

FATIGUE MANAGEMENT STRATEGY AND JOB PERFORMANCE OF INFORMATION MANAGERS IN TWO STATE-OWNED UNIVERSITIES IN RIVERS STATE

¹Dr. Chux-Nyeche Gloria and ²Attat, Mayen John

^{1&2}Department of Office and Information Management, Faculty of Management Sciences, Ignatius Ajuru University of Education, Port Harcourt, Nigeria.

Email: glochux@yahoo.com, attatmayen4@gmail.com

ABSTRACT

This work examined how the adoption of fatigue management strategy influences job performance of Information Managers in two State-owned universities in Rivers State. The correlation research design was adopted for this study. The population of the study was two hundred and three (203) Information Managers from the two State-owned universities in Rivers State. Due to the size of the population, the researchers adopted a census study since the population is of a manageable size. Structured questionnaire was used to obtain primary data after due validation, and ascertaining the reliability of the instrument at 0.72 using Cronbach alpha statistics, The SPSS Version 22.0 was used to run the analysis. The findings revealed that there is a significant positive relationship between fatigue management strategy and job performance, The study concluded that the adoption of fatigue management strategy as outlined will significantly aid job performance of the Information Managers in State-owned universities in Rivers State. As such, recommends that these strategies be adopted to achieve optimal performance.

Key word: Fatigue, Management, Sleeping, Workload, strategy

INTRODUCTION

In the recent past, there has been a tremendous change in the economic, social and political system of the developed countries occasioned by information and communication technologies. More so, the advent and effective utilization of mobile communication devices, laptops, ipads and smart phones that are wirelessly connected to the Internet has unarguably changed the way nations and people interact. This has also affected the role and function of the Information Manager in different organizations and institutions Chux-Nyeche (2021). The entire world is technology driven to the point that one hardly function effectively without the use of technology. More so, in a study conducted by Chux-Nyeche and Onu in 2020, it was found that competency in technology usage influences the extent to which an individual can function and achieve set goal. The benefit of technological usage in job performance of the Information Manager in a digital world cannot be overemphasized. However, when technology, doesn't work, it causes significant stress and fatigue which is the state of feeling very tired, weary or sleepy resulting from insufficient sleep, prolonged mental or physical work, extended periods of stress or anxiety. Though technology age has given us access to sufficient information, simplified many aspects of our lives, and has even improved our ability to connect with others globally. However, it came with a few downsides; spending too much time on the internet, can profoundly impact our mental health and cause stress and fatigue. Boring or repetitive tasks can intensify feelings of fatigue. Fatigue can be described as either acute or chronic." Fatigue can also result from intense or monotonous cognitive activities or physical demands.

This study conceptualizes fatigue as an experience of physical or mental weariness that results in reduced alertness. For most people, the major cause of fatigue is not having obtained adequate rest or recovery from previous activities. In simple terms, fatigue largely results from inadequate quantity or quality of sleep. This is because both the quantity (how much) and the quality (how good) of sleep are important for recovery from fatigue and maintaining normal alertness and performance. Furthermore, the effects of fatigue can be made worse by exposure to harsh environments and prolonged mental or physical work. Inadequate sleep (quality or quantity) over

a series of nights causes a sleep debt, which results in increased fatigue that can sometimes be worse than a single night of inadequate sleep. A sleep debt can only be repaid with adequate recovery sleep. Working outside the Monday-to-Friday, 9-to-5 routine can limit the opportunity for sleep and recovery in each 24-hour period. It can reduce the amount of sleep you get by between one and three hours per day. This is because these hours of work limit the amount of time available for sleep, disrupt the body clock, which is programmed for activity during the day and sleep at night. In addition to sleeping less, people who work non-traditional hours often obtain sleep of a lower quality. In the current 24 hour, 7 day a week (24/7) society, there are many reasons that workers don't obtain the quality or quantity of sleep that they require to be adequately rested. Some of these reasons are work related and some are non-work related. Examples of work-related fatigue factors are: • hours of work (especially night work, early morning starts, and high total number of hours) • task demands or time pressures that do not allow for adequate breaks during shifts • working conditions that may compound fatigue (for example, heat stress and time pressures).

Consequences and effects of Fatigue

A fatigued individual is often impaired and can't continue to perform tasks safely or efficiently. Reduced decision making ability, reduced ability to do complex planning, reduced communication skills, reduced productivity or performance, reduced attention and vigilance, reduced ability to handle stress on the job, increased reaction time—in speed and thought, Loss of memory or the ability to recall details, Failure to respond to changes in surroundings or information provided, Inability to stay awake (e.g. falling asleep while operating machinery or driving vehicles), Increased tendency for risk-taking, increased forgetfulness, increased errors in judgment, increased sick time, absenteeism, rate of turnover, increased medical costs, increased rates of adverse incidents are all consequences of fatigue. More so, fatigue can affect your ability to: react quickly in emergency situations, communicate clearly with fellow employees, work productively. Fatigue and falling asleep have been identified as significant contributors to incidents and accidents in a wide cross-section of industry. This relationship has been well supported by evidence from organizational and government investigations as well as industrial risk data.

