



ISSN: 2230-9926

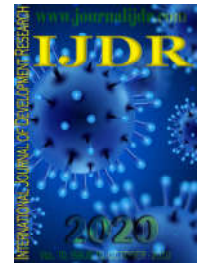
Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research

Vol. 10, Issue, 10, pp. 41140-41142, October, 2020

<https://doi.org/10.37118/ijdr.20250.10.2020>



RESEARCH ARTICLE

OPEN ACCESS

AWARENESS REGARDING KNOWLEDGE AND PRACTICES OF ERGONOMICS IN NURSING STAFF OF GOVERNMENT HOSPITAL IN KARAD TALUKA

Jasleen Kaur Sohal^{*1} and Dr. Pranjali Gosavi²

¹Final year Student, Krishna College of Physiotherapy, KIMS 'Deemed to be' University, Karad- 415110, Maharashtra, India; ²Assistant Professor, Department of Community Health Sciences, Faculty of Physiotherapy, Krishna Institute of Medical Sciences 'Deemed to be' University Karad- 415110, Maharashtra, India

ARTICLE INFO

Article History:

Received 19th July, 2020
Received in revised form
08th August, 2020
Accepted 26th September, 2020
Published online 24th October, 2020

Key Words:

Ergonomics, Nursing staff, Government hospitals, Musculoskeletal disorders.

*Corresponding author: *Jasleen Kaur Sohal*

ABSTRACT

Background: Musculoskeletal disorders are more common in nursing staff due to increase in the workload and due to advancement in the field of health care delivery system. This study aimed at finding out the knowledge and practise regarding ergonomics in nursing staff of government hospital of Karad taluka. **Methods:** It was an observational study on 96 nursing staff working in government hospital of Karad in 2019, selected by random sampling. Data was collected by Ergonomics Questionnaire, which consisted of 21 questions. The F value was obtained as 165.64 and the P value was <0.0001. Results: Of all the subjects surveyed, 76% subjects had experience between 1 to 11 years, 98.95% of the nursing staff had awareness regarding knowledge and practices of ergonomics, and there was a positive correlation between age and years of nursing profession experience with the awareness regarding knowledge and practices of ergonomics (p<0.0001). **Conclusion:** A proper knowledge regarding ergonomics is important to avoid the development of musculoskeletal disorders, taking stretch breaks in between long working hours can provide a healthier working environment for nursing staff and maximize human resource efficiency.

Copyright © 2020, *Jasleen Kaur Sohal and Dr. Pranjali Gosavi*. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: *Jasleen Kaur Sohal and Dr. Pranjali Gosavi, 2020.* "Awareness regarding knowledge and practices of ergonomics in nursing staff of government hospital in karad taluka", *International Journal of Development Research*, 10, (10), 41140-41142.

INTRODUCTION

"Ergonomics is a process which helps to assess the abilities of human and help the design makers to build certain systems and processes to help balance with human characteristics"². Due to the advancement in the field of health care delivery system, there is an increase in the work load of the health care professionals. Occupational hazards encountered by a nursing staff has increased massively in the recent years and are mostly related to the job pressure and lack of work facilities¹. The role of the hospital staff is becoming more and more dynamic. The increasing complexity of patient care in the newer hospital environment increases the chances of work-related musculoskeletal disorders². Over 59 million healthcare workers are prone for occupational hazards including biological, physical, ergonomic, environmental and psychosocial². Nursing is the profession with increasing incidence of problems related to excessive workload. It is seen that nurses physical and mental health problem with higher occupational stressors are crucial factors in reducing the

quality and quantity of their work life². MSDs are defined by National Institute For Occupational Safety and Health (NIOSH) as "injuries or disorders of the muscles, nerves, tendons, joints, cartilage and disc disorders of the nerve, tendon, muscles and supporting structures of the upper and lower limbs and lower back that are caused, precipitated or exacerbated by sudden exertion or prolonged exposure to physical factors such as repetition, force, vibration or awkward posture"². Age related musculoskeletal changes, beginning at age 40, includes low muscle mass, muscle strength, and intervertebral disc strength, leading to low strength and mobility³. These age-related changes also affect nurse's ability to turn, lift, or physically support the patient³. And all these ageing effects are seen prematurely when nurses do not practice correct ergonomic techniques³. Ergonomics is defined as the study of interface between individuals and their working environment. Additionally, body mechanics refers to the method of efficiently using the body when making movement, such as bending the body, lifting a heavy object or person, stretching an arm, sitting, standing or lying while performing

work², increasing job satisfaction, increasing national income and economic benefits¹. Therefore, there is a need for awareness and practice of proper body mechanic technique among the hospital personnel.

