



“EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON ERGONOMICS AMONG MULTI-PURPOSE WORKERS IN SELECTED HOSPITALS”

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ABSTRACT

INTRODUCTION: Awkward posture, repetitive work, manual handling of loads, overuse and work sites ill adapted may cause a broad range of musculoskeletal disorders. “A Pre-experimental study to assess the effectiveness of structured teaching program on Ergonomics among Multi-Purpose Workers in selected hospitals of Pune City”. **Objectives of study** 1) To assess the knowledge regarding Ergonomics among Multi-Purpose Workers before giving structured teaching program. 2) To assess the knowledge regarding Ergonomics among Multi-Purpose Workers after giving structured teaching program. 3) To assess the effectiveness of structured teaching program on Ergonomics among Multi-Purpose Workers. 4) To associate the findings to selected demographic with the level of knowledge of Ergonomics. **Material and method:** Quantitative research approach, Pre-experimental pre-test, post-test one group design were used. 100 samples were selected by using Non-probability purposive sampling technique. A pilot study was conducted which was found feasible. A self-structured questionnaire were prepared to assess the knowledge before and after the teaching among Multi-Purpose Workers. On the first day pre-test was taken and teaching was given to MPW on Ergonomics, on the 7th day post-test was taken. **Results:** Study findings showed that 51% had a poor knowledge, 43% had a average knowledge and 6% had a good knowledge in pre-test whereas 73% had a good knowledge and 27% had average knowledge in post-test. t-value 1.98 and p-value >0.05 that indicates that structured teaching program was found significantly effective in improving the knowledge of Multi-Purpose Workers. **Conclusion:** The study conclude that structured teaching program was effective to improve the knowledge of Ergonomics among Multi-Purpose Workers.

Keywords: Structured, teaching, program, ergonomics, Multi-Purpose Workers.

INTRODUCTION

The concept of Multi-Purpose Health Workers introduced in 1994 for the delivery of preventive and promotive health care services to patients. According to Government of India there are 1,75,000 MPW are present in India, in Maharashtra 16,000 MPW present.¹ MPW work is quite hectic because of shortage of MPW in hospital setting. Designing of human being is called Ergonomics. To avoid injury to the human body, ergonomics should be in the discipline and organizing work object so that the uses are appropriate and systematic. The main focus is to give comfort to the health care workers and enhance quality of care. The prevalence of musculoskeletal disorder among health care workers is around 43%-78%. The prevalence range is very high which affects the quality of life of health care workers and that adversely affects the quality of patient care. More than 80% of surgeons yield work-related injuries as a consequence of awkward positions.² Ergonomics not only help the health care worker but also allows comfort to the patient. Multipurpose workers worked for 12-hour shifts, ergonomics help to utilize their energy with most effectively and comfortably. They have to perform all types of patient work related to cleanliness, shifting and transferring the patient irrespective of their health condition, height, weight. MPW are overburdened with their work because sometimes while handling the patient they may suffer from minor ailments due to improper handling and heavy patients, sometimes MPW are neglected by staff.

NEED OF THE STUDY

It is critical for workers early in their education to be conscious about the right body mechanics. Our bodies are planned for movement and some form of weight, but they require the right amount of movement, weight and recovery to attain a healthy performance in order to be able to sustain their various functions. Musculoskeletal disorders are the highest rate in the workers. Ergonomics is the science of fitting workplace conditions and job demands to the capability of the working population. The goal of ergonomics is to reduce stress and eliminate injuries and disorders associated with the overuse of muscles, bad posture, and repeated tasks. A workplace ergonomics program can aim to prevent or control injuries and illnesses by eliminating or reducing worker exposure to musculoskeletal disorders. For example, employees who spend many hours at a workstation may develop ergonomic-related problems resulting in musculoskeletal disorders. The goal of a structured teaching program is to bring desirable changes in health, knowledge regarding ergonomics and even more important that they apply this knowledge to their own daily actions and activities of daily living. During my clinical experience Multi-Purpose Workers are the most involved in lifting, shifting (from intra-hospital to inter-hospital) changing the position of patient etc. Most of the Multi-Purpose Workers complain of lower back pain, and disturbed body posture. I felt Ergonomics will help them in addressing these issues, maintain good body mechanics and prevent further complication or injury.

AIM OF THE STUDY: To assess the effectiveness of structured teaching program on Ergonomics among Multi-Purposes workers in selected hospitals of Pune city.