The incidents and accidents that result from fatigue can be severe and include fatalities, but are most often associated with employee injury or equipment damage. How big a risk is fatigue? In recent years, researchers have compared effects on performance of alcohol and fatigue. While most people understand that alcohol intoxication can be a significant risk on the roads, the effects of fatigue are not generally understood or acknowledged. Studies have found that the performance of a person who wakes at 7 a.m. and stays awake for 17 hours until midnight will be as impaired as that of someone with a blood-alcohol concentration (BAC) of 0.05% --the legal driving limit in many countries. A person who wakes at 7 a.m. and then stays awake for 23 hours until 6 a.m the following day will have a performance as impaired as someone with a BAC of 0.10% -- more than the legal limit of 0.08% in Canada. Although there are differences between being fatigued and being drunk. One night of sleep deprivation can leave you more impaired than would be acceptable for driving a vehicle. High risk times for fatigue. There are particular times of the day when the risks associated with fatigue are increased, regardless of the relationship between fatigue and recovery sleep. It is important to understand these risks when making decisions about hours of work, hours of overtime, contingency planning, and emergency responses. Times when fatigue levels increase are:

- Midnight to 6 a.m. (and especially 3 a.m. to 5 a.m.). This is the low point in the body's circadian rhythm that governs alertness and performance.
- The beginning and end of shift when handover occurs. Fatigue levels can affect communication.
- When breaks have not been taken for a number of hours. Employees who have been on duty longer may have accumulated fatigue.

- Early shift starts (before 6 a.m). Early start times shorten sleep obtained the night before if you either neglect to go to bed earlier in compensation, or “clock watch” because you are anxious about getting up on time.
- When employees are new to the job or workplace. Learning the new job and getting to know the environment and personnel is stressful. People may find they do not sleep as well during the first week or so of a new job while they become accustomed to the new workplace, role, commute, and hours.

Fatigue from inadequate sleep

Sleep is defined as a state of partial or full unconsciousness during which voluntary functions are suspended and the body rests and restores itself. Despite the obvious importance of sleep, its specific function is not fully understood. In a broad sense, it is thought that during sleep the mind and the body “recover” from the stresses of the day and “prepare” for those to come. Information about the function of sleep has mainly come from studies depriving animals and humans of sleep. Prolonged sleep deprivation of animals over two to three weeks resulted in skin lesions, weight loss, and ultimately death. In humans, prolonged sleep deprivation leads to reduced mental and physical performance and symptoms such as hand tremors, slurred speech, and increased sensitivity to pain. Both the quality and quantity of sleep are determined largely by the timing of sleep in the 24-hour day. Human beings are programmed to sleep during the night and to be active during the day. Sleep is a biological necessity like food, water, and oxygen, but like consuming food and water, and unlike breathing, obtaining sufficient sleep requires individuals to engage in volitional behaviors affected not only by personal choices, but also by societal demands. Factors that influences sleep behaviors include individual genetics, knowledge, beliefs, and attitudes about sleep, health and disease, and many other variables. These are embedded in a societal context that includes home, family, the sleep environment, neighborhood, occupation, socio-economic status, and many other factors. In the modern industrial age, these factors often prevent individuals from obtaining sufficient sleep. Furthermore, several common illnesses disrupt sleep and increase fatigue.

Prevalence of the problem

Sleep varies through the night; it is not uniform. The various sleep stages follow each other in a continuous cycle that lasts between 90 and 120 minutes. Each cycle is composed of five sleep stages. Stage 1 is where we fall asleep. During this stage, you may occasionally experience muscle twitches or starts. Stage 2 is a light sleep stage, when you are easily awakened. Stages 3 and 4 are deep sleep stages. These stages are considered to be those where the body regenerates. People are difficult to waken during these stages. The final stage is known as REM sleep, for rapid eye movement. If you were to observe a person in this stage of sleep, you would notice their eyes moving under their eyelids, and possibly some muscle twitches. This is the stage of sleep when we dream. This stage of sleep is important in learning and in memory consolidation. Early in the night, we spend more time in stages 3 and 4 of each sleep cycle. As the night progresses, we spend more time in REM sleep. Whenever we are sleep deprived, our body will try first to catch up on deep sleep (stages 3 and 4) and REM. A person who is sleep-deprived will quickly fall asleep, and move rapidly from light sleep (stages 1 and 2) to deep slumber (stages 3 and 4).

