**"EXAMINING THE PREVALENCE AND IMPACT OF POOR SLEEP QUALITY AMONG SHIFT WORKERS IN SELECTED HEALTHCARE FACILITIES IN KARU LGA OF NASSARAWA STATE, NIGERIA"**

**BY**

**CHRISTIAN MIRACLE CHIZARAM**

**BHU/23/MPH/CLS/047**

**A RESEARCH PROPOSAL SUBMITTED TO THE DEPARTMENT OF COMMUNITY MEDICINE AND PRIMARY HEALTH CARE, FACULTY OF CLINICAL SCIENCES, BINGHAM UNIVERSITY, KARU, NASSARAWA STATE, NIGERIA.**

**IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS IN PUBLIC HEALTH (MPH)**

**JULY, 2024**

**CERTIFICATION**

This is to certify that this research study will be done by **Christian Miracle Chizaram,** with Matriculation number BHU/23/MPH/CLS/047, under the supervision of **Assoc. Prof. Toyosi Adekeye** and submitted to the Department of Community Medicine and Primary Health Care, Faculty of Clinical Sciences, Bingham University Karu, Nasarawa State, Nigeria for its contribution to knowledge and literary presentations.

**ASSOC. PROF. O. ADEKEYE …………………………**

**Supervisor Signature/ Date**

**ASSOC. PROF. O. ADEKEYE …………………………**

**Head of Department Signature/ Date**

Department of Community Medicine and PHC,

College of Medicine and Health Sciences,

Bingham University,

25th June, 2024.

The Chairman,

Research Ethics Committee,

Bingham University Teaching Hospital,

Jos, Plateau State.

**Through,**

The Head,

Department of Community Medicine and PHC,

College of Medicine and Health Sciences Bingham University, Karu.

Dear Sir,

**APPLICATION FOR ETHICAL APPROVAL**

Protocol Name**: EXAMINING THE PREVALENCE AND IMPACT OF POOR SLEEP QUALITY AMONG SHIFT WORKERS IN SELECTED HEALTHCARE FACILITIES IN KARU LGA OF NASSARAWA STATE".**

I would like to submit the above-named protocol and supporting documents to you for your committee's approval to carry out a thesis in partial fulfilment of the requirements for the award of a Masters in Public Health (MPH) program.

I will be grateful if my application is considered.

Thank you for your co-operation.

Yours faithfully,

Christian, Miracle Chizaram

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**CHAPTER ONE**

**INTRODUCTION**

**1.1. Background of the Study**

In many countries, healthcare workers make up the single largest proportion of shift workers (Thompson D, 2018). The term 'shift work' generally refers to a way of organizing daily working hours in which different persons or teams work in succession to cover more than the usual 8-hrs day, up to and including the whole 24-hrs (Costa G, 2003). Shift work is not a recent form of work organization, having existed since antiquity. It is estimated that about 15-20% of the entire working population works in a shift system. This mostly applies to employees in the health care industry, energy industry, communication systems, public safety services, or hospitality (Zużewicz.K, 2017). Shift work can take the form of a rotating system incorporating three shifts (morning, afternoon, and night) on every day of the week, including weekends (Anttila T *et a*l., 2018). Workers engaged in shift work that includes night work, have altered exposure to natural light and darkness, which misaligns circadian rhythms (IARC, 2019). Circadian rhythms disorders are conditions that disrupts or affects your body's natural sleep - wake cycle, there by impacting on how well you sleep, when you sleep and how you function while awake.