MATERIALS AND METHODS

In this study a pre-experimental- pre-test post test one group design was used. **Objectives of the study** are 1.To assess the knowledge regarding Ergonomics among Multi-Purpose workers before giving structured teaching program.2.To assess the knowledge regarding Ergonomics among Multi-Purpose workers after giving structured teaching program.3.To assess the effectiveness of structured teaching program on Ergonomics among Multi-purpose workers 4.To associate the findings to selected demographics variables with the level of knowledge of Ergonomics. The **sample size** which was selected for this study was 100 MPW working in hospital. **Sampling technique-** Non-probability-Purposive sampling technique was used. Sample selection criteria for the study-**Inclusion criteria-** Multi-Purpose Workers, 20-50 years of age and both male and female Multi-Purpose Workers. Variable under study **Independent variable** is structured teaching program and **Dependent variable** is Ergonomics. **Selected variables** in this study are Age, Gender, Education, Area of work place, Duration of work experience in area. Research setting is selected hospitals of Pune city. **Samples** are Multi-Purpose Workers in selected hospitals of Pune city. Content validity was done. **Reliability** was done by using test-rest method , 'r' value was 0.85 tool found reliable for the study. There was no problem faced while conducting the pilot study, so study found feasible to conduct main study.

RESULT AND DISCUSSION

PRESENTATION AND ORGANIZATION OF DATA:

SECTION-I: Section I deals with description of sample with their demographic variables.

SECTION-II: Analysis of data related to knowledge of Ergonomics among Multi-Purpose Workers before and after giving structured teaching program.

SECTION-III: Analysis of data to check effectiveness of structured teaching program on knowledge of ergonomics among Multi-Purpose Workers.

SECTION-IV: Analysis of data related to association between knowledge before giving structured teaching program regarding ergonomics with their demographic variables.

SECTION-I: Description of samples working in hospitals based on demographic variables.

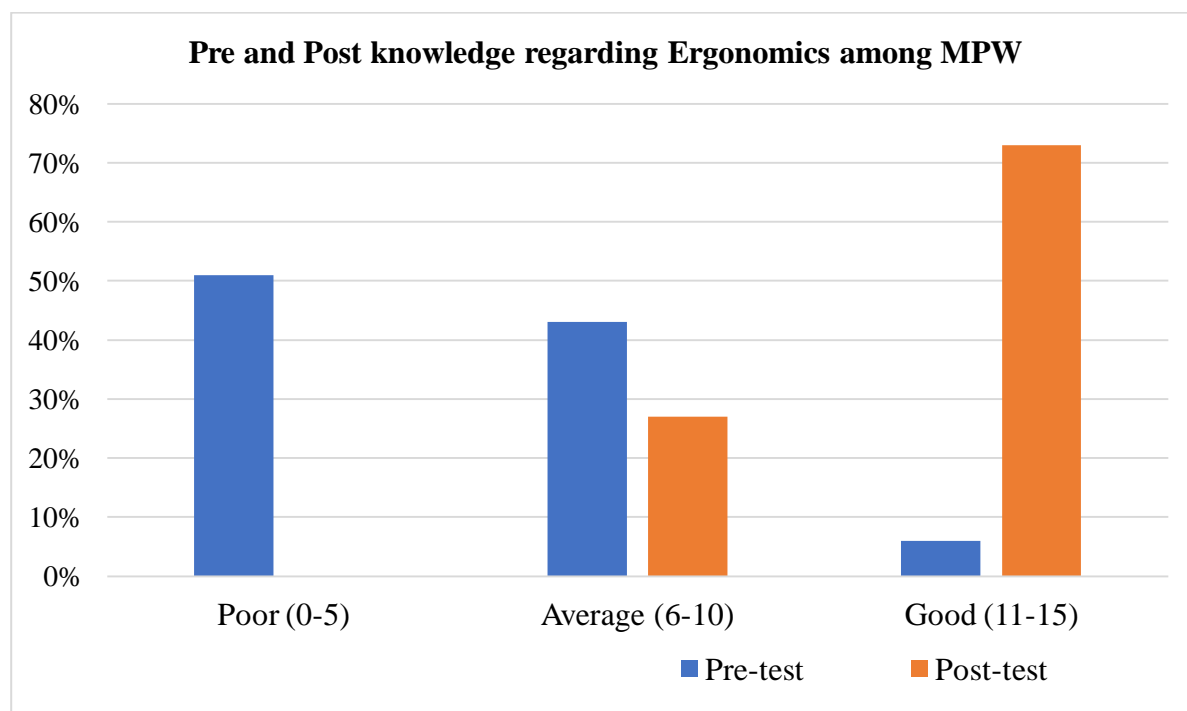
The demographic characteristics data describes 27% were from 20-30 years of age group. 44% were from 31-40 years and 20% were from 41-50 years of age group. 54% are female and 46% are male Multi-Purpose Workers. 68% had 10th education, 28% had 12th, 7% had graduation and 1% had diploma education. 33% were working in Ward, 39% were working in ICU,7% were working in OT, 14% were working in OPD and 7% were working in labour

room work place. 51% had a 1-5 years of experience, 26% had 6-10years of experience 7% had 11-15 years of experience and 16 % had 16-20 years of experience.