Endogenous biological mechanisms responsible for sleepiness/fatigue

Most authors agree that sleepiness is a function of two major biological factors the homeostatic drive for sleep and the circadian rhythm or “body clock” of sleepiness. In individuals who work consistent daytime schedules, these two factors operate together to maintain consolidated sleep at night and stable alertness during the day. However, in individuals engaged in rotating work/rest schedules and those who fail to obtain adequate sleep, the interaction between homeostatic and circadian factors can cause significant problems. The homeostatic drive for sleep is primarily a

function of the amount of sleep recently obtained as well as the amount of time that has elapsed between the end of the last sleep period and the beginning of the next sleep period. Failure to obtain the required 7–9 hours of sleep per day rapidly impairs both alertness and performance. Furthermore, remaining awake for longer than 16 continuous hours significantly degrades performance especially when the latter hours coincide with the late-night/early-morning period, leading to an adverse combination of the homeostatic and circadian drives for sleep. Remaining awake on any single occasion for more than 24 continuous hours produces a variety of acute adverse effects such as degraded vigilance, reaction time, attention, memory, and decision making.

The circadian clock, or “time of day according to the body’s clock,” is the second key factor that defines alertness. As diurnal animals, humans evolved to be awake and active during the day and asleep at night. Whenever this innate schedule for waking and sleep is disrupted, problems arise. People who work at night or travel across multiple time zones are required to be alert at a time when the body is physiologically programmed for a sleep cycle. During the circadian trough, the low point in the body’s circadian rhythm that generally occurs between 0200 h and 0600 h, alertness is lower, reaction time is slower, and accuracy is poorer than during the circadian peak (i.e., during daytime hours). When considering the impact of the homeostatic and circadian drives on alertness and performance, it is important to note these two drives interact with one another. Thus, cognitive performance during the circadian trough after many hours of continuous wakefulness will be substantially more impaired than cognitive performance when the trough occurs immediately after awakening from a recent sleep period. This is because, in the former case, there would be sleep pressure due to both high circadian and high homeostatic sources, whereas in the latter case, the sleep pressure would largely be a function of only the circadian factor.

Recovery sleep

Unwanted sleepiness and fatigue can be considered an annoyance -- and a danger under certain circumstances. It can be fatal, for instance, while driving a vehicle or flying an aircraft. Many strategies have been identified to reduce the likelihood or consequences of fatigue such as the use of caffeine or being more aware of what you eat. More extreme examples include the use of amphetamines and other stimulants. However, such strategies are only a temporary fix, no matter how effective they are. At some stage, sleep must be obtained for physical and mental recovery to occur. The exact amount of sleep that each person needs every 24 hours to perform optimally differs, but in general it’s between 7 and 9 hours. The need for sleep does not diminish as we get older, even though sleep may prove more difficult to obtain. Most people go to sleep naturally between 10 p.m. and 8 a.m. Older people tend to go to sleep earlier than younger people. Sleep is most valuable if obtained in a single block. However split sleep, or a number of short sleeps, is better than not getting any at all. A short sleep or nap can provide a powerful boost to alertness. However, it is important to know that napping does not eliminate the need for sleep.

Recovery from acute versus chronic sleep loss

Generally, recovery from acute, total sleep deprivation is faster than recovery from chronic sleep restriction. Most acute sleep-deprivation studies indicate performance returns to baseline levels within 2 nights when recovery sleep of at least 8 hours per night is obtained (Balkin et al., 2008). However, this is not the case with chronic sleep restriction. Full recovery from several (i.e., 7–14) days of progressive sleep debt takes longer than 3 consecutive days despite 8 hours of sleep per night throughout the post-sleep-restriction period (Belenky et al., 2003; Van Dongen et al., 2003). In general, restoration of baseline performance can take several days –as long as a week following chronic sleep loss (Axelsson et al., 2008). The rate of recovery is a function of both the duration of post sleep restriction sleep as well as the duration of pre-sleep restriction sleep. With regard to the former, Banks et al. (2010) found that prolonging the post deprivation sleep periods can

speed recovery, but even so, individuals who experience 5 nights of severe sleep restriction will not fully recover after a single night of 10 hours in bed. With regard to the latter, reducing the extent of sleep debt prior to chronic sleep restriction exerts a beneficial effect on the speed of recovery (Rupp et al., 2009, 2010).

Signs, symptoms of fatigue.

Studies have shown that an individual who is fatigued may experience some of these signs: Rubbing the eyes, Head nodding, Forgetting instructions, Long eye blinks, Yawning, Fidgeting and squirming in the seat, Not talking to co-workers, Inability to solve routine work problems, irritability, sleepiness (including involuntary sleep onset), inability to concentrate or memorize, lack of motivation, depression, giddiness, headaches etc.

