

# The evolution of shiftwork social work essay



The evolution of shiftwork has occurred following several trends in industry and society. Economic globalization needs continuous operations around the clock to bring manufacturing systems more productive and profitable at a maximum rate. (Dochi. M et al) Therefore a 24-hour continuous operation system has become popular and has resulted in increasing numbers of workers engaged in shift work in many industrialized countries. Shift work has helped to reduce recession in market of job temporarily. Shift work is work schedule either permanently or frequently outside normal day time working hours. Shift work can be for example permanent work at night, permanent work during the evening or working time can have changing assignment pattern. Each type of shift system has its advantages and disadvantages and each is associated with different effects on well-being, health, social life and work performance. Shift work creates many health problems to the workers and it has a negative impact on the workplace health and safety.

## **2. 1 What is Shift Work?**

Shift Work involves " alteration of teams of workers each working a certain shift and who usually perform the same work duties so that operations can be continued for longer than allowed by a single worker."(Thierry and Meijman, 1994). According to the ILO (1990) working in shifts is " a method of organization of working time in which workers succeed one another at the workplace so that the establishment can operate longer than the hours of work of individuals workers" at different daily and night hours. Shift Work does not have an appropriate definition because there are different types of shift schedules. Shift work schedules usually require some employees to

work for periods of time that is outside the usual 08: 00am to 17: 00pm day time work period; hence the alternating sequence of shifts usually follows a predictable and regular pattern. There are many different types of shift work schedule, the most common shift is 5 days on a single shift followed by two days off. There are two types of work schedule: Forward rotation Backward rotation A forward rotation is working in a clockwise direction from day to evening to night shift whereas a backward rotation is working in anticlockwise direction from night to evening and day shift.

## **2. 2 Shift schedule in different countries**

In the European Union 22% of the workers work in some type of a shift system. The legal and institutional framework of the country has made variation in the design of the shift schedules. Shift work is common all over the world. In Chile approximately around 25% of workers work in shift work arrangements. In Asia shift work system was introduced in manufacturing sector, mining and construction sector and shift system was discontinuous and in some cases there was semi-continuous shift system. The continuous shift systems were spreading in all the different working sectors, hence; this has brought about diversification in the shift rotation patterns. According to the US Bureau of Labor Statistics 13% of the American workforce, that is; 15.5 million employees work in the sectors with higher levels of shift work such as public safety, transport and public utility workers. According to the Australian Bureau of Statistics (ABS), 7, 715, 600 employees were shift workers. ABS defines shift work as a system of working whereby the daily hours of operation at the place of employment are split into at least two set work periods, for different groups of workers. (ABS, 2000, P. 11 summary).

The highest numbers of shift workers are found in mining industries; health and community services; accommodation, cafes and restaurants; and intermediate production and transport workers, such as road and rail transport drivers and plant and machine operators. In Mauritius the statistics of shift workers is not known but there are sectors where people have a shift schedule such as in healthcare sector, manufacturing sector, telecommunication sector, and military and police sector.

## **2. 3 Factors affecting shift work**

The factors that influence individuals' tolerance to shift work are categorized as:-IndividualWorkSocial-environmental

### **2. 3. 1 Individual factor**

The individual factors include age, ability to sleep at unusual hours, flexibility of sleeping habits, ability to control hours of work which is a matter of choice, ability to overcome drowsiness,

### **2. 3. 2 Work factor**

The work factors that make shift work feasible are shift rotation schedule, length of shift, job design, physical working conditions, direction and frequency of shift rotations, and workload.

### **2. 3. 3 Social-environmental factor**

The social-environmental conditions include family composition, housing conditions, and social status.

## **2. 4 Factors of shift work scheduling**

The scheduling factors of shift timing, cycle length or speed of rotation, rotation of work to rest, shift length and likelihood of work times can therefore influence the fatigue that arises from shift work and therefore the ability of workers to tolerate shift work. The following factors interact to cause the work schedule-related fatigue: The number of hours workedThe timing of work in the 24-hour dayHow many work shifts occur before a rest day? How many rest days are taken before a return to work? How much rest is taken between work shifts? How much rest is taken during the shift? How variable the timing of the shift is?

## **2. 4 Types of shift schedule**

### **2. 4. 1 Night shift**

There are three factors that affect the work performance and cause fatigue and tiredness in the night shift, these are: internal circadian rhythm system, long hours of wakefulness and sleep loss. The circadian rhythm system makes the workers feel sleepy at night and hence their work performance is decreased.