Sleep is a vital biological process associated with human health and well-being. It is a fundamental psychological activity critical in cognitive processes, memory consolidation and overall well-being (Rasch B & Born J, 2013). Sleep quality refers to how satisfied an individual is with their overall sleep experience. An individual's sleep quality could provide insight into their overall health. Poor sleep quality is a contributing factor to increased morbidity and mortality, and can negatively affect quality of life (Zamanian Z *et al*., 2016). A comprehensive sleep quality evaluation involves consideration of factors such as sleep quality, bedtime, sleep latency, wake-up time, total sleep time, and sleep medication (Buysse D.J *et al.,* 1989). Poor sleep quality has an estimated prevalence of 24%–66% in the general population in several countries (Fatima Y *et**al*., 2016)**.**

Shift work can result in insomnia, poor sleep quality, and daytime sleepiness. The most common complaint is loss of subjective sleep quality (Yazdi Z *et al.*, 2014). Earlier studies have shown that most people who work in shifts have sleep pattern disturbances (Mousavi G *et al*., 2017 &Salehi K *et al.*, 2010). Due to shift work, the main sleep period at an unusual time is 1–4 h shorter than night sleep. Recent studies also warns that the percentage of healthcare workers reporting 6 or less hours sleep each day (a level considered too short by sleep experts) increased from 28% to 32% (Luckhaupt, Tak, & Calvert, 2010). This trend for shorter sleep is likely linked to several factors. Healthcare workers in facilities that operate around the clock are commonly exposed to shift work and long work hours. These demanding schedules can lead to difficulties with sleep because of the need to sleep at irregular times and at times that are out of phase with circadian rhythms, leading to poor sleep quality. Also, sleep duration may be shortened by insufficient time between work shifts and the competing demands of work and personal life. In addition, economic pressures could push healthcare workers to take on second jobs or work longer hours. Another factor is lack of knowledge about the importance of sleep which can lead people to cut their sleep time for other activities (Colten & Altevogt, 2006). However, other factors are also involved in the deterioration of sleep quality: fatigue, stress, daylight, health, and age.(Ohayon M.M *et al*., 2002).

Poor sleep has important implications for shift workers, and evidence suggests associations with poor health, reduced productivity, poor quality of life (QOL), increased accidents at work, and absenteeism (Nakata.A *et a*l., 2004). Health professionals are responsible for guiding their patients' health choices, yet many do not practice self-care or maintain healthy lifestyles (Nobutaka, H *et al.*,2021). Long working hours, reduced sleep opportunities with minimal recovery time, shift work, and work stress contribute to impaired physical, cognitive, and emotional functioning (Owens *et al.,* 2007). Poor sleep quality and drowsiness in healthcare professionals can lead to reduced cognitive skills, decreased psychomotor performance and productivity, and an increased risk of medical errors, compromising patient health and safety (Ramadan M.Z. *et al.*, 2014).

Poor sleep quality and disruption of the normal circadian cycle are likely to cause sleep deprivation, cardiovascular disorders, obesity, diabetes mellitus, anxiety, depression, lethargy and fatigue, and impairment of cognitive function (Salehi K *et al.,* 2010). It is also associated with diminished vigilance and work performance (Nena.E *et al.*, 2018). Earlier studies have linked mental health disorders such as depression and anxiety to shift work (Niu S.F *et al*., 2011).

Given the high-stakes environment of health care, ensuring that workers are well-rested is crucial for both employee health and patient safety. In Karu LGA of Nassarawa State, examining the prevalence and impact of poor sleep quality among Shift workers health care faculties, provides valuable insights into local health care dynamics and can guide targeted interventions to improve working conditions and health outcomes.

**1.2. Statement of Problem**

Shift work, particularly in health care settings, is an essential component of providing continuous patient care. Most healthcare professionals have long working hours, and many work on-call and in shifts, both of which have been shown to significantly affect sleep quality (Olawale O.O *et al*., 2017). Moreover, the high burnout rate reported among healthcare professionals may result in work-related accidents or incidents, and compromise patient safety and care (Krishnaswamy UM *et al.,* 2016). This is particularly evident in the health care facilities within Karu Local Government Area (LGA) of Nassarawa State, where many workers are required to engage in night shifts and irregular work hours. Scientific literature indicates that reduced sleep hours and circadian rhythm disturbances caused by shift work can lead to a range of health problems including greater physical and mental fatigue.