Workplaces causes of Fatigue

Fatigue can be work-related, it can be related to one's personal life or it could be a combination of the two. It can also be an accumulation over time or a short-term problem. Causes of fatigue in the workplace can include prolonged intense physical (or mental) activity, the internal body clock being disrupted, excessive travel, working in exceptionally cold or hot environments, organizational changes, scheduling, long shifts, a lack of recovery time between shifts, strenuous labor, a long commute etc. While employers can't manage the aspects of an employee's personal life that could be contributing to their fatigue, there are things you can do in the workplace to manage the risk and impacts of fatigue which this study is poised to investigate.

Social/Family Life: A healthy social and domestic life is an important foundation for good physical and mental well-being. Much of the research into shift work and nontraditional work hours shows that working "unsocial" hours creates unique family and social stresses. Generally, social time is arranged around the standard work week (9 a.m. to 5 p.m., Monday to Friday), evenings and weekends are highly valued for social interaction and participation. Shift workers have been considered relatively "poor" in social time compared to those working traditional hours. If the hours you work are constantly changing or unpredictable, the opportunities for social interaction are reduced. It may also be difficult for shift workers or those working non-traditional hours to see themselves as part of the community. Shift workers are less likely to be members of clubs, attend meetings, join political organizations, and undertake group activities such as sports. Balancing family and work can be a source of conflict, regardless of whether you work traditional or non-traditional hours. Such conflict may make it hard for you to meet your family's needs or expectations. Conflicts can worsen as the demands of work or family increase. The conflicts associated with shift work or non-traditional working hours can hold especially true for women, as they generally assume responsibility for managing the house and parenting. However, many men are taking on equal responsibilities and experience similar pressures. In such situations, it is not uncommon for people to place family and social responsibilities before their personal needs. This often causes significant stress for the worker. When people are not able to meet family and social obligations, they often feel a sense of isolation. This, in turn, can lead to depression, which can significantly affect the health and well-being of the worker. As such feelings of isolation increase, people may begin to sacrifice sleep time for social or family time. This is a potential safety hazard for employees and employers. Some working arrangements have potential advantages for families and activities outside of the workplace. One example is the 12-hour shift system. Assuming overtime is not worked; 12-hour shifts generally involve long uninterrupted blocks of time away from the workplace. These blocks of free time are often highly valued by employees because they provide the opportunity for a more flexible lifestyle. This may include being able to spend more quality time with family time to relax and engage in social activities or time to perform household chores. But it also has a considerable downside. On working days, employees have little time for anything other than work and sleep, which may contribute to difficulties with child care and involvement in daily family life. The potential conflicts in trying to balance non-traditional hours of

work with social and family life are clear. However, where you can effectively balance the two, working non-traditional hours can prove beneficial. Some of the benefits include:

- Increased income. Many jobs that require non-traditional work hours have higher salaries to compensate for the social and family sacrifices.
- Free time during the day. This can be particularly useful for paying bills, running errands, and having access to public services that are only available during the traditional 9-to-5 work day.
- Free child care. Many parents choose to work non-traditional hours, so that one parent can always be home to look after young children.

Many studies have found health-related problems associated with non-traditional hours of work. In general, shift workers report a higher number of health complaints than day workers. Shift workers, especially those on rotating shifts, have a higher incidence of sick leave, a higher rate of visits to workplace clinics, and poorer scores on a variety of health scales. Some of the most common complaints associated with non-traditional hours of work are sleeping problems, fatigue, and irritability. Physical systems affected include gastrointestinal, cardiovascular, and reproductive systems. Apart from specific disorders, the adverse effects of such hours on workers' health also influence their general sense of well-being. Workers regularly report increased levels of stress, increased use of alcohol and other drugs, and a general feeling of weariness. This may be made worse by mental stress related to being less satisfied in the domestic and social areas of their lives.