### **2. 4. 2 Afternoon shift and morning shift**

Workers who work early in the morning have to wake early. Hence their sleep time is limited in the morning, as a result during the day they feel more fatigue and sleepy while working. Afternoon shift is where the work is scheduled in such a way that the worker starts to work after the mid-day and he finishes his work before mid-night, for example; work schedule is as such 14: 00hrs to 22: 00hrs. The afternoon shift workers usually get less time to interact with their family and in the society. Thus the shift workers faced lots

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of conflict and tension in their life. Hence evening or afternoon shift has negative impact on the family and social life.

### **2. 4. 3 Fixed or permanent shift**

In the fixed or permanent schedule, the hours of work are moreover the same for every working day. The working hours in the fixed schedule are stable. The day shift personnel who work on fixed shifts suffer from less sleep disruption and higher prevalence of fatigue. This may have a negative impact on family and social life. (Tepas and Carvalhais 1990, Alfredsson et al. 1991)

### **2. 4. 4 Slowly rotating shift**

A slow rotating shift gives the body time to adjust to night work, thus aiming at allowing some time for the circadian rhythm to phase adjust to night work.

### **2. 4. 5 Rapidly rotating shift**

The rapidly rotating shift interferes with circadian rhythm and prevents the body to adjust night work. Hence the worker must work and sleep against their body's circadian rhythm timing, impairing their work performance at night and impairing their sleep during the day. (Monk, 1990)

### **2. 4. 6 Weekly rotating shift**

Weekly rotating shift is considered to be the worst schedule. Workers who work on a weekly rotating roster may find themselves very irritated. The circadian rhythm keeps on changing along with the weekly roster; hence the circadian rhythm system does not get time to fully adjust itself to any shift timing. These workers suffer mainly from sleep loss and they don't have enough time to sleep sufficiently.

## **2. 5 Advantages and Disadvantages of shift work**

### **2. 5. 1 Advantages for both employer and worker**

Shift work is advantageous for both the employer and the worker in some different circumstances. Some of the advantages are given below. Shift work helps the employers to make use of facilities and equipment more intensively when the operation time is extended. This will help them to increase their production and to cope with the higher demand of the society. The production process will be effective according to the shift system. There will be maximum use of energy and other resources. For the workers shift work may help to potentially save their existing job and reduce uncertain employment. They may get free time hours if paid time off is granted instead of shift work payment. According to their shifts involving night they may be paid premium wages and they may be benefitted by higher total earnings.

### **2. 5. 2 Disadvantages for both employer and worker**

Shift work may be disadvantageous for both employers and workers when night shift is involved. When more shifts are in operation the employers may suffer from additional administrative costs because workers are employed. At night it becomes more complex and difficult to provide adequate supervision. Provision of welfare facilities and training, and additional payment of the shift system increase the labor costs. Where night work is involved there may be a potential of negative impact on the workplace health and safety. Shift work creates a negative impact on the workers' health and they may suffer from disruption of sleep, increase fatigue, cardiovascular and gastro-intestinal problem. The irregular hours of work can disrupt the workers' family and social life. The night workers may experience

difficulty to travel to and from work. The workers get limited time for break because of loads of work.

## **2. 6 Shift work hazards**

### **2. 6. 1 Circadian rhythm and shiftwork**

The circadian rhythm is a major body rhythm with regular ups and downs in the 24 hour day. Many systems in the body are very active at certain times of the day and not active at all at other times of the day. Usually the most activity happens in late afternoon or early evening, for example, the body's ability to produce energy from food is highest in the afternoon to evening, the least activity usually happens in the middle of the night when most people are asleep. The circadian rhythm refers to the internal clock controlling many biological functions having a periodicity of one day. During that one day there may be fluctuations in endocrinal secretion, core body temperatures and cognitive performance. Night workers are forced to sleep during the day when their circadian rhythm makes them feel more awake. This makes sleeping difficult. Sleep loss can affect performance both on and off the job, for example, driving or operating dangerous machinery. Some research have suggested that shift workers have more upset stomach, constipation and stomach ulcers than day workers but that had not been proven. Digestive problems are common in shift workers because digestion follows circadian rhythm as workers usually eat at regular time during the day therefore shift work can interfere with regular eating and digestive pattern.



## **2. 6. 2 Circadian Rhythm Sleep Disorder**

Circadian Rhythm Sleep Disorder (CRSD) is a problem of timing of a person's sleep and wake when the master clock in the centre of the brain known as the Suprachiasmatic Nucleus (SCN) is disturbed. This internal clock is also responsible for the regulation of temperature and secretion of hormone. The primary control of CR is the sleep or wake cycle which lasts a little longer than 24 hours. It is set by visual cues of light and darkness which transcended along a pathway from eyes to the SCN where it keeps the clock synchronized to the 24-hour. Zeitgebers is another time cues which influence the clock's timing include sleep periods, the timing of meals, physical activity and interaction in the society members. The common problems of CRSD are poor quality of sleep, tend to wake up early and unable to sleep again, struggle to maintain sleep and get difficulties to sleep at night, hard time initiating sleep.