Night shift work is a factor that increases the risk of developing hypertension. Blood pressure is usually higher during the day than at night by about 10%. This is a physiological phenomenon. However, night work disrupts the circadian rhythm, causing blood pressure at night not to decrease. This leads to an overall increase in blood pressure values (Agnieszka Kuleta, 2016). Long term night shift work can have adverse health effects that affect many systems in the human body, such as the nervous, cardiovascular, hormonal, digestive, immune system, and lead to sleep disorders and the development of cancer (Eismann E.A et.,al 2010). The International Agency for Research on Cancer (IARC) in 2007 declared circadian rhythm disturbances and shift work as carcinogenic factors (WHO, 2010). Clinical studies indicate that disruptions in the biological clock rhythm in the endocrine system can affect the functions of immune system cells and enhance the inflammatory response, which can lead to the development of cancer (Bilski B, 2005).

Furthermore, poor sleep quality among health care workers can negatively impact job performance, leading to decreased alertness, higher incidence of medical errors, and compromised patient care and safety (Ganesan.S et al., 2019, James.L et al., 2020). In extreme case, healthcare workers could prescribe inaccurate diagnosis causing potentially fatal medical errors (Stimpfel A.W et al., 2012). Despite the negative effects of shift work, there is a notable lack of localized research focusing on the prevalence and specific impacts of these poor sleep quality among health care workers in Karu LGA. Without concrete data, it is challenging to develop targeted interventions and policies to address the unique needs of this population.

**1.3. Rationale**

The increasing demand for 24/7 health care services necessitates the use of shift work, which is particularly prevalent in health care facilities. This study will focus on the health care workers in Karu Local Government Area (LGA) of Nassarawa State, aiming to explore the prevalence and impact of poor sleep quality due to shift work.

Health care facilities in Karu LGA, like many others, operate round-the-clock, requiring staff to work in shifts, including nights. This study seeks to understand how widespread sleep disturbances are among these shift workers and to what extent their sleep quality is affected. Disrupted circadian rhythms due to shift work are linked to various health issues, such as sleep disorders, cardiovascular problems, metabolic disturbances, mental health issues, and weakened immune function. Investigating these health implications in Karu LGA’s health care workers is essential for developing targeted health interventions. More so, poor sleep quality can lead to reduced cognitive function, decreased alertness, and increased risk of errors, which can jeopardize patient care and safety. This study aims to quantify these impacts, provide evidence to support the need for improved sleep health among health care workers and ensure high-quality patient care.

While global research highlights the negative effects of shift work, there is a lack of specific data regarding health care workers in Karu LGA. This study will fill this gap by providing localized data and insights, which are critical for tailoring interventions to the specific needs and conditions of this population. The results of this study can inform the development of workplace policies aimed at improving sleep quality among shift workers. Potential interventions may include optimizing shift schedules, implementing sleep hygiene programs, and providing support for managing work-related stress. Improving the sleep health of health care workers will not only enhance their well-being but also positively impact the overall functioning of the health care system in Karu LGA. By addressing sleep-related challenges, the study can contribute to better health outcomes for both workers and patients and also improve their job performance.

**1.4. Study Questions**

1. What is the prevalence of poor sleep quality among shift workers in selected healthcare facilities in Nassarawa State?
2. What are the impacts of poor sleep quality on the health and job performance of these shift workers?
3. What factors contribute to poor sleep quality among shift workers in these healthcare facilities?
4. What strategies can be recommended to improve sleep quality among shift workers in these healthcare facilities?

**1.5. Aims and Objectives**

**Aim:** The aim of this study is to examine the prevalence and impact of poor sleep quality among shift workers in healthcare facilities in Karu LGA of Nasarawa State, Nigeria.

**Objectives:**

1. To determine the prevalence of poor sleep quality among shift workers in selected healthcare facilities in Karu LGA.
2. To assess the impact of poor sleep quality on the health and job performance of these shift workers.
3. To identify the factors contributing to poor sleep quality among shift workers in these selected facilities.

**1.6. Research Hypothesis**

1. There is a significant prevalence of poor sleep quality among shift workers in selected healthcare facilities in Karu LGA.
2. Poor sleep quality significantly impacts the health and job performance of shift workers in these facilities.
3. Various work-related and personal factors significantly contribute to poor sleep quality among shift workers.

