book "The Anatomy of Melancholy" in the 17th century, which addressed the topic of curing melancholy (nonspecific despair) using music and dancing. While it contains medical information, the book primarily functions as a literary compilation of thoughts on depression and a vision of the full spectrum of depression's effects on society. It did however, go into great length regarding the symptoms and treatments of what is now known as clinical depression: major depressive disorder. Later that century, Theophilus Bonet published "Sepuchretum," a magnificent book based on his experience doing 3,000 autopsies. In it, he described a syndrome known as "manico-melancholicus," which combines mania and melancholy. This was a significant step in recognising the condition because mania and depression were the most commonly considered symptoms.

Kraepelin's and Leonhard's categories in the twentieth century Emil Kraepelin, a German psychiatrist who disagreed with Sigmund Freud's idea that society and the suppression of urges played a big role in mental disease, changed the course of bipolar disorder history. Kraepelin identified the biological causes of mental illness. He is thought to be the first individual to conduct extensive research on mental disorders. Kraepelin's 1921 book "Manic Depressive Insanity and Paranoia" distinguished between manic-depressive and praecox, which is now known as schizophrenia. His taxonomy of mental diseases is still utilised by professional organisations today. The first professional classification system for mental diseases was developed in the 1950s by German psychiatrist Karl Leonhard and others. This system was critical in better understanding and treating various disorders.

THEORIES OF BIPOLAR DISORDER

The behavioural approach system (BAS) dysregulation theory offers an integrated framework for comprehending the psychosocial and biological aspects of bipolar illnesses. Because significant disparities in mood and behaviour occur within the same individual, bipolar illness is both mystifying and interesting. People with bipolar illness experience euphoria, supercharged energy, and obsessive goal striving at times, but they are also melancholy, lethargic, and hopeless at other times. The severity of bipolar disorders ranges from mild Cyclothymia through Bipolar II to full-blown Bipolar I disease. The BAS regulates approach motivation and goal-directed behaviour in order to achieve rewards. It is triggered by rewards or goal-relevant cues, which can be external (the presence of the desired objective) or internal (the presence of a wanted goal) (expectancies of goal attainment). BAS activation is linked to the production of pleasant goal-directed emotions such as happiness (Gray, 1994). Recent research also shows a link between rage and BAS activation when goal attainment is thwarted (Carver, 2004). The BAS has been linked to a reward-sensitive neural network, which includes dopamine neurons that project between multiple limbic and cortical brain areas that are involved in emotion and reward. The vulnerability to bipolar disorder, according to the BAS- dysregulation concept, is represented in an extremely sensitive BAS that is hyperreactive to pertinent signals. Individuals with trait BAS hypersensitivity have variations in their state levels of BAS activation between contexts and across time. We suggest that when vulnerable individuals experience events involving rewards or goal striving and accomplishment, their hypersensitive BAS becomes overly engaged. As a result, (hypo)manic symptoms such as excessive goal-directed activity, greater energy, decreased need for sleep, optimism, and euphoria develop.

Statement of Problem

To study how vulnerable security guards are towards developing bipolar disorder.

Significance of the Study

To investigate the susceptibility of security guards to bipolar disorder because focusing on an individual's mental health is crucial, additional attention should be provided to the individual whose job is during the night shift. Security guards are at a higher risk of developing mental illness. If preventative steps are not taken, they must be super vigilant throughout their night shift as a part of their job. Because sleep is such an essential aspect of a person's life, the research will help in understanding how a disturbed sleep cycle might be a risk factor for an unhealthy mind and body. The study will also showcase mental health awareness for the security guards.

Rationale

The purpose of the research was to study if security guards who are prone towards developing bipolar disorder due to their sleep cycle. Because very little research has been conducted on the demographic of security guards for their mental health conditions, it is necessary to investigate this factor since security guards are among the population of workers who work during night; And as a part of my internship during my graduation year, I came across cases of bipolar disorder who were mostly security guards who were diagnosed with bipolar disorder and faced difficulty in recovery due to irregularity in their sleeping patterns.

Night Shift employees get less sleep than day shift workers, making them more prone to on-the-job exhaustion, which presents itself in poor job performance and health concerns connected with sleep deprivation. This study will also highlight how poor sleep cycles in healthy individuals can have a risk of developing mental disorders like bipolar. Nowadays the importance of sleep is seen to have diminished as the lifestyle has changed so much; people's fast-paced lifestyles, especially those who have to disturb their sleep cycle because of their job, cause sleep deprivation. It is very essential to keep a check on those who especially havenight shifts in their job. Security guards' mental health should be taken into prior consideration and have a protocol for them.