Problem Statement

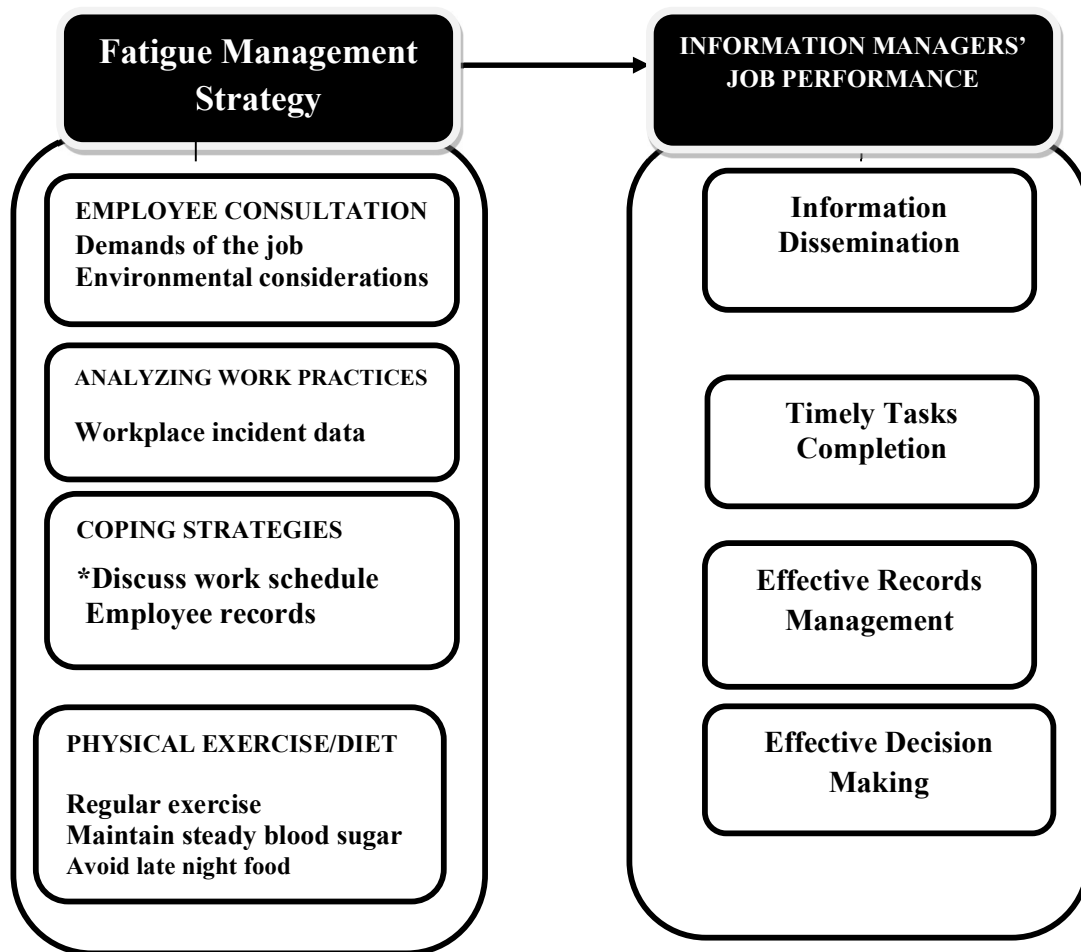
It is estimated that fatigue is responsible for at least as many crashes on the road as alcohol. Despite this, fatigue has only recently begun to receive attention from regulatory bodies. As the workforce increasingly moves towards shift work and alternative working arrangements, the potential for fatigue-related risks increases. This problem is further compounded by the growing use of high powered machinery where the margin for error is small and the potential for serious injury is high. Globalization and competition are forcing organizations to adopt new flexible working time arrangements that include 24- hour operations. There is little doubt that flexible working time arrangements have productivity benefits. Flexible, non-standard working hours are also attractive to employees whose home responsibilities and personal commitments prevent them from working traditional schedules.

Fatigue is a significant problem in modern society, largely because of high workplace demands, long duty periods, disrupted circadian rhythms, social and societal demands, and insufficient sleep (Sadeghniiat-Haghighi and Yazdi, 2015; Luckhaupt, 2012). It is a complex phenomenon that occurs as a function of time awake, time-of-day, workload extremes, health, and on-the-job and off-duty responsibilities and lifestyle. Fatigue is an inevitable consequence of modern industrial society for a variety of reasons. Around-the-clock operations, inconsistent work schedules, and rapid/frequent time-zone transitions often adversely affect internal circadian rhythms. Short and variable off-duty periods, lengthy commutes, and less-than optimal sleep environments frequently degrade the quantity and quality of sleep. In addition, authors are in agreement that there are substantial individual differences in both sleep requirements and fatigue tolerance that generally place some individuals at greater risk than others. Fatigue and excessive daytime sleepiness are also consequences of disorders of the central or peripheral nervous systems and/or other disease states including common illnesses such as infections, asthma, gastrointestinal disorders, and metabolic abnormalities

As Information Managers, we have experienced stress and fatigue symptoms as a result of technology usage and sedentary lifestyle occasioned by the nature of our jobs. We have also observed the seeming inability of Information Managers to attain targets and which has been attributed to poor information flow among workers and mishandling of administrative documents. These issues are suggestive of the fact that some of the Information Managers may not have been performing very well administratively as a result of fatigue. It has also been observed that Information Managers in universities in Rivers State equally experience similar occurrence of stress

and fatigue symptoms. How this can be managed is a great concern to the researchers. Secondly, to the best of our knowledge, there is a lag in literature on Fatigue Management Strategy and Job performance of Information Managers in universities in Rivers State. There is need therefore, to fill this knowledge gap by embarking on this study. This study is further conceptualized in the conceptual framework depicted in figure 1.1 hereunder:

Figure 1.1 Conceptual Framework



Source: Researchers conceptualization (2022)