MATERIALS AND METHODS

This was an analytical study to find out awareness regarding knowledge and practices of ergonomics in nursing staff of government hospital of Karad taluka. All the nurses working in the hospital were included in the study population. The exclusion criteria's were nurses with a work experience of below 1 year and nurses working in private hospitals. Simple random sampling technique was used to select the sample size of 95 nursing staff, which included both the genders of staff fulfilling the inclusion criteria. The study procedure was explained to all the participants and were later asked to fill up a questionnaire. The questionnaire consisted of 21 questions which were divided into 2 sections. The demographic data of each participant were included in the 1st section of the questionnaire and a set of 21 questions were included in the 2nd section of the questionnaire. The second set consisted of questions assessing knowledge of ergonomics, assessing the work condition, along with injuries incurred by the nursing staff previously. Questions consisted of insight into the impact of correct body ergonomics on posture, correct transfer technique of patients, questions regarding certain principles of ergonomics, regarding their body mechanics while working and questions of working problems and work-related musculoskeletal injuries. The answers to the questions were scored from 1 to 5 and were categorized from strongly disagree to strongly agree. This questionnaire was validated and used by another Pakistani study¹. Data was analyzed using SPSS. For quantitative data mean and standard deviation were used. To determine the significance of relationship between variables, P value was used with error levels of 5%. Ethical clearance was done followed by written permission from medical superintendent of hospital and written consent of the nursing staff who participated, which included confidentiality of the information and option for quitting from participating in the study.

RESULTS

Out of the 96 nursing staff of the government hospital in Karad which were included for the study, 95% were female, 70.8% between 25 to 30 years old, 63.5% (61) had 5 to 20 years of working experience, and 95% had an undergraduate degree. Finding showed that 98% of the nursing staff in the hospital were aware regarding knowledge and practices of ergonomics, but only 2% of them actually implement it in their day to day working conditions. 80% of the nursing staff were exposed to mild musculoskeletal injuries and 5% were exposed to severe injuries. Knowledge of 96 nursing staff regarding ergonomics was high. As the knowledge regarding body mechanics would increase the risk of work-related MSD would decrease. In demographic data, the relation between awareness regarding knowledge of ergonomics and age were significant ($p < 0.001$). Also, the relation between awareness regarding knowledge of ergonomics and working experience were significant ($p < 0.001$). The analysis done showed a positive correlation among practices in ergonomics of nursing staff with the age ($p < 0.001$); as the age increases, they practiced correct body mechanics. And a positive correlation

was seen between practices of ergonomics and number of working years ($p < 0.001$). It was also seen that there was no correlation among knowledge regarding ergonomics with the gender and the qualification. Emergency rooms, general medicine, infants were the wards where most of the nurses had been working previously. Most of the injuries were caused because of the work load in the casualties and the ICUs. Among all, 30% had been standing continuously for straight 4 hours per shift, and 80% were sitting continuously for 2 hours per shift. Most of the nurses complained about problems in the leg and the back. About 40% of the nurses reported that their problems were due to prolonged standing per shift. Nearly 80% of the nurses observed that the most notable musculoskeletal problem is low back pain.