Objective

- To study the relationship between sleep cycle and bipolar disorder.

Summary

This chapter discusses the variables that are explored in the research and sets the facts for the emergence of future studies on the variables of sleep quality and bipolar disorder. The lack of evidence of linkage between sleep quality gives a new source to study the variables.

LITERATURE OF REVIEW

The literature review is an important step in any research as it gives information about the variables in detail and aids in understanding the current study in a more efficient way. This chapter will explain the variables that will be addressed in the current research and will also study the population of security guards who are night shift workers.

SLEEP QUALITY

Studies have shown that lack of sleep can be an emerging factor for developing mental health disorders or medical conditions in the long run, so studying this is an important factor to focus on, as a good quality of sleep improves one's lifespan as indicated by much research, the following research is focused on the sleep quality in night shift workers and how it impacts their mental health.

The Research was conducted to study the relationship between thermal comfort and light intensity by Hiva et al., 2013 to study the sleep quality and eye tiredness in shift work nurses. The study sample consisted of 88 nurses (74 men and 14 women) from the 300 nurses on the night shift, randomly selected. A luxmeter was used to measure illumination intensity, and an eye fatigue questionnaire was used for determining visual fatigue. The questionnaire contained 15 questions and answers were set on a Likert scale ranging from 0-10. The questionnaire's Alpha coefficient was 0.755. Findings from the research indicate that a poor working environment such as thermal conditions and low light intensity as well as a lack of managerial support for night shift nurses are destructive and negatively affecting nurses' physical and mental health.

A study was conducted on the well-being amongst night security guards by Alfredsson et at., 2007 for comparison with the working population. The sample size was 197 permanent male security guards who were interviewed and the questions were regarding health problems and background factors, according to the occurrence of various symptoms during the preceding 12 months. In the 95% confidence interval, four items showed significant excess SMR (standardised morbidity ratio) values. Depression, tiredness, nervous problems and insomnia were the items. There were more than three times more frequent occurrences of the first two than expected. Security guards were found to have sleep disturbances and fatigue that were 2-3 times higher than the national sample. Compared to the general working population, permanent night security guards have significantly more sleep/wake disturbances than the general working population.

The study focuses on sleep deprivation due to shift work by Giovanni 2015. Among night and rotating shift workers, the International Classification of Sleep Disorders, version 2 (ICSD-2) estimates 10% have a diagnosable "shift-work sleep disorder." As a result of this, patients may experience persistent and severe sleep disturbances, fatigue, and psychoneurotic symptoms, apart from being at risk for accidents, gastrointestinal disorders, cardiovascular and reproductive complications, and, possibly, cancer.

The aim of the study was to investigate personality factors predicting changes in shift work tolerance by Ingvild Saksvik et al., 2012. It is a longitudinal study among nurses working rotating shifts. In total, 642 Norwegian nurses were involved in the study and worked in a rotating three-shift schedule. The nurses were administered by giving Questionnaires that were administered in 2008/2009 (T1) and in 2009/2010 (T2). When comparing scores for fatigue, anxiety, and depression at T2 with the scores at T1, it was found that hardiness was negatively related to each of them. Diurnal Scale for sleep and waking time preferences and habits are assessed by seven questions. The results of this study indicate that personality factors are related to changes in shift work tolerance over one year.

The study was conducted to analyse Sleep deprivation and stressors by Jared D. et al., 2012. The focus of the research was on evidence for elevated negative affect in response to mild stressors when sleep deprived. There were 53 samples of healthy adults in the study. A controlled laboratory setting was used to manipulate sleep and stressor intensity by varying cognitive tasks, time pressure, and feedback about performance. Sleep deprivation decreases the psychological threshold for stress perception from cognitive tasks but does not selectively raise negative effects in response to high-stress performance demands, according to the findings.

BIPOLAR DISORDER

Bipolar disorder is a serious mental illness marked by alternating episodes of high and low moods. Sleep problems occur at all phases of the illness and have a negative impact on the progress, health and well-being, and treatments.

