Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 2): pp. 2307-2313
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2021.02.245

Investigate The Outbreak Between Shift Work And Job Stress Among Employees Of The Oil And Gas Industry

Jijin R S Research Scholar, Department of Psychology, Himalayan University, Itanagar, AP., Email: jijinrs@gmail.com

Dr. Babhuti Kashyap Research Supervisor, Department of Psychology, Himalayan University, Itanagar, AP., Email: babhuti.kashyap.sml@gmail.com

ABSTRACT
Worker health and safety should be considered a fundamental organizational policy, if not a right. As a result, the study intended to determine the extent to which job stress, industry, and shift work pattern are associated with worker health and safety in a Ghanaian manufacturing firm. Worker health and safety should be considered a fundamental organizational policy, if not a right. As a result, the study intended to determine the extent to which job stress, industry, and shift work pattern are associated with worker health and safety in a Ghanaian manufacturing firm. A total of 100 shift-working personnel from the oil and gas business were randomly recruited for this cross-sectional research. The major research technique was a Shift worker survey questionnaire. A research-made questionnaire was used to collect data on the employees' demographics and working conditions. In addition, Cooper's occupational stress questionnaire was employed to gather stress-related data. Inferential data analysis was performed using Chi-square and One-way ANOVA testing. Shift work has been linked to occupational stress among health care practitioners and workers in some industries. The organization isn't well-known among law enforcement officers.

Keywords: Shift work, Mental health, Stress, workers.

1. INTRODUCTION

Workplace stress is a sort of stress that originates in the workplace or in the working environment. The idea of work stress refers to the changes that occur as a result of stressors that are prevalent at work over a longer length of time. Stressful occupations may lead to burnout syndrome, which affects not only one's health but also one's private and social life, as well as one's feeling of self-esteem and work quality, as well as one's ability to perform safely at work.

Rapid changes in the workplace as a result of industrialization have put a high demand on businesses to boost productivity and customer happiness. Because these goals may be realized via the efforts and participation of employees, there is a rising awareness of the workplace's basic relevance and its influence on workers' health and well-being. A high degree of perceived job stress has been linked to negative psychological and physiological

health in individuals, as well as workplace performance issues, according to various studies.

Shift employment necessitates rearranging one's waking and sleeping hours. This can induce internal de-synchronization and resultant psychological and physiological disorders, as well as a disruption of the circadian rhythm. Although previous research has consistently demonstrated that shift work is related to poor sleep, not all studies have shown differences between shift and non-shift employees.

In recent decades, this issue has grown in prominence as a result of the development of new technologies and the expansion of fundamental services to the general public, necessitating continual human support and control over work operations throughout the 24-hour day. Due to the rising globalization of personnel and production techniques, which include more intense and comprehensive exploitation of productive systems, this issue is also linked to increased economic competition among enterprises and nations.

In general, these studies have looked at the working environment as a primary cause of job stress for workers' physical and mental health. Self-reported psychosomatic problems, psychiatric symptoms, and concerns about well-being are among the most routinely assessed long-term consequences of stress. The studies show a link between occupational pressures and poor psychological functioning, as shown by mental illness, mental health, physical symptoms, anxiety, sadness, and personal functioning markers.

2. RISK OF DISORDERS AND DISEASES IN THE OIL AND GAS INDUSTRY

Many ailments and diseases, including musculoskeletal, cardiovascular, and endocrinological diseases, psychological and emotional problems, a series of psychosomatic diseases, infectious diseases, and lastly cancer, have been linked to stress. Depending on whether they work in oil fields, labs, or offices, workers in the oil refining sector are exposed to varied health hazards. Chemical dangers, hazardous work materials/substances, gases, vapours, fumes, aerosols, fire, explosives, electricity, falls, and wrecks are all threats that workers in oil fields, drilling rigs, and other oil production facilities face. Work in poor microclimates and outdoors is influenced by meteorological effects throughout the year, as well as significant physical strain and excessive noise levels. It carries a significant danger of mishaps (cord breaking, explosion) that might result in drilling rigs being destroyed. Because oil is very combustible, using an open flame at a well is banned. As gas is discharged from the well, rock pieces frequently fly out under pressure, posing a risk of injury. Unprotected skin can be harmed by the oil from sprinklers. Oil field workers are routinely subjected to stressful situations or persistent psychological discomfort. Workplace stress is exacerbated by long-term stays in secluded areas.

Workers in laboratories are subjected to different stresses than those in oil fields. Workers in gas-processing laboratories work with poisonous and extremely combustible compounds and expensive laboratory equipment, which necessitates specialized training, close attention, and decision-making that might have significant financial ramifications. Permanent psychological tension may be present in laboratory work dynamics.

Office employees spend most of their time sitting and in enclosed settings. Psychophysical and eye strain, as well as non-physiological situations, are common in their jobs. They are at risk of fire and electric shock, according to the risk assessment.
Occupational safety in the oil sector is influenced by elements such as health and job ability. The goal of this research was to examine if varied working circumstances and occupational exposure to distinct dangers in an oil refinery were linked to different perceptions of work stresses and work abilities.