## **2. 6. 3 The common Circadian Rhythm Sleep Disorders**

Jet lag or Rapid Time Zone Change Syndrome  
Shift work sleep

Disorder  
Delayed Sleep Phase Disorder  
Advanced Sleep Phase Disorder  
Non 24-hour sleep wake disorder

### **2. 6. 3. 1 Jet Lag or Rapid Time Zone Change Syndrome**

The symptoms of this syndrome include lack of alertness during the day, excessive sleepiness, and excessive use of medication or alcohol in people travelling across different time zone. The symptoms may be more in elder people than in younger adults.

### **2. 6. 3. 2 Shift work sleep Disorder**

People who work on rotating shifts or at night frequently suffer from shift work sleep disorder. The different types of shift schedules and whether diurnal or circadian, influence the ability to adjust in line with the shift work. These people suffer mainly from apnea.

### **2. 6. 3. 3 Delayed Sleep Phase Disorder**

The symptoms of the Delayed Sleep Phase Disorder are where the people tend to fall asleep very late at night and have difficulties to wake up in the morning. This is a disorder in the timing of sleep. These people are usually irregular at work or in any social functions.

### **2. 6. 3. 4 Advanced Sleep Phased Disorder**

The symptoms of this disorder is that the person goes to sleep too early at night for example between 6p. m. to 9p. m. and wakes up too early for example between 1a. m and 5a. m. This results in symptom like evening sleepiness.

### **2. 6. 3. 5 Non 24-hour sleeps wake disorder**

This is a disorder in which an individual has a normal sleep pattern, but he lives in a 25-hour day. Throughout time, the person's sleep cycle will be affected by inconsistent insomnia that occurs frequently at night. Here people fall asleep very late at night and wake up very late in the morning and sometimes they may go to bed very early at night and wake up very early in the morning.

## **2. 6. 4 Effects of CRSD on health**

The following are the health problems associated with CRSD:

Insomnia Apnea Sleep loss Sleep restriction Excessive sleep Depression Decreased work performance Fatigue

### **2. 6. 4. 1 Insomnia**

Insomnia is characterized by difficulty in falling asleep, having trouble to sleep and wake up frequently during the night, waking up too early in the morning and feeling very tired when waking up.

### **2. 6. 4. 2 Apnea**

Sleep apnea occurs when a person stop breathing during his sleeping. This occurs because the brain gets deprived of oxygen. If this disorder is not treated the person will frequently stop breathing during his sleep.

### **2. 6. 4. 3 Sleep loss**

Shift workers especially those working at night usually get a reduced quality and quantity of sleep. This interrupts the maintenance of alertness and performance at their normal level. Sleep loss is caused by impairment of the cognitive and behavioural performance resulting from working on frequently rotating shift.

### **2. 6. 4. 4 Sleep restriction**

Sleep restriction occurs due to long period of wakefulness. Sleep restriction experienced can impair performance and compromise safety for shift workers.

### **2. 6. 4. 5 Excessive sleepiness**

It is the abnormal sleepiness during waking hours. This can affect quality of life, work performance, mood and relationships.

### **2. 6. 4. 6 Depression**

Depressive disorder is a group of symptoms which are linked with it that affect a sad and irritable mood exceeding normal sadness and grief. Signs and symptoms are not only characterized by negative thoughts, moods and behaviours but also by specific changes in the bodily functions.

### **2. 6. 4. 7 Decreased work performance**

It is the inability to fulfill professional target while working shift. This means that a shift worker cannot fulfill the target levied to him by the employer due to circadian rhythm sleep disorder.

### **2. 6. 4. 8 Fatigue**

It is the decline of physical and mental ability that results from over exposure to hard workload, lack of quality and quantity of sleep due disturbance in the CR system.

## **2. 7 Health of shift workers**

Health and well-being are of major concern for shift workers. Various studies have proved that shift work, mainly night shift, can cause a decrease of feeling well and increase health constraints. The most common health complaints among shift worker are sleep disruption, gastrointestinal (GI) disorders, cardiovascular diseases (CVD), and a deleterious impact on psychological health.

## **2. 7. 1 Sleep disruption**

Many shift workers sustain substantial sleep disruption and biological rhythm disturbance because of shift rotation. The quality and quantity of sleep are both affected. The most significant complaint when workers are involved with shift is a disturbance of their sleep patterns. It is the most common objection in their daily lives and in their family. The poor sleep habits of shift workers are of concern not only because the resultant worker fatigue can affect on-the-job performance and therefore workplace safety, but also because sleep disturbances and chronic sleep restriction are often associated with poor health, a higher probability of serious medical problems, chronic illness and possibility of reduced life expectancy.