The study was conducted to analyse the vulnerability towards bipolar disorder by Tilman H et al., 2019, to study the link between sleep and sleepiness in healthy individuals. 771 subjects for actigraphy and 1766 for PSQI analyses were collected. The tool used in the study were PSQI, actigraphy for sleep quality and Hypomanic personality scale for checking the vulnerability for bipolar disorder. The findings support the hypothesis that disrupted sleep is a possible risk factor for Bipolar Disorder and point to sleep improvement as a viable early preventative target.

The aim of the research is to study the high risk of bipolar disorder by John I et al., 2011, The purpose of this study was to assess the lifetime prevalence and early clinical predictors of mental disorders in kids of probands with DSM-IV BP to offspring of control patients. Offspring aged 12 to 21 years in families with a proband with BP 141, labelled as cases and offspring of control parents of similar age n=91.it resulted in families with bipolar disorder probands, childhood anxiety and externalising diagnoses predicting significant affective disease in adolescent offspring.

The research examines sleep disturbance in bipolar disorder by Luca Jr. et al., 2019. It focuses on Neuroglia and Circadian Rhythms. Sleep disturbances are usually connected with BD and are a reliable predictor of mood swings. The preservation of regular sleep-wake cycles is thus critical to the maintenance of stability in BD, demonstrating the critical importance of circadian rhythms in this illness. Sleep problems are frequent in BD patients; these sleep abnormalities can manifest as insomnia, increased sleep latency, and fluctuation in sleep hours even during euthymia. Recent studies have attempted to discover the molecular markers that underpin sleep disturbances in BD patients. The role of neuroglial cells has been underlined in recent investigations.

The aim of the study is sleep functioning in relation to mood, function, and quality of life by June G. et al., 2009. The prevalence, duration, and variability of sleep disturbance, as well as their correlations with mood, function, and quality of life, were examined in 2024 bipolar patients recruited in the National Institute of Mental Health enhancement program for bipolar disorder. According to the findings, 32% of patients were classified as short sleepers, 38% as regular sleepers, and 23% as long sleepers. In general, short sleepers had higher mood elevation, beginning at a younger age, and a longer disease duration than both normal and long sleepers. Short and long sleepers both reported more depressed symptoms, poorer daily functioning, and decreased quality of life when compared to normal sleepers.

The study analysis impulsivity and sleep and circadian rhythm disturbance by Madison et al., 2021. The ecological momentary assessment was carried out on young adults who were at high risk of developing BSD (based on high self-reported reward sensitivity) or who had recently developed BSD. The researchers used a self-report/behavioural task to assess impulsivity, sleep and circadian rhythm changes, and mood symptoms three times per day. This multi-method analysis of dynamic connections revealed novel links between impulsivity, sleep and circadian rhythm disorder, and symptoms in individuals at high risk for or with recent-onset BSD.

SECURITY GUARDS

The research conducted on night shift workers especially security guards will give a broader understanding regarding their mental health.

The study focuses on the impact of shift work amongst security guards by Rose K. et al., 2013. The common effects of shift work on the health and social life of security guards in Madang were identified in this cross-sectional study. Face-to-face interviews and questionnaires were used to obtain data from managers and security guards for the study. The study included both male and female security guards from three different security firms. According to the findings, the most prevalent health impacts related to shift work were sleeping disorders (52%), exhaustion (22%), stress (15%), and eating disorders (5%).

The research study was conducted to analyse the influence of specific aspects of occupational stress on security guards by Juvica et al., 2020. 399 male Serbian security guards ages 25-65 had participated in the study. After controlling for age, BMI, and smoking status, ridge linear regression analysis revealed that professional stressors such as high demands, strictness, conflict/uncertainty, threat avoidance, and underload were significant positive predictors of fasting glucose, triglycerides, blood pressure, heart rate, Framingham cardiovascular risk score, and temporary work disability.

The research aims to study the self-reported health and well-being of night security guards, it is a comparison study by Alfredsson L. et al., 1991. 197 male permanent night security guards were interviewed about the occurrence of various symptoms in the previous year. The findings were compared to those of similar interviews conducted with a representative national sample of males 1769 in the Swedish working population. The findings revealed that security guards experienced 2-3 times more sleep disturbances and fatigue than the national sample. Gastrointestinal problems, headaches, nervous problems, depression, nausea, diarrhoea, and haemorrhoids were among the variables that did not differ from the national sample. Sleep-wake problems are considerably more common in permanent night security guards than in the overall working population, according to the findings.