3. IMPACT OF SHIFT WORK ON SOCIAL LIFE OF EMPLOYEES

Shift employment has a significant impact on family and social life, leading to psychological stress and psychosomatic diseases. In reality, shift workers may have more difficulty balancing work and social obligations because most family and social events follow the general population's day-oriented patterns. Due to the complexity of the family (number and age of children, cohabiting adults), personal responsibilities (school, housekeeping), and the availability of community resources, coordinating with family timetables may become challenging (i.e., shop hours and transports).
Time pressure and work/family conflicts are common issues, especially for those with heavy family responsibilities or additional responsibilities (i.e., women with small children), and this can have a negative impact on marital relationships, parental roles, and children's education, in addition to the rising number of sleep problems, chronic fatigue, and psychosomatic complaints.

4. MATERIALS AND METHODS

4.1 Study instruments and data collection

Employees' job satisfaction, type of shift-work system, sleep time, insomnia, musculoskeletal disorders, sedative drugs, adverse effects of shift work on their individual lives, adverse effects of shift work on their social lives, and adverse effects of shift work on their personal lives, as well as gastrointestinal, cardiovascular, and mental health problems, were all collected using the survey of shift (SOS) Questionnaire (SOS workers). A Personal Information Form designed by the researchers was used to collect demographic and professional information from participants that might impact sleep quality and work satisfaction of rotating shift employees.
Simultaneously, descriptive-analytical research was briefly undertaken to collect data from the individuals' stress terms using Cooper's questionnaire for measuring stress in workplace environments and heavy labor. Data was gathered by consensus, with people receiving questionnaires and being required to complete them. In order to investigate the relationship between stress and employee demographic characteristics, a record form was created for entering the following information about employees: age, gender, educational level, marital status, previous employment records, salary and extra pay, job position, name of the section, and work shift. In some countries, Cooper's questionnaire of stress in the workplace is widely used as a measure of working stress. This survey consists of 32 questions that

determine whether or not there are symptoms of job stress. For each group, four degrees are taken into account. Among the four options, the examiner selects the ones that are closest to his or her experience in the previous month. There are four alternative responses to each question: never, occasionally, frequently, and always. The scores range from 0 to 3, with 0 and 3 being the lowest and highest ratings for each option. Total scores of 39 or less indicate a low degree of stress, scores of 40 to 62 indicate a medium level of stress, and scores of 63 or more indicate a high level of stress.

Researchers conducted direct meetings with staff to administer data-gathering instruments. Employees choose the time and location for completing the questionnaire. There was no time limit on when surveys were to be completed.

4.2 Data analysis

Descriptive statistical methods were used to summarize data. Chi-square was employed in testing the relationship between variables.

5. RESULTS

Based on a number of demographic and work-related factors. The participants' ages ranged from 24 to 50, with the average age being about 35 years. The majority of the participants were married couples (64 percent). Females made up about half of the participants (56 percent). The individuals' employment experience ranged from one to thirty years, with the average being around 52 years.

5.1 Results of shift working and job satisfaction

The frequency distribution and shiftwork-related diseases among employees are shown in Table 1. The most common symptoms were pains in the legs and knees (69 percent), followed by back problems (61.9 percent), shoulder aches (41.7 percent), and leg and knee pains (69 percent) (41.7 percent). Shift work is also linked to a slew of issues among employees, according to the findings. Emotional and mental disorders had the greatest incidence rate (96.4%), followed by social life (84.5%) and digestive issues (81%) in that order.

Staff who worked at night or on shifts were more likely to suffer from sleep problems than those who worked on a regular daytime schedule.

Table 1: Frequency distribution and incidence of disordersdue to shift work

Parameter	Sub scale	n (%)
Cardiovascular	Blood pressure	12
	Dyspnea	26
	Chest pain	15
	Heart palpitation	28
	Cardiovascular disorders	18
Sleep	Disorders early morning wake up	51

	Sleepless disorders	71
	Disorder took getting to sleep	74
	Consent of sleep daily	40
	Disorder in place's go to sleep	80
Musculoskeletal	Pain in the shoulder/neck	41
	Back pain	62
	Pain in the arm/wrist	42
	Pain in the leg/knee	69
Digestive	Yes	81
	Does not	19
Social life	Yes	84
	Does not	16
Consume of sedative drugs	Yes	13
	Does not	87
Domestic life	Yes	77
	Does not	23
Individual life	Yes	76
	Does not	24
Psychological	Yes	96
	Does not	4

5.2 The Effects of Occupational Stress

According to the statistics in Table 2, females made up 56 percent of the study population, while men made up 44 percent. The male gender had the lowest percentage of low-stress persons, whereas their female counterparts had the largest percentage, as seen in the table. There was no significant difference in stress levels between the two genders (P = 0.481 and t = 0.7), according to the above data.