**1.7. Scope of the Study**

This study will focus on shift workers in a primary healthcare center, a private hospital, and a federal medical center in Karu LGA. The study will include shift workers from various departments who have been working in these facilities for at least three months. The study covers an assessment of their sleep quality and the subsequent impact on their health and job performance.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1. Study area**

The study will be carried out in Karu Local Government Area (LGA) of Nasarawa State. Nasarawa State is centrally located in the Middle Belt region of Nigeria. It is the fifteenth largest state in Nigeria and second least populous with an estimated population of about 2.5 million as of 2016. The state lies between latitude 7° 45′ and 9° 25’ N of the equator and between longitude 7° and 9° 37′ E of the Greenwich meridian. It shares boundary with Kaduna state in the North, Plateau State in the East, Taraba and Benue states in the south while Kogi and the Federal Capital Territory flanks it in the West. The state has thirteen local government areas and its capital is Lafia, located in the east of the state, while a key economic centre of the state is the Karu urban area, along the western border with the FCT.

Karu LGA of Nassarawa state is one of the fastest growing urban areas in the world, with a growth rate of 40 percent recorded annually (Tamuno Abaku, 2006). It consists of towns that developed as a result of urban sprawl from Abuja. They include towns like Kurunduma, New Nyanya, Mararaba, New Karu, Ado, Masaka and newer, fast-growing towns such as One Man Village (which contains over 1 million people), New Karshi and Gidan Zakara (James Uzondu, 2011). There are various health care facilities in Karu some which are owned and control by the government and others by individuals and organizations. Some of these health care facilities are Adonia Hospital, Kingscare hospital,Health-Clone Medical Center, Luyen Central Hospital, PHC Masaka, Olawale hospital,PHC New Nyanya, Fekosam Maternity and Clinic, Sorenity Royale Hospital, General Hospital Karu, Mayday specialist, Nissi hospital, PHC Karu and General hospital Uke.

**3.2. Study Location**

The study will focus on three (3) healthcare facilities within Karu Local Government Area (LGA).

1. Primary Health Care Center: Typically providing basic health services and preventive care to the local community.
2. Private Hospital: Offering a range of healthcare services, often with a focus on specialized and private patient care.
3. General Hospital: A larger facility providing comprehensive healthcare services, including emergency, surgical, and inpatient care.

These facilities were selected to provide a representative sample of the healthcare settings and to capture the diverse experiences of shift workers in the region.

**3.3. Study Population**

The study population will consist of shift workers in the selected healthcare facilities in Karu LGA. This includes medical personnels such as doctors, nurses, laboratory technicians, and other non medical staff who work night shifts or rotating shifts.

**3.4. Inclusion and Exclusion Criteria**

**Inclusion Criteria:**

* Healthcare workers who have been employed for at least three months and regularly work night or rotating shifts.
* Shift health workers 18 years and above
* Willingness to participate in the study and provide informed consent.

**Exclusion Criteria:**

* Healthcare workers on leave or those who are not involved in regular shifts.
* Healthcare workers with less than three months experience in shift work
* Healthcare workers who have recently (within the past three months) changed their work schedule from shift to non-shift.

**3.5. Study Design**

A descriptive cross-sectional study design will be employed to assess the prevalence and impact of poor sleep quality among shift workers.

**3.6. Sample size Estimation**

Cochran's formula will be used to estimate sample size. This method was chosen for its suitability in calculating sample sizes for proportion studies and its ability to incorporate finite population corrections. Additionally, adjustments were made for an anticipated 10% non-response rate to ensure the robustness of the study findings.

Cochran's formular for Infinite Population, n\_o = z^ × p(p- 1)

e^

Where;

n = initial sample size estimate

z = desired confidence level z = 1.96 for 95% confidence

p = estimated proportion = 0.5

e = margin of error taken at 5% = 0.05

no = 1.96^×0.5(1- 0.5) = 3.8416 (0.25) = 384

(0.05)^ 0.0025

Applying the crochans finite population correction (FPC) to adjust for a finite population

n = no .

