Safety and Health Effects of Shift Work

F.Gülay GEDİKLİ
OHS EXPERT
Directorate General of OSH

Due to the nature of work, shift work is a method of organization of working time which applied in continuous work from past to present. With the rapid increase in technological advances and the need for ensuring continuity of services and manufacturing, shift work is inevitable and being executed in a wide selection of sectors. In some lines of business/fields of occupation such as social services (like energy, water, mail, security etc.), medical services, continuous manufacturing systems (mining etc.), food production and processing, transportation and telecommunication, shift work is been applied intensively.

Shift working generally preferred for reasons such as aim to increase production capacity with the available resources as well as the necessity of continuous use of high-tech devices, the need for continuity in the services offered for the welfare and comfort of society, economic efficiency and intend to use machines continuously in order to earn more.

According to Eurofound’s, “Working conditions in acceding and candidate countries” survey, which was published in 2003, %8 of occupied population, worked in shifts in Turkey. There were 1,691,760 employees who worked in shifts, considering the occupied population of Turkey was 21,147,000 in 2003.

It is known that shift work has adverse affects on wellbeing in terms of health, occupational safety and social aspect.

Top shift work related health concerns are sleep disorders, gastrointestinal system diseases and cardiovascular diseases. The most common problem of shift workers, encountered as sleep disorders and sleeping difficulties. The pattern of waking during the day when it is light and sleeping at night when it is dark is a natural part of human organism. Three quarter of shift workers have been complaining about sleep disorder and being awake. Sleep pattern of workers in evening shift is more regular than workers in rotating shifts. In addition to this, workers at night shift state the presence eating disorders due to shiftwork. Because of working in shifts, shift workers have difficulties in reaching healthy food and they
make a habit out of snacking, as a result, complaints as dyspepsia, loss of appetite, diarrhea and constipation is increasing. These effects to the digestive system, may be associated with eating order changed, and nonadherence with the the enzymes released into the intestine, may also be associated with psychosocial factors such as stress, workload. On the other hand, increase in smoking during night shifts is detected. Complaints of the digestive system may be associated with smoking. In addition, studies show an increase in the risk of coronary heart disease among night shift workers, compared to the daytime workers. Risk increases with longer periods of night work. In a study of monitoring 504 workers of a paper factory, a dose-response relationship revealed between the frequency of coronary heart disease and the duration of shift work.

Towards the end of 2007, International Agency for Research on Cancer (IARC), which is a subsidiary of the World Health Organization (WHO), has been included working at night in the “probably carcinogenic effect” list. “Melatonin” hormone level that suppress tumor development and making us feel sleepy is low in people who works under artificial lighting at night. In addition, inability to sleep enough, make the immune system vulnerable to attacks and powerless in the fight against cancer cells. Statements say, working at night on a regular basis is less disruptive than working in rotating shift.

When effects of shiftwork on “safety at work” are examined, it is identified that “safety at work” and productivity decreasing working at night. However, increasing absenteeism due to illness and work accidents detected. Disruption of circadian rhythm because of working in night shift, sleep deprivation and fragmentation, interrupted social life and adverse effects on health are also possible factors underlying illnesses and work accidents. In addition, the restriction of consulting and auditing activities during work at night shift and the absence of personnel who is responsible for maintenance and repair of machinery, equipment and controlling devices working properly at night are important factors about work accidents to occur.

There are variety of legal regulations at national and international level related to the shiftwork.

Night work was defined at Article 69 of Labour Law No. 4857 which put into effect after publication in the Official Journal dated 10.06.2003 and No. 25134 and “night” in working life is indicated as “a period lasting not more than 11 hours in any case, and which includes the period between 20:00 and 06:00”. It is decided in the same Law that worker’s
night work shall not exceed seven and a half hour, compliance to night work and health status of an employee working at night should be documented by health report before starting to work, night workers should get periodic health examination at least once every two years by the employer, employer gives a suitable work in day shift, if possible, to the worker whose health documented as impaired due to the night work, worker whose shift will change cannot be worked in other shift without uninterrupted rest break of at least eleven hours.

In Turkey, regulations on the subject are located in Labour Law and “Regulation About Special Rules And Procedures Concerning Works That Are Executed With Mailing Workers” which is based on this Law and dated 07.04.2004 and which entered into force with publishing at the Official Journal No. 25426

It is possible to avoid the negative effects caused by shiftwork. An effective way of limiting the negative effects which occurred due to long working hours and shiftwork is implementing the appropriate organization of shiftwork and health surveillance effectively. To reduce the risk to a reasonable level in shiftwork system, the number of consecutive shifts with the length of time, the night shift and frequency of rest break that will be given during this period should be considered carefully in the work organization and management. In addition, some measures can be taken about minimizing the potential negative effects of shift work. These interventions, including at the enterprise level or individual level, contain technical measures, medical measures and administrative measures. Business-level technical and administrative measures may consist of improvement of business environment, the design of shift patterns and training in the workplace. Improvements at the individual level may occur with ensuring employees to have a better quality of sleep, providing healthy nutrition and learning ways of how to combat stress. Likewise, sufficient lighting and ventilation in the workplace during all shifts can be counted as technical measures at enterprise level. Employees whose health condition (age, sex, tendency to some risk factors) inappropriate to work in night should be determined with recruitment examination and they should be appointed in other shifts, get regular periodic examination as a medical measure.
REFERENCES

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