

Health Hazards at Work Place: Application of WHO Modal with Literature Review

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Abstract

Nursing profession is full of hazards. Health care worker faced all kind of hazards including biological, non-biological hazards, physical environmental, electrical, chemical hazards. A health care professional are at risk of these hazards. Among physical hazards back pain is more common. WHO provide a modal in 2010 for healthy work place. There are four avenues of this modal are: The physical work environment 2. The psychosocial work environment 3. Personal health resources in the workplace 4. Enterprise community involvement. There are many reasons for these hazards like Poor work organization, lack of awareness and competency of dealing with the equipment, heavy work load, lack of proper rest, poor diet, strict manager. Sufficient literature review is given for these hazards and their managements. In this study we discuss what are common hazards that are faced by health care worker and how they control.

Keywords: Health hazards, physical hazards, back pain, health care worker.

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INTRODUCTION

Substance that is carcinogen, corrosive, irritant, toxic, or can damage eyes, lungs, mucous membranes, or skin, or which produces acute or chronic health effects. Health hazards are chemical, physical or biological factors in our environment that can have negative impacts on our short- or long-term health. Exposure can occur through touch, inhalation, and ingestion. Understanding the risks of these hazards can help us to take action to avoid or mitigate these risks [1].

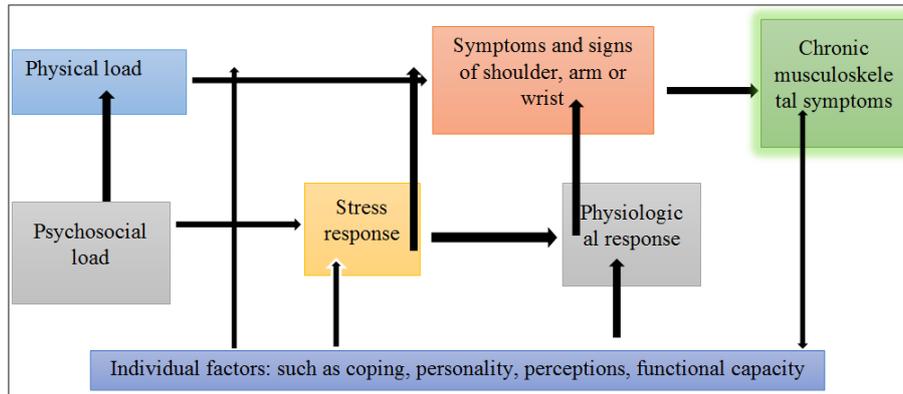
The hazards of nursing work can impair health both acutely and in the long term. These health outcomes include musculoskeletal injuries/disorders, other injuries, infections, changes in mental health, and in the longer term, cardiovascular, metabolic, and neoplastic diseases. Among these hazards low back pain is one of the most common hazards among nurses reported in the work place. Most of the health care worker gone through the experience of low back pain. This pain not only impact on the health of worker it also impacts o the family of worker. There are many factors that cause low back pain among nurses. The prevalence rate of self-reported low back pain in workers in the US was more [2].

CASE SCENARIO

I am working in a public hospital. The working shift time was night. At that time, no any active management committee available to prevent form health hazards. My department was Intensive Care Unit, during night shift as per routine work provide patient care as a primary health care provider. To mobilize the patient following prevent from pressure ulcer injuries. An event occurred in Intensive Care Unit a health care provider suffered with physical hazards (Lumber Supine dislocation) during posturing the ventilator dependent patient. Meanwhile, ICU colleagues was helped her to minimize her work load and informed Night Shift Manager. The ENM provide her emergency intervention for this incidence. But Intensive Care Unit Manager not take any active action on that event and never support her through sign the leaves and relaxation. Even not provide proper medical facility. She treats her suffering from dislocation of (lumber supine) disc by a private medical service. Similarly, many other health hazards occur in public hospital, but not take and preventive measures in evening and night shift. Just working on that events at Morning shift. Following health hazards occur in public hospital: like, Chemical hazards, Psychosocial hazards, Environmental hazards, Biological hazards, Health hazards including which above already discussed.

Low back pain has more prevalence rate among nurses. Below figure shows the relationship between low back pain and factor related to it. There are

many factors that lead to low back pain. This problem has negative impact not only the person that is affected it also has negative impact on the economy [3].