1 + no - 1

N

Where N= 370

n = 384 = 384 = 188.77 ~ 189

1 + 384 1 + 1.03503

370

A provision of 10% of the minimum sample size was added to cover for non-response:

n = 189 = 189 = 210

1- 0.10 0.9

Hence, the minimum sample size for this study is 210

**3.7. Sampling Technique**

A multi-stage sampling technique will be used for this study.

**Stage 1- Selection of LGA**

Out of the 13 Local Government Areas in Nasarawa State (Akwanga, Awe, Doma, Karu, Keana, Keffi, Kokona, Lafia, Nasarawa, Nasarawa Egon, Obi, Toto, and Wamba). Karu LGA was selected by Purposive sampling, because of its proximity, presence of diverse healthcare facilities and established shift work systems.

**Stage 2- Stratification**

Within Karu LGA, healthcare facilities will be stratified into three distinct groups (strata's) Primary health care center(PHCs), Private hospital and a General hospital using stratified random sampling, and one facility would be randomly selected within each stratum.

**Stage 3**- Proportional Allocation

Proportions of shift healthcare workers in each stratum (facility type) will be calculated and allocated the sample size of 210 based on these proportions using the formular:

Proportion = Total number of shift healthcare

( P) workers in each facility

Sum of total number of shift healthcare \* Sample size

workers in each facility

**Stage 4- Random Selection**

Different shifts (e.g., day, night) within the relevant departments or units will be randomly selected using the lottery method.

**Stage 5- Simple Random Sampling**

From the selected shifts, simple random sampling will be used to choose individual healthcare workers, ensuring all eligible shift workers have an equal chance of being included.

**3.8. Data Collection Method**

Data will be collected using a properly structured, self-administered questionnaire. The questionnaire will comprise five sections which include:

**Section A: Consent**

Section B: Socio-demographic information

Section C: Questions to access prevalence of poor sleep quality

Section D: Questions to evaluate the impact of poor sleep quality on health and job performance of shift workers.

Section E: Questions to identify factors contributing to poor sleep quality among Shift Workers in Karu LGA.

**3.9. Data Collection Tools**

* A standardized questionnaire will be used to assess the impact of poor sleep quality among Shift the workers. The socio demographic information prepared comprises of 10 items: age, gender, marital status, highest educational level, years of experience, type of facility and type of shift.
* Sleep quality would be examined using an adapted Pittsburgh sleep quality index (PSQI).

The Pittsburgh Sleep Quality Index (PSQI) is a self report questionnaire used to assess sleep quality over one month time interval (Buysse D.J et al.,1983). The PSQI is grouped into seven components, which includes;

1. Sleep duration
2. Sleep disturbance
3. Sleep latency (i.e how long it takes to fall asleep)
4. Daytime dysfunction due to sleepiness
5. Sleep efficiency (i.e., the percentage of time in bed that one is asleep)
6. Overall sleep quality, and
7. Use of sleep medication.

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 and global PSQI score of more than 5 indicates poor sleep quality i.e, to say the index furthermore has a cut-off point that classifies patients as good sleepers (PSQI≤5) or poor sleepers (PSQI>5). The questionnaire was validated in Spain by Royuela et al. and demonstrated appropriate validity and reliability.

**3.10. Data Analysis**

All collected data will be analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics will be used to determine the prevalence of poor sleep quality and summarise the socio-demographic characteristics of the participants. Inferential statistics such as bivariate and multivariate analysis will be used to determine statistically significant associations between sleep quality and various factors such as health outcomes and job performance. Significance would be taken at the level of P < 0.05.

**3.11. Ethical Consideration**

Ethical clearance will be gotten from the Bingham University Research and Ethics Committee. Written informed consent will also be obtained from each participant. Anonymity and confidentiality of all information from respondents will be maintained and assured throughout the study process. Hence, respondents’ names will not be required in the questionnaires. The data will only be used for research; no respondent-specific data will be collected. No one will see the results of others except the researcher and data analyst.