The research study on the security guards night-time shift work and related stress responses by Walter et al., 2019. The purpose of this study is to determine the relationship between three different job activities of security guards and their stress-related responses by evaluating salivary cortisol levels and blood pressure. For this study, 90 security guards were recruited, including night-shift workers as well as night-shift and daily-shift workers. Each security guard collected 2 saliva samples before and after three predetermined time points: I at 22:00, (ii) at 06:30, and (iii) at 14:00. The study's findings revealed a significant change in cortisol levels.

The purpose of this study was to look into the relationship between two types of violence and distress among police officers and security guards by Selin H. et al., 2011. Physically violent acts, as well as threats or assaults with a deadly weapon, were defined as violence. The General Health Questionnaire-12 scale was used to assess psychological distress symptoms. The link between physically violent acts and distress is mediated by personal fear of future violence, whereas threats or assaults with a lethal weapon had a stronger and independent link with distress.

Summary
In this chapter we have explored the literature review on the vairale of the research study that helps us in the current research.

METHODOLOGY

This chapter covers the overall methodology of the study, it explains the variables, hypothesis, research design and the following content

Variables

- Sleep Quality
- Bipolar Disorder

OPERATIONAL DEFINITION

Sleep cycle - A complete 8-hour sleep or 5 hours according to the individual's requirement. The sleep cycle will be measured with the Pittsburgh Sleep Quality Index.

Bipolar Disorder - This is a mental condition marked by alternating periods of elevation and depression. The vulnerability towards bipolar disorder will be measured with the help of the Hypomanic personality scale, which is a true or false scale with 48 items.

Hypothesis

1. There is no significant relationship between sleep quality and bipolar disorder in security guards.
2. There is a significant relationship between sleep quality and bipolar disorder in security guards.
3. The sleep quality will have a negative correlation towards bipolar disorder.

Sample Size

- Sample of 70 security guards

Inclusion Criteria

- Age group between 20 to 60, Indian population. Gender - Male, Security guards with night shift duty.

Exclusion Criteria

- Age group between 0 to 19.
- Security guards working in day shift and not from any foreign country.

Tools

- **User Manual for Inquisit's Pittsburgh Sleep Quality Index - Revised (PSQI - Revised):** The PQSI poses 19 questions to participants (+ 5 optional ones to their partner at the very end). The 19 questions assess 7 different components. Each of those components is scored on a scale from 0-3. A Global PSQI Score is the sum of all those component scores (range: 0-21). The PSQI has high reliability and validity, and it can be used as a screening instrument to identify sleep issues.

PSQI has strong internal consistency (Cronbach's range = 0.70–0.83) and known-group concept validity (ability to differentiate between groups of individuals known to have a disorder linked with poor sleep and healthy individuals). The PSQI has a high level of

internal consistency (0.70) and test-retest reliability (0.70). The questionnaire exhibits adequate content validity as well as good discriminative and constructs validity. D.J. Buysse, C.F. Reynolds, T.H. Monk, S.R. Berman, and D.J. Kupfer (1989).

- **Hypomanic Personality Scale (HPS)**

Eckblad and Chapman (1986) developed the Hypomanic Personality Scale (HPS) to identify a personality style prone to bipolar disorder. Its characteristics have been mostly assessed in non- clinical samples. This is a 48-item questionnaire designed to assess hypomanic personality. A subset of 48 products was chosen due to their high item scale. Correlations and low correlations with measures of social desirability and acquiescence provided coefficient-alphaA reliability of.87; these items comprise The Scale's final edition. The Hypomania Scale was administered to 89 of these patients after 15 weeks. Reliability after repeated testing (stability) Over 15 weeks, r=.81 is a good result. Initial investigations were conducted to assess. The norms are adequate convenience samples, as well as a research study employing nonclinical samples, giving means for both male and female participants.

- It was collected through Google forms

Research Design

- Correlation Research design was used for the current research.

Summary

The Pittsburgh Sleep Quality Index and the hypomanic personality scale are used in the study, and answers are gathered using a Google form. The research methodology is correlational since the goal is to determine if there is a relationship between sleep quality and bipolar disorder. A total of 70 samples were gathered from security guards working the night shift. Males in the Indian population range from 20 to 60.