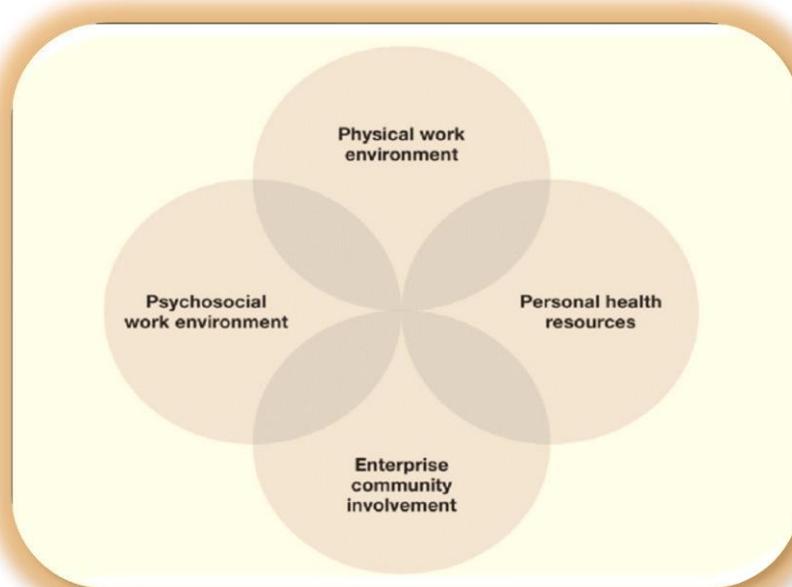


Relationships between risk factors and musculoskeletal symptoms [4]

WHO Healthy Work place Frame work and Modal

We should have an environment that support and promote the worker having complete mental, physical and social wellbeing an enterprise/organization

should have addressing content in four “avenues of influence,” based on identified needs. These four ways not only influence the worker health status it also influences on the organization as a whole, in terms of its efficiency, competitiveness and productivity.



Four avenues of Modal are:

1. The physical work environment
2. The psychosocial work environment
3. Personal health resources in the workplace
4. Enterprise community involvement

WHO describe when we rule out the problem and maintain these phases, we control the problem that occur at pork place [5].

The Physical Work Environment

Physical work place environment is the part of work place where capabilities can be noticed by electronic senses air, machines, chemical materials, that are present at work place and effect the mental, physical health a and well-being of health care worker. In developing countries physical environment consider the basic need of health care worker to prevent from physical health hazards because it threatens the lives of workers on daily basis.

Example of Physical Work Place Hazards

Chemical hazards: (solvents, pesticides, carbon mono oxide) Biological: (hepatitis B, malaria, HIV, and water born disease), Energy: (electrical hazards, falls from heights), These hazards can be minimize by the use of following strategies These hazards can be control by the use of Elimination or substitution, Engineering controls, Personal protective equipment, when a person return to work after physical hazards the environment should be modified to prevent re injury.

The Psychosocial Work Environment

This avenue of the modal includes Psychosocial Work Environment of the organization and organizational belief and culture attitude of the manager that that effect on mental and physical wellbeing of the employee daily basis. Some of these hazards known as work place stress which influence on mental health of worker.

Examples of psychosocial hazards

Poor work organization: (problems with work demands, time pressure, decision), lack of support for work-life balance, lack of awareness of and competence in dealing with mental health/illness issues, These hazards can be control by Eliminate or modify at the source, Protect the worker, Lessen the impact on the worker. When a worker returns to work after psychosocial hazards there is need to adjust to it to prevent from reinjury to another reoccurrence of illness. This can be achieved by the reducing the work load, change the long duty hours, and flexibility in wok done by the worker.

Personal Health Resources in the Workplace

Personal health resources in the work place means health facilities, supportive environment, opportunity and flexibility provided to the worker to maintain, support and promote healthy work place environment that is necessary for the good physical health.

Example

Due to long work hours and lack of equipment and facilities necessary for healthy work place. Poor diet: It is due lack of healthy diet and lack of time for breakfast lunch and having insufficient facilities for the storage food and the most important is lack of knowledge about healthy diet. Manage the duty hours and transport that facilities that prevent from laziness. Provide knowledge about the importance of healthy diet. Provide facilities where health care worker saves their food, arrange time for break time. If a worker absents from work and return on work provide supportive work environment related to the health of the worker. Health of the worker can be maintaining by providing effective environment that facilities to regarding in exercise healthy food facilities, knowledge about no of smoking at work place. Etc.

Enterprise Community Involvement

It exists in community so it effected those communities. Worker lives in these community it effects the health of the worker and their families. It consists on expertise, and resources that effect the physical, mental, and social wellbeing of the worker and their families.

Examples

Poor quality of the air in the community, Disaster in the community like floods and earthquake, Lack of water resources in the community, provide affordable health resources in the community, provide management and leadership facilities in the community that facilitate the health of the community worker.

Under Cause and Effect

Low back pain is most common health hazards worldwide. The population that is mostly involve in this hazard is Healthcare workers (HCWs) they are at a higher level of risk of developing low back pain due to a variety of factors. This problem is associated with major consequences in terms of disability and frequent absence. Among nurses the staff nurses working in operating room are at more risk to develop low back pain because of long standing, pulling the patient up to the bed, shifting the patient from bed to other bed and wheel chair, lifting object etc. Analgesic and bed rest can relieve the pain. **Suggestions:** Educational intervention should be given to the staff so that they can prevent from this problem [6].

Nursing is a profession full of hazards. There are many hazards that face by nurses during their work. These hazards may be physical or chemical or any other type. A research study conducted in 2018 by Dlungwane and Knight according to this due to shortage of staff nurses the on-duty staff has to face more work this led to physical hazards like low back pain. This is the most commonly found hazards among nurses. Physiotherapy department visit shows that case load of staff nurses was more rapidly increasing related to low back pain management. suggestions work place intervention should be given to manage this hazard of low back pain.