**3.12. Study Limitations**

Possible limitations may include the reliance on self-reported data which may introduce bias due to inaccurate recall or social desirability. The cross-sectional design, which limits the ability to establish causality between poor sleep quality and its impacts. Findings may not be applicable to all healthcare workers in Nigeria especially those in more rural areas or different states, which limits generalizability of study results.There are potentials for non-response or incomplete responses affecting validity.

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**APPENDIX**

**INFORMED CONSENT**

**Please read this document properly before participating in this study.**

My name is CHRISTIAN MIRACLE CHIZARAM. I am a postgraduate student of Bingham University, Karu, Nasarawa State, Faculty of Clinical Sciences, Department of Community Medicine and Primary Health Care.

I am conducting a thesis survey titled: **“EXAMINING THE PREVALENCE AND IMPACT OF POOR SLEEP QUALITY AMONG SHIFT WORKERS IN SELECTED HEALTHCARE FACILITIES IN KARU LGA OF NASSARAWA STATE, NIGERIA”**

The study is aimed at investigating sleep quality among shift workers in healthcare facilities within Karu Local Government Area (LGA) of Nassarawa State, Nigeria. Your participation will help in understanding how shift work affects sleep quality and its impacts on the overall health and well-being, job performance among healthcare workers.

**Procedure**: If you agree to participate, you will be asked to complete a questionnaire that includes questions about your demographic information and work schedule, sleep habits, and perceptions of your overall health and job performance in relation to your sleep quality.The questionnaire will include the Pittsburgh Sleep Quality Index (PSQI), a validated tool used to assess sleep quality across it's seven components. Your responses will be kept confidential and used solely for research purposes.

The benefits of this study is to contribute to research that may help improve understanding and support for shift workers' sleep quality and overall well-being in healthcare settings.

All information collected in this study will be kept confidential. Your name will not be attached to any reports or publications resulting from this study.

Your participation in this study is completely voluntary. You are free to withdraw at any time without penalty.

If you have any questions about the study, please feel free to contact the researcher with the given details below.

**Christian Miracle Chizaram**

**Tel: 08164634368**

**Email: phebechris65@gmail.com**

By completing this questionnaire, you are giving your consent to participate in this study.

**QUESTIONNAIRE FOR EXAMINING THE PREVALENCE AND IMPACT OF POOR SLEEP QUALITY AMONG SHIFT WORKERS IN SELECTED HEALTHCARE FACILITIES IN KARU LGA OF NASSARAWA STATE, NIGERIA.**

**SECTION A: SOCIO DEMOGRAPHIC AND WORK SCHEDULE DATA**

1) Age[yrs] { }18-25 { }26-35 { }36-45 { }46-55 { }56 and above

2) Gender: { }Male { } Female

3) Marital Status: { }Single { }Married { }Divorced { }Widowed { }Cohabiting

4) Highest Educational Qualification: { }Secondary School { }Diploma { }Bachelor's Degree { }Master's Degree { }PhD

Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) Occupation: { }Doctor { }Nurse { }Laboratory Technician

Other (please specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_

6) Years of Experience in Healthcare: \_\_\_\_\_ years

7) Type of Healthcare Facility:

{ }Primary Health Care Center { }Private Hospital { } General Hospital

8) Type of shift: { }Day Shift { } Evening shift { }Night Shift { }Rotating Shifts

9) Do you work night shift? { }Yes { }No

10) How many nights do you work per week? { }1-2 { }3-4 { }5-6 { }7 and more

**SECTION B: PREVALENCE OF SLEEP QUALITY**

***Please answer the following questions based on your sleep during the past month. Note that there are no right or wrong answers.***

**COMPONENT 1: SUBJECTIVE SLEEP QUALITY**

During the past month, how would you rate your overall sleep quality?