Table 2: Average level of stress by age in the studied group

Marita	**Level of stress**			**P**
	Frequency	**Average**	**SD**	
Single	56	64.58	11.69	0.481
Married	44	63.79	12.26	

SD=Standard deviation

Table 3 shows that 36 percent of the research participants were single, whereas 64 percent were married. Furthermore, there were no significant variations in stress levels based on marital status (P = 0.565 and t = 0.57).

Table 3: The average level of stress by marital status in the studied group

Marital status	Level of stress			P
	Frequency	Average	SD	
Single	36	64.69	9.67	0.565
Married	64	63.31	13.08	

SD=Standard deviation

This study looked into the degree of education among the employees in the studied group. Table 4 shows that 89 percent of employees had a Bachelor's degree and 11% had a Master's degree. There were no significant changes in stress levels based on education degree (P = 0.858 and t = 0.18).

Table 4: The average level of stress by level of education in the studied group

Level of education	Level of stress			P
	Frequency	Average	SD	
Bachelors	89	63.87	12.24	0.858
Masters	11	63.18	9.45	

SD=Standard deviation

6. CONCLUSION

Regardless of whether they worked in the office, laboratory, or oilfield, the majority of oil firm employees in our survey said they were frequently exposed to stress. Over three-quarters of all participants said their job was difficult, although how stressful it was depended on the workplace. Our findings suggest that workers should get additional communication skills training as well as take preventative actions to improve workplace health and safety.

In their origins and temporal manifestations, shift and night work interferences on health and well-being are complicated and multifaceted, including various elements of personal traits, as well as working and living environments. As a result, given that our purpose is to preserve the health of shift workers as a whole, we must go beyond health protection to health promotion. In the first situation, our methods must be focused on determining the appropriate diagnostic instruments for health surveillance and determining whether the worker's "risk/benefit" ratio is acceptable. For the latter, we must take an epidemiological approach aimed at determining the extent and severity of such a risk factor, as well as determining the most appropriate preventative interventions with the best "cost/effectiveness" ratio for workers' groups and the general public.

As a result, a comprehensive approach is required, including physiopathology, psychology, sociology, ergonomics, economics, politics, and ethics, to deal with the various domains that might affect results and address solutions at their finest.

This necessitates the involvement of a variety of stakeholders, including ergonomists, psychologists, sociologists, educators, lawmakers, managers, and employees, in addition to occupational health physicians. This is the only way to prevent a glib judgment of shift

and night work maladaptation and/or intolerance based on sectorial factors (i.e., some human characteristics or behaviors) that aren't well supported by scientific evidence and longitudinal research. This can lead to a risky and even dangerous (in terms of employment) attitude toward shift worker selection, without taking into account the entire context in terms of (shift) work organization and social conditions, which are often the major intervening factors and are more profitable interventions for subjects, companies, and society as a whole.

REFERENCES: -

[1] Biglari H, Ebrahimi MH, Salehi M, Poursadeghiyan M, Ahmadnezhad I, Abbasi M. Relationship between occupational stress and cardiovascular diseases risk factors in drivers. Int J Occup Med Environ Health 2016; 29:895-901.

[2] Costa G, Di Milia L. Aging and shift work: a complex problem to face. Chronobiol Int. 2008; 25:165–181.

[3] De Bacquer D, Van Risseghem M, Clays E, Kittel F, De Backer G, Braeckman L. Rotating shift work and the metabolic syndrome: a prospective study. Int J Epidemiol. 2009; 38:848–854.

[4] Fletcher A. Staying safe in the jungles of borneo: five studies of fatigue and cultural issues in remote mining projects. Ind Health. 2010; 48:406–415.

[5] Foomani Golshani M. Sociology of Education. 3rd ed. Tehran, Iran: Davaran Publication; 2010.

[6] Karchani M, Kakooei H, Yazdi Z, Zare M. Do bright-light shock exposures during breaks reduce subjective sleepiness in night workers? Sleep Biol Rhythm 2011; 9:95-102.

[7] Mardani S, Tabibi SJ, Riahi L. Relationship between safety and staffperformance in hospital. Int J Hosp Res 2013; 2:205-14.

[8] Pallesen S, Bjorvatn B, Magerøy N, Saksvik IB, Waage S, Moen BE. Measures to counteract the negative effects of night work. Scand J Work Environ Health. 2010; 36:109–120.

[9] Poursadeghiyan M, Abbasi M, Mehri A, Hami M, Raei M, Ebrahimi MH. Relationship between job stress and anxiety, depression and job satisfaction in nurses in Iran. Soc Sci 2016; 11:2349-55.

[10] Poursadeghiyan M, Amjad RN, Baneshi MM, Farrokhi M, Poursadeghian A, Rohani M, et al. Drowsiness trend in night workers and adaptation to night shift in hospital staff. Ann Trop med Public Health 201710:989-92.