SECTION-II: Analysis of data related to knowledge of Ergonomics among Multi-Purpose Workers before and after structured teaching program.

Figure No.1: Knowledge regarding Ergonomics among Multi-Purpose Workers before intervention and after intervention in group.

n=100



Above figure shows that 51% had poor knowledge, 43% had average knowledge and 6% had good knowledge in Pre-test whereas 27% had a average knowledge and 73% had a good knowledge in Post-test.

SECTION-III: Analysis of data related to effectiveness of structured teaching program on Ergonomics among Multi-Purpose Workers.

TABLE-1: Effectiveness regarding structured teaching program on Ergonomics among Multi-Purpose Workers.

N=100

	Mean	SD	t-value	t-table value	df	p-value	Remark
Pre-test	5.81	2.74	21.09	1.98	99	0.0001	Significant
Post-test	11.31	1.32					

Table No.1: shows that effectiveness of structured teaching program on Ergonomics among Multi-Purpose workers. Paired t-test applied between pre-test and post-test in one group as calculated “t” value is 21.09 which is more than T-table value is 1.98. It indicated that there is difference in knowledge level before and after giving structured teaching program on Ergonomics, p-value was 0.0001 which is less than 0.05 so reject null hypothesis that means there is difference between pre-test and post-test knowledge level after the structured teaching program among Multi-Purpose Workers.

SECTION-IV: Analysis of data related to association between knowledge before giving structured teaching program regarding ergonomics with their demographic variables.

The p-value is more than 0.05 level of significance, so there is no association between knowledge before giving structured teaching program and in age, gender, education and workplace at 0.05 level of significance expect year of experience.

DISCUSSION

The present study was conducted to assess the effectiveness of structured teaching program on ergonomics among Multi-Purpose Workers in selected hospitals of Pune city.

According to study objectives, the researcher tried to evaluate the knowledge of 100 Multi-Purpose Workers to find out effectiveness of structured teaching program on ergonomics. The pre-test post-test one group design was used. By using Non-probability purposive sampling technique samples are obtain.

Similar study conducted by Mr. Satish Nagkumar on assess the effectiveness of planned teaching program on knowledge regarding Ergonomics among Industrial Workers. The study results shows that 52.00% had a poor knowledge 48.00% had a average knowledge in pre-test whereas 40% had average knowledge and 60% had good knowledge in post-test. The study concluded that planned teaching program was effective to improve the knowledge level of industrial workers.¹¹

CONCLUSION

The findings of the study shows that knowledge of Ergonomics among Multi-Purpose Workers was improved. Hence, structured teaching program was found effective in improving the knowledge of Ergonomics among Multi-Purpose Workers. There is was no association found in pre-test score and demographic variables expect year of experience.

CONFLICT OF INTEREST: The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

FUNDING SOURCES: There is no funding sources for this study.

ACKNOWLEDGEMENT:

We would acknowledge the teaching faculty and non-teaching members of Bharati Vidyapeeth (Deemed to be University) College of Nursing Pune for their support and guidance throughout the study.

REFERENCES:

1)Guidelines for Multi-Purpose Health worker2010, Government of India Ministry Of Health And family Welfare Nirman Bhawan, New Delhi.