## **2. 7. 2 Gastrointestinal Problems**

Shift workers are at risk of gastrointestinal disorder including the stomach and digestive problems such as peptic ulcer disease, gastroduodenitis, colitis and gastritis. The US NIOSH study found that there many health factors associated with rotating shifts. The most common associated factors are constipation and the use of medication for stomach or digestive problems more often.

## **2. 7. 3 Cardiovascular Disease Problem**

Shift workers have greater tendency to be at risk of suffering from cardiovascular diseases compare to non-shift workers. The relative risk of ischemic heart diseases (IHD) increased with increasing length of wakefulness during shift work. Age of shift workers and duration of shift work are the important factors of IHD. Some research have confirmed that there is linkage between shift work system and cardiovascular diseases, including a <https://assignbuster.com/the-evolution-of-shiftwork-social-work-essay/>

general increase in cardiovascular illnesses and ischemic heart disease, an increased risk of myocardial infarction, and an increase in some risk factors for heart disease such as hypertension. The risk of cardiovascular disorder increases due to the adverse life-style factors, for example, lack of exercise, a poor diet, drinking, and smoking amongst shift workers. The most likely mechanism to be a combination of circadian rhythm disturbances, behavioural changes and social disturbances and stress which result from shift work ( Boggild and knutsson, 1999).

## **2. 8 Family and Social life**

Shift work is considered to be the main reason of disruption in social and domestic life. Shift workers often find it difficult to look for some time to participate in family and social activities due to the timing of shift and timing of sleep. Afternoon shift workers normally will have to attend their work during the hours where many family and social activities are most feasible and appropriate to take place. Regular commitments among family members and friends become very rare for shift workers because their time off from work is very different compared from the non-shift workers. Shift work can therefore not only reduce the amount of convenient time available to spend with family and friends, it can reduce the quality of their time off, with chronic fatigue, irritability, lethargy, tiredness and ill health often associated with shift work increasing the stress and tension of their personal interactions and relationships. Sometimes rotating shift becomes the cause of marital dissatisfaction and creates a negative impact on partner and children's lives (Costa et al, 1997).

### **2. 8. 1 The effect of shift work on family and social adjustment**

The type of shift work schedule can play an important role in determining the outcome of the shift work on the family and social life adjustment. The afternoon shift workers are more dissatisfied because for them it becomes difficult to fulfill their family responsibilities. They have limited time for companionship with their wives and for relaxation and diversion from household responsibilities. They cannot provide security and protection for their children and wives when they are on evening or night shifts. Afternoon shift make their social and family life restricted for them. From the perspective of family and social adjustment, the fixed night shift is more preferred than the afternoon shift because it allows the worker to be awake and at home with the family during the morning and early evening hours. Fixed night schedule affords more usable time for family and social interaction (Mott et al, 1965).

### **2. 8. 2 Leisure time for shift workers**

The type of shift schedule can also affect the availability of personal leisure time for shift workers. Afternoon shift workers are usually unable to get opportunities to participate in sports, social gatherings, and personal activities compared to day workers. Due to mismatch of the shift schedule the shift worker get some conflict. The fewer number of days off after night shift may not have provided workers enough time to catch up on their sleep and to spend time with family and friends; hence their social activities had to be limited. The additional time off available from the weekly roster allowed

the workers adequate time to recover from their work related fatigue and allowed adequate time to spend with family and friends. (Fischer et al, 1993)

### **2. 8. 3 Partners**

Some studies have shown that shift work has a negative impact on the shift worker's family and social life. According to some studies the wives of the permanent afternoon workers felt their husbands' work schedules interfere with their own abilities to provide companionship to their husbands. Some important times are affected by the husbands' work schedules, normally the evening hours are the important times where husbands and wives can catch up the day's activities, share personal problems and concerns and enjoy one another's company. Finally, the wives have to take the major responsibility of maintaining family life. This brings about the feeling of boredom, isolation, neglected and frustration with their husband's work schedule. The wives routines get disrupted due to their husbands' shift work.

### **2. 8. 4 Children**

The interaction of parents with their children is vital for the development of a child. As social and domestic disruption is a major consequence of shift work, it is possible that the shift work of parents create a negative impact on their children. Most of the dissatisfaction associated with a fixed afternoon shift schedule is related to its impact on the parenting role. Workers on a fixed afternoon Monday to Friday schedule, for example hours such as 14: 00 to 22: 00 hours, spend five days each week without seeing their school age children. This can lead to fewer and more strained parent child interaction. Both parents cannot participate fully in child-rearing. This may cause the



children to suffer from poorer competencies in the academic level, poorer self-worth, interpersonal problems and depression.