RESULT AND DISCUSSION

This chapter will address descriptive statistics as well as the result. A correlation analysis was performed to evaluate the susceptibility between bipolar disorder and sleep quality. It also covers the discussion, explains the statistical analysis and the brief study.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PSQI	70	7.00	21.00	14.5143	3.25595
HPS	70	9.00	44.00	25.3857	7.78198
Valid N (listwise)	70				

The standard deviation for PSQI is 3.25595 from the maximum score of 21.00 with the mean of 14.5143 and for bipolar disorder it is 7.78198 SD and 44.00 maximum score with 25.3857 (Table 1). This indicates the distribution of the data collected. As the data was not normally distributed, spearman correlation has been performed for the sample of 70 participants.

Table 2. Descriptives

			Statistic	Std. Error
PSQI	Mean		14.5143	.38916
	95% Confidence Interval for Mean	Lower Bound	13.7379	
		Upper Bound	15.2906	
	5% Trimmed Mean		14.5000	
	Median		14.0000	
	Variance		10.601	
	Std. Deviation		3.25595	
	Minimum		7.00	
	Maximum		21.00	
	Range		14.00	
	Interquartile Range		6.00	
	Skewness		.053	.287
	Kurtosis		-.946	.566
HPS	Mean		25.3857	.93012
	95% Confidence Interval for Mean	Lower Bound	23.5302	
		Upper Bound	27.2413	
	5% Trimmed Mean		25.3571	
	Median		25.0000	
	Variance		60.559	
	Std. Deviation		7.78198	
	Minimum		9.00	
	Maximum		44.00	
	Range		35.00	
	Interquartile Range		9.00	
	Skewness		-.025	.287
	Kurtosis		.031	.566

Table 3. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PSQI	.129	70	.005	.955	70	.013
HPS	.077	70	.200*	.979	70	.291

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

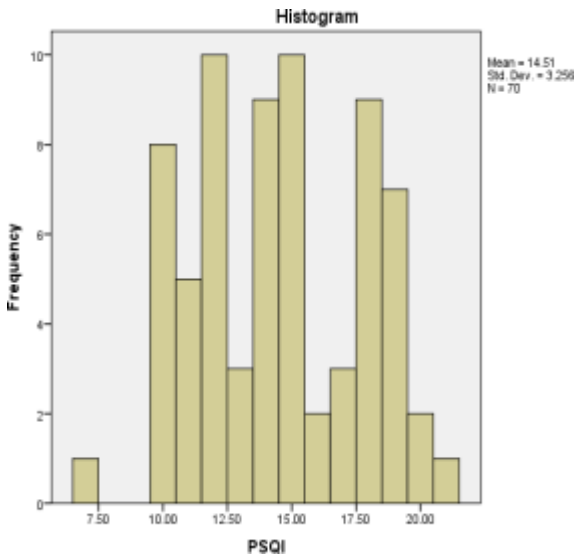
The above (Table 3) test of normality analysis indicates that the data is not normally distributed as the significance of PSQI is .013 and .291 of HPS from the test of Shapiro

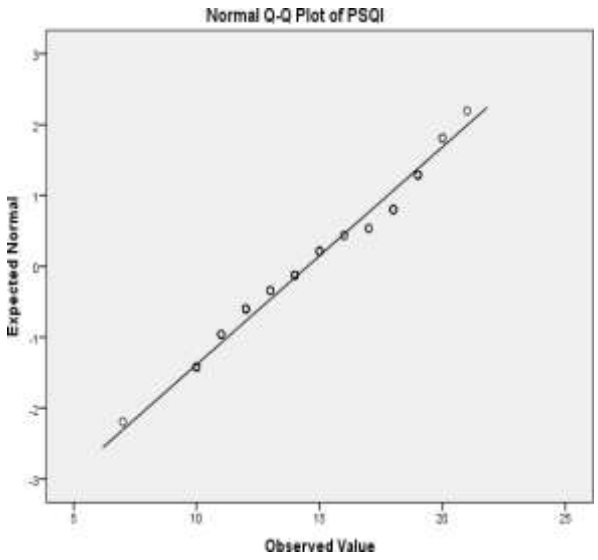
wilk. The Kolmogorov-Smirnov test signifies .005 on PSQI and .200 on HPS. Both tests are non-parametric tests as the normality is not met.