In 2019 Rochman, Mediani, & Nur'aeni [7], conduct a study, Low back pain is a pain is not a disease it is a syndrome that is often felt in the lower back area accompanied by radiating to the legs. It is often associated with work-related musculoskeletal disorders. This disorder is often faced by the Intensive Care Unit (ICU) nurses, from mild to severe Low back pain, which may affect the productivity of work and physic of the nurses. Staff nurses working in ice of the hospital have low back pain due to multiple factor associated to it these factors are knowledge factor, night shift, height and, weight of the staff nurses. Three factors are very important in developing low back pain among nurses. **Suggestions:** There is need to Increasing the ICU

nurse's knowledge about body biomechanics by following training and developing standard operating procedures. other option is to reduce the amount of excessive night shift burden of ICU nurses.

Definition for musculoskeletal vary because most of them include pain in the affected body region (e.g., back or neck) for a specified duration or frequency. Measurement of Musculoskeletal change from study to study, many studies depend on self-report and others demanding seeking care or gaining testing or clarification/diagnosis by a clinician. Health care workers especially nurses are at extremely high risk of Musculoskeletal especially for back injuries. According to researcher there are many reasons that lead to back pain. Long working hours and frequent shift change lead to back pain. There are many other factors like shifting patient from one bed to other or for position in of the patient lifting heavy object in operation theater. **Suggestions:** There are some intervention that are used to prevent from musculoskeletal problem like back pain. Use of black belt this minimize the risk of back pain. Use of interventional training program for safe shifting of patient this reduce the risk of low back pain among nurses and health care worker [8].

DISCUSSION

In 2019 A systematic review and meta - analysis study was conducted by Mohammadi et al to estimate the prevalence of low back pain among nurses in Iran hospital setting. 17 studied were included in this research article. Result of the study was very high 64.4% Iranian nurses have low back pain due to their work condition. In my scenario patient also has low back pain due to heavy work load. There is no specific intervention in hospitals for the nurses having this type of health hazards. A manager deal this case by providing the complete rest to the staff and teach other take help from other staff when posturing the patient.

Hospital workers are exposed to occupational hazards that could compromise their health and safety. In the hospital work environment, physical dangers include temperature, lighting, sound, electrical damage, and radiation. These hazards are very common at work place. There are many reasons for the occurrence of the hazards like most of the nurses and technicians reported that some time protective devices are not available in the department, some time worker not aware how to deal with protective devices in emergency situation [9]. As a leader provide electrical devices for patient shifting. Teach my colleague that they must use personal protective device like back belt, Educate the staff how they use the available devices in the department to prevent from hazards.

Violent acts, including physical attacks and threats of abuse against staff at work or on duty. Health care professionals are at the highest risk of physical violence and are more popular among critical care

providers. Violence may be verbal or physical. Use of physical force that results in physical, sexual or psychological harm against another person or group. This includes beating, kicking, slapping, shooting, pushing, biting and pinching [10].

As a leader and manager of these departments I increase the security in fronts of department and allow only patient to enter in the emergency room and in icu. Reduce the entry of attendants to minimize the risk of physical and verbal violence due to attendants

A cross sectional study was conducted in 8 major health facilities in Kampala. To estimate the occupational health hazards faced by healthcare workers and their measures. According to result 50% experience health hazards. 39% are biological and and 31% include non-biological hazards non biological hazards occur due to non-warning of personal protective equipment, job related stress, working over time and working in more then one health care settings. As discuss in my scenario there are many cases of hazard that occur in icu it includes both biological and non-biological. But the ratio of back pain cases is more as compared to other health hazards. So specific intervention is very necessary to decrease the rate of health hazards [11].

As a manager start educational training program for the staff how they handle the patient and other thing that they use during duty to prevent from all type of hazards.

Emergency is the busiest department where health care worker under extreme stress are served and frequent deaths, life threatening accidents, and critical cases are observed, are evaluated as settings with high occupational stress. Purpose of this study was to determine common occupational health problems of nurses working at emergency departments in Gaziantep/Turkey. Staff working in health care department face many health problem, Statistical result of this study was the most common health hazards face is needle prick injury 83%, second hazards is verbal abuse by patient and patient attendant 81.8%.more then half of the nurses (64%) answer replied that they develop [12]. Increase the number of staff in the emergency room so that maximum patient attend at one time. Mange the emergency room how the patient checked according to the severity of the disease. Make triage desk in the emergency some stable patient at this point.

CONCLUSION

The hazards of nursing work can impair health both acutely and in the long term. These hazards may be many types like physical, chemical, environmental. Among these hazards low back pain is one of the most common hazards among nurses reported in the work place. These hazards can be control by the use of PPE,

low back pain can be reduced by the use of back belt or by the use of electrical devices to shift the patient. Minimize the work load on nurses.

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