Theoretical Review

This work is anchored on Lewin and Edwards' (1962) Person–Environment Fit Theory popularized in 1962 as cited in Chux-Nyeche (2020). Person–Environment Fit Theory of psychological stress describes the interaction between the person and environment ($P \times E$) as the key to comprehending people's cognitive, emotional and behavioral reactions such as stress as well as operational productivity level. Two relevant assumptions of this theory are as follows:

A mismatch between a person and his work environment will lead to tension and uneasiness capable of hampering his level of productivity;

Worker's capabilities (skill sets) will determine the level of work pressure and how environmental pressure affects their output. This aspect of the theory amplifies the fact that the ability of the Information Manager to adopt the strategy for managing fatigue will influence how stressful the work will be and also determine his or her ability to perform core duties in terms of dissemination

of information, timely task completion effective record management and effective decision management.

The adoption of Person-environment Fit Theory as the major theoretical framework for this study is predicated on the fact that the theory is related to the independent variable (fatigue management strategy). The theory is also appropriate to serve as the theoretical foundation because it explains and predicts that employee capabilities (worker consultation) will determine whether the (Information Manager) will be able to achieve results and in what degree.

Research Hypotheses

The following null hypotheses were formulated and tested for this study:

- Ho₁: There is no significant relationship between employee consultation as fatigue management strategy and Information Managers' job performance in terms of information dissemination in universities in Rivers State.
- Ho₂: There is no significant relationship between coping strategies as fatigue management strategy and Information Managers' job performance in terms of timely tasks completion.
- Ho₃: There is no significant relationship between analyzing work practices as fatigue management strategy and Information Managers' job performance in terms of effective records management.
- Ho₄: There is no significant relationship between physical exercise/diet as fatigue management strategy and Information Managers' job performance in terms of effective decision making.

Method

The correlation research design was adopted for this study. The population of the study was two hundred and three (203) Information Managers from the two State-owned universities in Rivers State, Due to the size of the population, the researchers adopted a census study since the population is of a manageable size. Structured questionnaire was used to obtain primary data after due validation, and ascertaining the reliability of the instrument at 0.72 using Cronbach alpha statistics, Upon distribution of instrument, two hundred and three copies of the questionnaire was administered. However, the researchers were able to retrieve one hundred and ninety copies which were used for the analysis of data.

The data presentation and analysis was done using Statistical Package for Social Sciences (SPSS) Version 22.0. Descriptive statistical tools such as arithmetic mean, and frequency tables were used to conduct the univariate analysis. The Spearman's (rho) correlation was used to analyze the relationship between independent and dependent variables at $P < 0.05$ (two-tailed test).

RESULTS

Table 1: Correlations between Fatigue Management Strategy and Job performance

			Fatigue Management Strategy	Information Dissemination	Timely Task Completion	Effective Records Management
Spearman's rho	Information Dissemination	Correlation	1.000	.576**	.485**	.592**
		Coefficient				
		Sig. (2-tailed)	.000	.000	.000	.000
		N	190	190	190	190

Timely Task Completion	Correlation Coefficient	.576**	1.000	.566**	.409**
	Sig. (2-tailed)	.000	.	.000	.000
	N	190	190	190	190
Effective Records Management	Correlation Coefficient	.485**	.566**	1.000	.675**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	190	190	190	190
Effective Decision Making	Correlation Coefficient	.592**	.409**	.675**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000
	N	190	190	190	190

**** . Correlation is significant at the 0.01 level (2-tailed).**

Column two of table 2 above shows r value of 0.576 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to Fatigue Management Strategy and information dissemination. Since the significant level is less than the alpha level of 0.05, the null hypothesis (H_{01}) which states that there is no significant relationship between Fatigue Management Strategy and Information Managers' job performance in terms of information dissemination in universities in Rivers State was rejected and the alternate hypothesis (H_{a1}) was accepted. This implies that there is a relatively strong positive correlation between Fatigue Management Strategy and Information Managers' job performance in terms of information dissemination. Column three of table 2 above shows r value of 0.485 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to Fatigue Management Strategy and timely task completion. Since the significant level is less than the alpha level of 0.05, the null hypothesis (H_{02}) which states that there is no significant relationship between Fatigue Management Strategy and Information Managers' job performance in terms of timely tasks completion in universities in Rivers State was rejected and the alternate hypothesis (H_{a2}) was accepted. This implies that there is a moderate strong positive relationship between Fatigue Management Strategy and Information Managers' job performance in terms of timely tasks completion. Column four of table 2 above shows r value of 0.592 at a significant level of 0.00 which is less than the chosen alpha level of 0.05 for the hypothesis relating to Fatigue Management Strategy and effective records management. Since the significant level is less than the alpha level of 0.05, the null hypothesis (H_{03}) which states that there is no significant relationship between Fatigue Management Strategy and Information Managers' job performance in terms of effective records management in universities in Rivers State was rejected and the alternate hypothesis (H_{a3}) was accepted. This implies that there is a significant relatively strong positive correlation between Fatigue Management Strategy and Information Managers' job performance in terms of effective records management in universities in Rivers State.