DISCUSSION

In the present study, maximum number of the nursing staff had awareness regarding knowledge and practices of ergonomics. There was no correlation between knowledge regarding ergonomics and hazards for the health related to nursing profession. This finding concludes that when the working environment is not ergonomically efficient then only the knowledge regarding ergonomics be the success factor. Majority of nursing staff suffered from communicable diseases due to close proximity with the infected patients. Also, a large percentage of nursing staff suffered injuries from sharp objects used in the hospital. Unfortunately, this percentage was high in other studies. 80% of the subjects suffered back pain during transfer of heavy patients, which was also seen by the studies in other countries. Due to the majority of the working nursing staff belonging to the young age group, there is a chance of early fatigue in them, which is a loss of national resources. According to the recent evidences, nursing staff and the health care workers have yearly more than 200 thousand cases of work related trauma and the highest risk in the profession being transfer of heavy patients¹. The environment in which the nursing staff work should be safe for them as it is for the patients; along with adequate safety. There is a significant relationship between practices of correct body mechanics and rate of musculoskeletal injuries. Occupational hazards among nurses have increased in the past few years due to more dynamic work and increase in the patient load in the government hospitals. Therefore, there is a need for implementation of proper training schedule for the nursing staff regarding the correct practices of ergonomics. There is a need to optimize equipment's and simplifying the work pattern for the nursing staff. Proper management schedule could be useful to reduce musculoskeletal illness. It is seen that proper technique of body mechanics has a positive impact on work related wellness, traumatic injuries and care for the patients². It was seen that 5 years after the use of proper techniques there was a reduction in back and shoulder injuries and also the number of sick leaves among the nursing staff while there was no significant improvement in the control group². In a longitudinal study done on 10793 work forces it was evident that there was a relationship between continuous work load and occupational hazards with a risk factor of 61%².

Conclusion

The current problems are due to lack of proper ergonomics practices among the service providers. At the first place, the nursing personnel should realize the need for incorporation of work ergonomics. And then the need for proper body

mechanics will develop in the organization, following by incorporation of implementation methods and ergonomics standard based on the needs of the organizations. The result of this study confirmed that more than half of the number of nursing personnel were aware regarding the knowledge and practices of ergonomics but did not practiced it in their day to day life. Therefore, they suffered from mild work-related musculoskeletal ailments. The current finding and the previous literature depicted that a staff who practiced correct body mechanics, the need of having breaks in between the shifts, using the equipment's correctly and hospital authority who are more attentive towards body mechanics considerations, especially in the casualties along with the ICUs can provide a healthy work environment.

Acknowledgement

Thanks to the nurses who participated in this study. We acknowledge the constant support of our Dean, Faculty of physiotherapy, KIMSDU Karad, Dr Pranjali Gosavi, and Dr. SV Kakade, for help in statistical analysis.

Conflict of interest: Nil

Source of funding: This study was funded by Krishna Institute of Medical Sciences Deemed to be University, Karad, Maharashtra.

Ethical clearance: Ethical clearance was taken from ethical committee of the Krishna Institute of Medical Sciences Deemed to be University, Karad.

REFERENCES

American Nurse Association (ANA) (2013), Safe patient handling and mobility

- E Habibi, S Pourabdian, AK Atabaki (2012) Evaluation of work related psychosocial and ergonomics factors in relation to low back pain discomfort in emergency unit nurses
- Jones, T, and Kumar, S (2001) Physical ergonomics in low back pain prevention
- Karahan, A, and Bayraktar, N (2004), Determination of the usage of body mechanics in clinical setting and the occurrence of low back pain in nurses
- L Sikiru, S Hanifa (2010) Prevalence and risk factors of low back pain among nurses in a typical Nigerian hospital
- M Jaromi, A Nemeth, J Kranicz, T Laczko(2012) Treatment and ergonomic training of work related lower backpain and body posture problems for nurses
- Mayeda-Letourneau, J (2014), Safe patient handling and movement: A literature review
- S Ando, Y Ono, M Shimaoka, S Hiruta (2000) Associations of self-estimated workload with musculoskeletal symptoms among hospital nurses
- S Hignett Journal of advanced nursing (1996) Work related back pain in nurses
- Shamim Akhtar, Muhammad Afzal, Roubina Kousar, Ali Waqas, Dr. Syed Amir Gilani (2017), Asses knowledge and practices of body mechanic technique among nurses at Punjab institute of cardiology Lahore
- Yan, P, Yang, Y, Zhang (et al) (2018), correlation analysis between work related musculoskeletal disorders and the nursing practice environment, quality of life, and social support in the nursing professionals
- ZiziFikry Mohammed Abd El-Rasol, Reem Mabrouk, Abd El Rahman (2018), Effect of implementing body mechanics and ergonomics training program on nurse's low back pain and quality of nursing work life