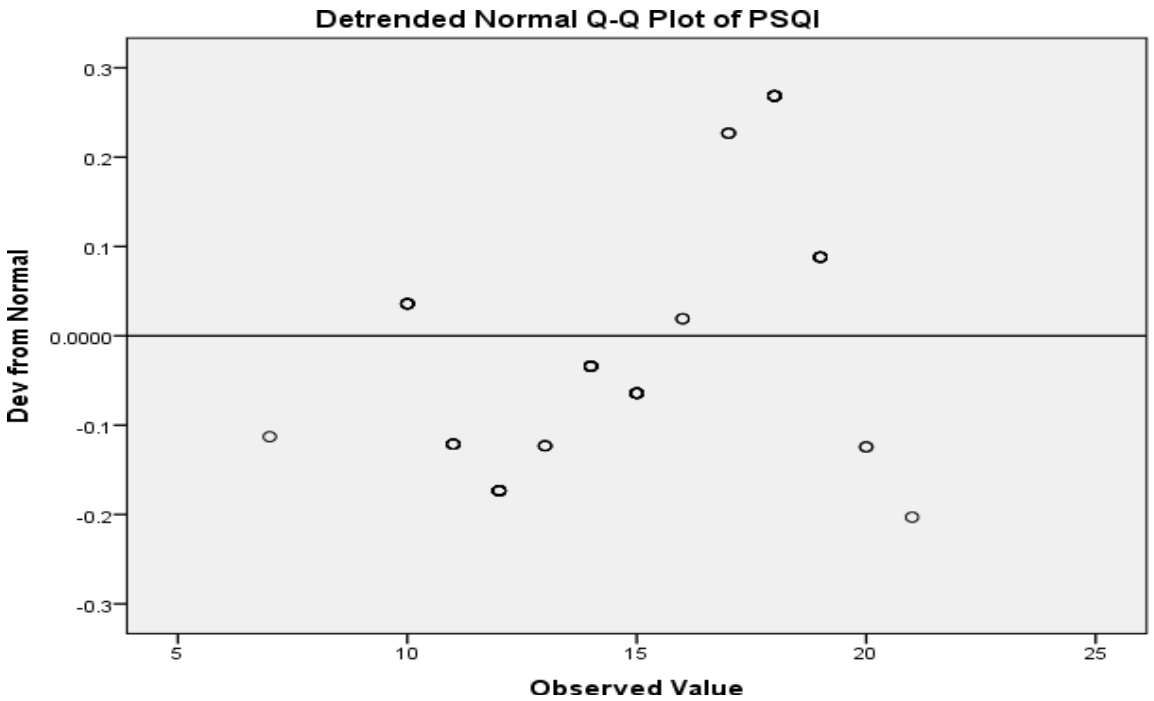
GRAPHS

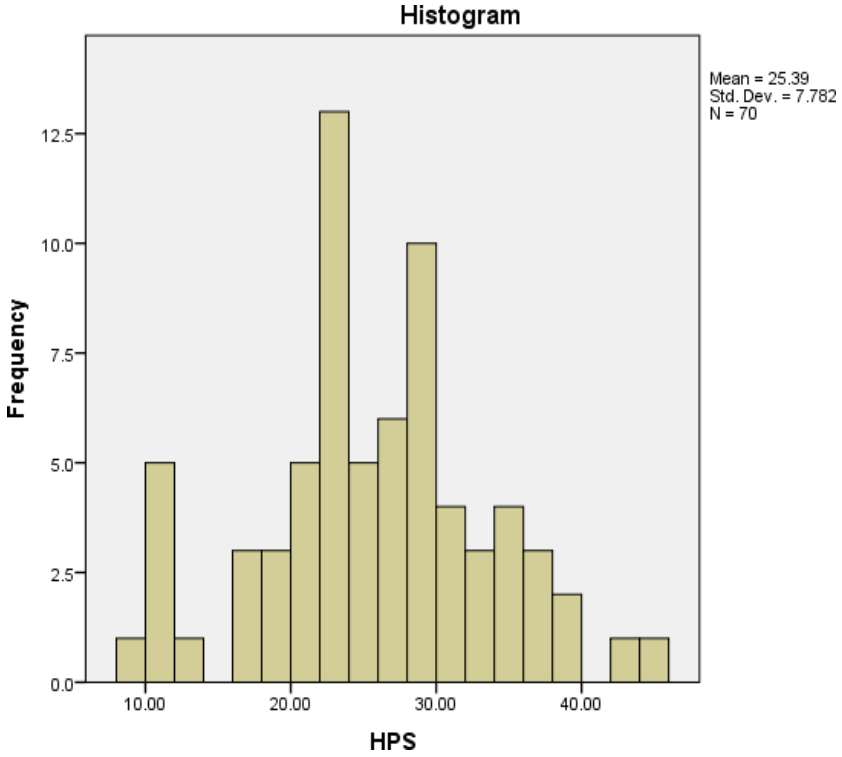
The following graphs are of PSQI histogram, normal Q-Q plots, detrended normal Q-Q plots and similar for the HPS variable.