These results indicated that fatigue can be managed by the application of evidence-based fatigue risk management approaches which improve performance, safety, and health of the Information Managers in universities in Rivers State.

Summary of Findings

Based on the completed quantitative and qualitative analysis above, the following findings were evident:

- Adoption of Fatigue Management Strategy moderately enhances Information Managers' job performance in terms of information dissemination in universities in Rivers State.
- It moderately enhances Information Managers' job performance in terms of timely tasks completion in universities in Rivers State.
- More so, Fatigue Management Strategy moderately enhances Information Managers' job performance in terms of effective records management in universities in Rivers State.
- It moderately enhances Information Managers' job performance in terms of effective decision making.

DISCUSSION

The test of hypotheses one to four revealed that there is a significant positive relationship between adoption of Fatigue Management Strategy and Information Managers' job performance in terms of information dissemination, timely tasks completion, effective records management, and effective decision making in universities in Rivers State. This implies that Information Managers' who adopt Fatigue Management Strategy can perform optimally. The indices of fatigue management strategy such as employee consultations, coping strategies i.e discussing work schedule, checking employee health records, analyzing work practices, physical exercise/diet as well as lifestyle changes significantly aid management of fatigue. This implies that employee consultations i.e, speaking to supervisors, managers, and your health and safety reps to discuss the impact of your work schedules and workload expectations contributes to fatigue management. Also, analyzing work practices such as considering worker records such as time sheets, systems of work, monitoring and reviewing human resource and workplace incident data to find patterns contributes immensely to fatigue management. It is also needful to consider organizational pressures.

This study has also found that there is no easy answer when it comes to addressing fatigue. Often it is a multi-faceted approach that involves various aspects of an employee's personal and professional life. But there are some simple tools and tactics which Information Managers in universities institutions in Rivers State can introduce that will help proactively manage fatigue such as:

- Strictly adhering to the prescribed rest and shift breaks outlined in the applicable awards for your industry
- Developing and implementing a Fatigue Management Policy
- Capping weekly working hours
- Ensuring overtime hours are not excessive and cause risk to an employee's health and safety
- Providing employees with at least two consecutive days off and where possible, arranging the start and finish times of shifts for convenience with public transport, as well as domestic and social activities.
- Taking an employee's or staff travelling time into account.
- Leading from the front by committing to work/life balance and adopting healthy, sustainable working hours
- The Staff or employees should be provided with training and information regarding the factors that contribute to fatigue, as well as the associated risks. This will help them accept the controls that you implement, and improve how they perform in their role. If creating a fatigue management policy, then you should ensure training is provided to all workers and the policies are readily available to all employees.

However, there are other factors that may contribute to feeling weary, sluggish, and more tired in general. One of these is low blood sugar. Many people underestimate or are unaware of the affect of low blood sugar on their ability to stay alert and safe. As humans, we are programmed to be awake during the day and asleep at night. Many other processes also follow this pattern, including digestion. Digestion is programmed to be most efficient during the day and much less so at night. This is because digestive juices (stomach acids and enzymes) are mainly secreted during the day.

Food eaten at night is digested at a slower rate. This can often lead to feeling bloated or constipated and can cause heartburn and indigestion. Gastro intestinal upsets are very common in people who eat outside of traditional meal times. These upsets can be worsened by drinking tea, coffee, or alcohol. Research has found that night workers are five times more likely to get peptic ulcers than day workers. Many people working outside traditional daytime hours also notice that their hunger patterns change and that they get hungry at unexpected times of the day. In such situation, controlling blood sugar with food given that non-traditional hours of work affect digestion and hunger, it is not surprising that it is difficult to keep your blood sugar stable under such circumstances. A stable blood sugar level is an important ally in minimizing the ups and downs in energy levels that are common for shift workers. The belief that snacks loaded with sugar cause a fast rise and fall in blood sugar has been recently disproved. The way blood sugar levels react to different foods is known as the glycemic index (GI) of foods. High GI foods make your blood sugar levels rise and fall quickly, whereas low GI foods make your blood sugar level rise and fall slowly. High GI foods are ideal when you have been doing physical work or exercise and need energy quickly to recover. Low GI foods are ideal to keep an already stable blood sugar level from becoming too high or low. Low GI foods are also ideal for raising blood sugar slowly and avoiding the fast drop in blood sugar (and energy) that can occur after eating high GI foods. Low GI foods are ideal as regular snacks across a shift to help avoid big changes in your energy levels. Research into GI foods also holds important implications for people with diabetes. In general, medical practitioners recommend that diabetics avoid high GI foods to help regulate blood sugar levels. But high GI foods can be useful as a pick-me-up for non-diabetics, particularly after physical work or exercise. More often than not, however, low GI foods will be more useful in your day-to-day life.