- 2) Sameer Shaikh, Ammar Ahmad Siddiqui, Freaah Alshammary, Junaid Amin and Muhammad Atif Saleem Agwan. Musculoskeletal Disorders among Healthcare Workers: Prevalence and Risk Factor in the Arab World, Springer Nature Switzerland AG 2021. I. Laher(ed), Handbook of Healthcare in the Arab World. 2-39
- 3) Neha Rana, Rashmi Choudhary, Poonam Sharama. A pre-experimental study to assess the effectiveness of self instructional module on knowledge regarding desktop users working in selected information technology company of district Mohali, Punjab. International Journal of Nursing Education and Research 2020;8(2):149-152.
- 4) Priyanka, Kaur Ranvit, Sakshi, Sheetal, Kaur Shubhreet, Chozzin Tanzin, Bamania Suresh Kumar, Kaur Damanpreet. Assess knowledge and use of body mechanics practices and its association with musculoskeletal problem among hospital attendants. International journal of health science and research. Sep 2021;11(9):201-215
- 5) Veena Sakhardande, Elizabeth et al., "The knowledge regarding emotional hygiene among working women from selected organizations, European Chemical Bulletin ISSN -2063-5346 May 2023, 12(4), 2118-2125, <https://eurchembull.com/issue-content/the-knowledge-regarding-emotional-hygiene-among-working-women-from-selected-organizations-2943>
- 6) Anamika Shrivastava & Veena S, quasi-experimental study to assess the effectiveness of intradialytic aerobic exercises on muscle cramps among patients undergoing haemodialysis in selected hospitals of Pune City, International Journal of Health Sciences, 6(S5), 5971-5975. <https://doi.org/10.53730/ijhs.v6nS5.10014>. <https://sciencescholar.us/journal/index.php/ijhs/article/view/10014y>
- 7) Sukainah S Alhazim, Sultan T Al-Otaibi, Nawal H Herzallah. Knowledge, attitude and practices regarding ergonomics hazards among healthcare workers in a Saudi Government hospital. Journal of Multidisciplinary Healthcare 2022;15: 1771-1778
- 8) Ranjana Tryambake, the Nursing Journal of India, A study to assess stress level, coping strategies and quality of life among women suffering from chronic diseases from selected hospitals of Pune City, ISSN 0029-6503, JULY - AUGUST 2019 VOL. CX NO. 4, pp -184-188. https://www.researchgate.net/publication/348486311_A_Study_To_Assess_The_Stress_Level_Coping_Strategies_And_Quality_Of_Life_Among_Women_Suffering_From_Chronic_Diseases_In_Selected_Hospitals_Of_Pune_City
- 9) Manasi Ghadge & Veena D. Sakhardande, "Effectiveness Of Information Booklet On Knowledge Regarding Shifting Of Critical Patient Among Ambulance Health Care Team Members," European Chemical Bulletin 2023, 12(12), 1168-1176
- 10) Oladeinde BH, Ekejindu IM, Omoregie R, Agah OD. Awareness and knowledge of ergonomics among medical laboratory scientists in Nigeria. Annals of Medical and Health Sciences Research. Nov-Dec 2015;5(6): 423-427
- 11) Veena D. Sakhardande, Shivani Enugomla, Vaishnavi Kumbhar et al, "A Comparative study to assess the knowledge regarding Dental Status among the children in selected rural and urban areas." International Journal of Early Childhood Special Education (INT-JECSE) DOI: 10.9756/INT-JECSE/V14I1.337 ISSN: 1308-5581 Vol 14, Issue 01 2022 PP:2833-2837.

<https://www.researchgate.net/publication/361209530> A Comparative study to assess the knowledge regarding Dental Status among the children in selected rural and urban areas

- 12) Afshar Mohammad, Bahrami Abbas, Hamedian Narges. Relationship between knowledge of Ergonomics and workplace condition with Musculoskeletal disorder among Nurses. *International Archives of Health Science* sep-2019;6(3): 121-126
- 13) Larry BW, Minimol L and Archala K. Effectiveness of structured teaching program on the knowledge and practices among selected operation theatre nurses. *International journal of Recent Scientific Research* 2016;7(6): 11521-11526
- 14) Jose Pradap. Effectiveness of planned teaching programme on knowledge regarding body mechanics among nursing students in selected nursing college of Mangalore Taluk. *Asian J Nursing Edu. And Research*. April-june 2015;5(2):217-220
- 15) Tohereh Abdollahi, Shadan Pedram Razi, Daryoash Pahlevan, Mir saeed Yekaninejad, Sara Amaniyan, Christia Leiboldsieloff and Mojtaha Vaismoradi. Effect of an Ergonomics Educational Program on Musculoskeletal Disorder in Nursing staff working in operating Room: Quasi-Randomized controlled clinical trial. *International Journal of Environmental Research and Public Health* 2020;17(7333):1-12.
- 16) Mr.Satish Nagkumar salvi, Mrs.Snehalata Reddy. A study to assess the effectiveness of planned teaching programme on knowledge regarding Ergonomics among Industrial workers. *Turkish online Journal of qualitative Inquiry* July 2021;12(8):1667-1674