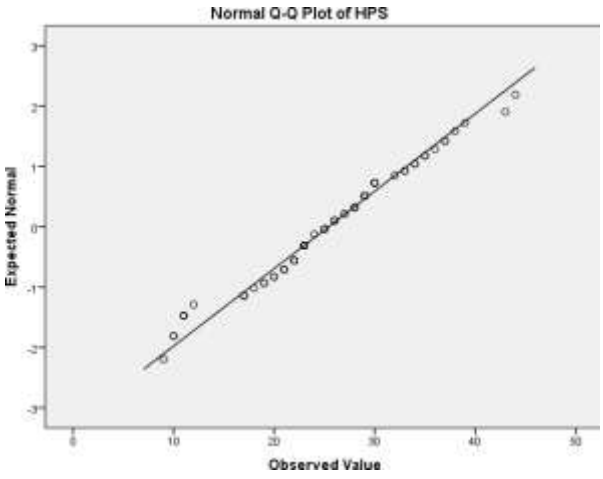
PSQI











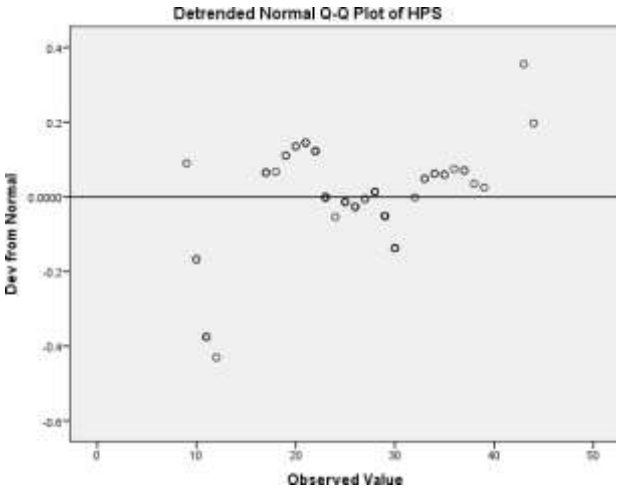


Table 4. Correlations

			PSQI	HPS
Spearman's rho	PSQI	Correlation Coefficient	1.000	.275*
		Sig. (2-tailed)	.	.021
		N	70	70
	HPS	Correlation Coefficient	.275*	1.000
		Sig. (2-tailed)	.021	.
		N	70	70

*. Correlation is significant at the 0.05 level (2-tailed).

The above (table 5) analysis explains the spearman correlation. The PSQI correlation coefficient is 1.000 and the HPS indicated a correlation coefficient of .275. The correlation is significant at the 0.05 level (2-tailed).

DISCUSSION

This research evaluated the susceptibility towards developing bipolar disorder in the security guards due to the poor sleep quality during the night shift. The alternative non-directional hypothesis of the study indicates that there will be a significant relationship between sleep quality and bipolar disorder in security guards which was accepted based on the results collected via the sample which indicated a positive correlation, however the alternative directional hypothesis was rejected because the results that we obtained with the help of the sample was opposite to the one predicted viz. positive

The present study confirmed the finding of the alternative hypothesis of a significant correlation between sleep quality and bipolar disorder in security guards. Supporting this research finding, a study was conducted to analyse the vulnerability of bipolar disorder by studying the sleep quality in healthy individuals with the PSQI scale and the Hypomanic personality scale. The finding suggested that disrupted sleep is a possible risk factor for bipolar disorder as disturbed sleep is a predisposing factor for bipolar disorder. A large sample was taken, around 771 respondents participated in the research (Hensch et al. 2019). A recent study analysed the risk factor of poor sleep quality in security guards among night shift workers a total of 100 samples were collected through inclusive and exclusive criteria of night shift workers, their findings supported that lack of sleep quality hampered their work performance with impaired fatigue level and quality of life (Kamble et al. 2020).