Physical exercise/Food: Regular, moderate exercise such as walking three to four times a week for 30 to 40 minutes can have benefits for health, regardless of age or working hours. Most people feel better for exercising. Exercise helps to relieve stress, boost your health, strengthen your immune function, and improve your muscle tone and strength. However, before you begin an exercise program, talk it over with your doctor, especially if you are over 30 years of age. Similarly, hydration has an effect on your ability to feel alert and be safe. When your body is low on water, it tries to conserve what you have left. It does this by reducing your activity and making you relax and slow down. When you are relaxed, you have a higher chance of falling asleep. Being dehydrated can also make you feel lightheaded and cause headaches. Most people do not drink enough water to be fully hydrated. In extreme cases, this can result in medical problems, including kidney problems. In most cases, however, the effects of dehydration are short term and are easily solved by drinking more water.

CONCLUSIONS AND RECOMMENDATIONS

Fatigue is a significant problem in modern society, largely because of high workplace demands adoption of fatigue management strategy as outlined will significantly aid job performance of the Information Managers in tertiary institutions in Rivers State. As such, we recommend that these strategies be adopted to achieve optimal performance.

REFERENCES

- Alhola, P., Plo-Kantola, P., 2007. Sleep deprivation: Impact on cognitive performance. *Neuropsychiatr. Dis. Treat.* 3(5), 553–567.
- Akerstedt, T., 1995. *Work hours and sleepiness*. *Neurophysiol. Clin.* 25, 367–375.
- Axelsson, J., Kecklund, G., Åkerstedt, T., Donofrio, P., Lekander, M., Ingre, M., (2008).

- Sleepiness and performance in response to repeated sleep restriction and subsequent recovery during semi-laboratory conditions. *Chronobiol. International*. 25 (2),297–308.
- Balkin, T.J., Rupp, T., Picchioni, D., Wesensten, N.J., 2008. *Sleep loss and sleepiness Current issues*. Chest 134 (3), 653–660.
- Balkin, T., Thorne, D., Sing, H., Redmond, D., Wesensten, N., Williams, J., et al., 2000. Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance (DOT Report No. DOT-MC-00-133). *Department of Transportation Federal Motor Carrier Administration, Washington DC*.
- Banks, S., Dinges, D.F., (2007. Behavioral and physiological consequences of sleep restriction. *J. Clin. Sleep Med*. 3 (5), 519–528.
- Banks, S., Van-Dongen, H.P.A., Maislin, G., & Dinges, D.F. (2010). Neurobehavioral dynamics following chronic sleep restriction: *Dose-response effects of one night for recovery*. *Sleep* 33 (8), 1013–1025.
- Belenky, G., Wesensten, N.J., Thorne, D.R., Thomas, M., Sing, H.C., Redmond, D.P., Russo, M.B., & Balkin, T.J., (2003). Patterns of performance degradation and restoration during sleep restriction and subsequent recovery: A *sleep dose- response study*. *J. Sleep Res.* 12 (1), 1–12.
- Boksem, M.A., Meijman, T.F., Lorist, M.M., 2005. Effects of mental fatigue on attention: *An ERP study*. *Brain Res. Cogn. Brain Res.* 25 (1), 107–116.
- Bonnefond, A., Doignon-Camus, N., Touzalin-Chretien, P. & Dufour, A. (2010). *Vigilance and intrinsic maintenance of alert state: An ERP study*. *Behavioural Brain Res.* 21 (2), 185–190.
- Chux-Nyeche, G. C. (2021). *E-Administration and office information management*. Emmanest Global Ventures. Computer Services and Data Communication. Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt.
- Chux-Nyeche, G. C. & Onu, N. (2020). Adoption of e-administration and effective recruitment exercise in two government-owned tertiary institutions in Rivers State. *International Journal of Innovations in Marketing and Economics Management*. Centre for Advanced Research and Strategies Studies, Kumasi Ghana: ISSN: 3187-7288 (3), 13-25
- Monk, T.H., & Folkard, S. (1992). *Making Shiftwork Tolerable*. Taylor & Francis. National Sleep Foundation website: www.sleepfoundation.org
- Uchida, S., Shioda, K., Morita, Y., Kubota, C., Ganeko, M., Takeda, N., 2012. *Exercise effects on sleep physiology*. *Front Neurol.* (3), 1–5.
- United Kingdom Government, (2017). Maximum weekly working hours. <https://www.gov.uk/maximum-weekly-working-hours>.
- Urponen, H., Vuori, I., Hasan, J.& Partinen, M. (1988). Self-evaluations of factors promoting and disturbing sleep: *An epidemiological survey in Finland*. *Social. Science. Med.* 26 (4),443–450.