{ }Very good (0)

{ }Fairly good (1)

{ }Fairly bad (2)

{ }Very bad (3)

**COMPONENT 2: SLEEP LATENCY**

During the past month, how long (in minutes) has it usually taken you to fall asleep after your work shift?

{ }Less than 15 minutes (0)

{ }16-30 minutes (1)

{ }31-60 minutes (2)

{ }More than 60 minutes (3)

**COMPONENT 3: SLEEP DURATION**

During the past month, how many hours of sleep did you get on average between your work shifts?

{ }More than 7 hours (0)

{ }6-7 hours (1)

{ }5-6 hours (2)

{ }Less than 5 hours (3)

**COMPONENT 4: HABITUAL SLEEP EFFICIENCY**

During the past month, how often did you wake up in the middle of your sleep or early morning and had trouble getting back to sleep?

{ }Not during the past month (0)

{ }Less than once a week (1)

{ }Once or twice a week (2)

{ }Three or more times a week (3)

**COMPONENT 5: SLEEP DISTURBANCES**

During the past month, how often did you experience sleep disturbances such as noise, light, or uncomfortable room temperature while sleeping?

{ }Not during the past month (0)

{ }Less than once a week (1)

{ }Once or twice a week (2)

{ }Three or more times a week (3)

**COMPONENT 6: USE OF SLEEPING MEDICINE**

During the past month, how often did you take medicine (prescribed or "over the counter") to help you sleep?

{ }Not during the past month (0)

{ }Less than once a week (1)

{ }Once or twice a week (2)

{ }Three or more times a week (3)

**COMPONENT 7: DAYTIME DYSFUNCTION**

During the past month, how often did you feel sleepy or had trouble staying awake during your work shifts or while commuting home?

{ }Not during the past month (0)

{ }Less than once a week (1)

{ }Once or twice a week (2)

{ }Three or more times a week (3)

**SECTION C: IMPACT OF POOR SLEEP QUALITY ON HEALTH AND JOB PERFORMANCE**

1. How often do you experience the following symptoms? (Check all that apply)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Symptoms** | **Never** | **Rarely** | **Sometimes** | **Often** | **Always** |
| Headaches | [ ] | [ ] | [ ] | [ ] | [ ] |
| Fatigue | [ ] | [ ] | [ ] | [ ] | [ ] |
| Mood swings | [ ] | [ ] | [ ] | [ ] | [ ] |
| Difficulty concentrating | [ ] | [ ] | [ ] | [ ] | [ ] |
| Anxiety and Stress | [ ] | [ ] | [ ] | [ ] | [ ] |
| Depression | [ ] | [ ] | [ ] | [ ] | [ ] |

**2.** Have you been diagnosed with any chronic health conditions?

{ }Yes (Please specify): \_\_\_\_\_\_

{ }No

**3.** How often do you experience the following (Check all that apply)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Activity** | **Never** | **Rarely** | **Sometimes** | **Often** | **Always** |
| a. | How often do you feel that your job performance is affected by poor sleep quality? | [ ] | [ ] | [ ] | [ ] | [ ] |
| b. | Have you made any errors at work due to lack of sleep? | [ ] | [ ] | [ ] | [ ] | [ ] |
| c. | How often do you feel less productive at work because of poor sleep? | [ ] | [ ] | [ ] | [ ] | [ ] |
| d. | How often do you experience conflicts with colleagues or supervisors due to irritability or moodiness from poor sleep? | [ ] | [ ] | [ ] | [ ] | [ ] |

**SECTION D: FACTORS CONTRIBUTING TO POOR SLEEP QUALITY**

Which of the following factors do you believe contribute to your poor sleep quality? (Select all that apply)

{ }Work schedule

{ }Work environment (e.g., noise, lighting)

{ }Family responsibilities

{ }Stress

{ }Personal health issues

{ }Lifestyle habits (e.g., caffeine, alcohol consumption)

Other (Please specify): \_\_\_\_\_\_

*Thank you for taking the time to complete this questionnaire. Your responses are valuable and will contribute to a better understanding and improvement of sleep quality among Shift workers in healthcare facilities in Karu Local Government Area.*