Sleep deprivation was found to promote high mood episodes in a research published in September 2017 in the British Journal of Psychiatry, which included more than 3,100 persons with bipolar disorder (mania). In our study conducted on security guards sample, there were approximately 51.4% of respondents who worked both night and the morning shifts. According to a study, a sample of 200 males was collected for the study by the Kuwait oil company. The result suggested a poor quality of sleep with an increased percentage of risk errors as compared to the daytime shift workers.

The alternative directional hypothesis was rejected in this study as the sample size was small, which could have been one of the factors, as well as the answer might be connected with the nature of sampling since the participants were security guards.

SUMMARY

The SPSS software has been used to conduct the data analysis for the study. Descriptive statistics were being used to determine the normality of the data, which was followed by a spearman correlational test because the data did not match the normality criteria. The alternative hypothesis was retained

CONCLUSION AND SUGGESTION

Present study findings and suggestions. It begins with a statement of the initial aims and objectives, its justification, and a synthesis of the literature results. After that, there's a short summary. Following each of the primary research topics, a discussion was presented. on the study's findings, the lessons learnt, the strengths. This section discusses the study's strengths and flaws, as well as its unique contributions. It concludes with a set of recommendations.

Hypothesis

Based on the review of literature, the following hypothesis were derived,

1. There will be no significant relationship between sleep quality and bipolar disorder in security guards

2. There will be significant relationship between sleep quality and bipolar disorder in security guards
3. There will be a negative correlation towards bipolar disorder

Method

The study's goal was to see how susceptible security guards are to developing bipolar disorder. The variables were sleep quality and bipolar disorder, and the research study included 70 participants. The age range and criteria for the study was male security guards aged 20 to 60 working the night shift. The Pittsburgh Sleep Quality Index tool was used to collect data for the analysis of sleep quality in security guards, and the Hypomanic Personality Scale was used for the study of bipolar disorder and the data collected with the help of google form. The spearman correlation was assed as the normality was not met. The data analysis was conducted on SPSS software. The study's research design was a correlation study, and the scoring of the acquired data took less than a week. The statistical analysis showed a positive weak correlation of the study. The alternative directional hypothesis was partially excepted and the alternative hypothesis was retained as there is a significant positive correlation of the study.

CONCLUSION

Based on the present study, the following can be concluded.

The research topic is “Vulnerability in security guards developing bipolar disorder” as explained in chapter one, sleep quality for any individual is very crucial to have an adequate quality of sleep. Sleep deprivation is a warning indicator, and it is characterised by difficulty sleeping and staying asleep. Extensive research has established that a lack of sleep increases the likelihood of mental health issues such as depression and anxiety. Sleep is a recurring condition of relaxation characterised by altered awareness, reduced sensory activity, muscular inhibition, and significantly reduced contact with external things. The sample of this research was precisely security guards working the night shift as well as day shifts together. there is research supporting the fact that poor sleep quality can be a risk factor towards mental illness, Sleep disturbances are a defining feature of acute bipolar disorder (Hensch et al.).

In the present study the alternative hypothesis is retained that is, there will be a significant relationship between sleep quality and bipolar disorder. The current study finding explored that there is a significant positive correlation between sleep quality and bipolar disorer. It is a weak correlation of the variables. As the sample size was security guards there might have been language barrier while responding to the research questionnaire.

Limitation

- This study investigates the significance of sleep quality and susceptibility to bipolar disorder and it included only night shift security guards.
- Little research has been conducted in India to determine the vulnerability to developing bipolar disorder in night shift security guards due to their sleep quality.
- Due to a lack of an appropriate sample size, the alternative hypothesis was retained.
- Because the study was done on security guards, it is possible that the answers were offered at random throughout the data collection method.

- It might be due to a lack of literacy and English proficiency. As one of the study key limitations, a total of 70 people were included in the study, it is small sample to considered.

Suggestion

The following suggestions might be useful in future study.

- A broader sample can be used (e.g nurse, night shift IT workers etc)
- The sample size could be more than 100 for accurate result
- Research can be undertaken on individuals who have been diagnosed with bipolar disorder to determine their susceptibility to developing bipolar illness.

Summary

The aim of the research was to study the susceptibility towards bipolar disorder in security guards working during the night shift and study the sleep quality of the security guards who participated in the study were 70 individuals, 51.4% of them also worked the night shift plus the day shift. The sample was collected from Mumbai, Navi Mumbai and Pune.

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Conflict of Interest

The author declared no conflict of interests.

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