International Journal of Science and Healthcare Research
Vol. 8; Issue: 2; April-June 2023
Website: ijshr.com
Original Research Article *ISSN: 2455-7587*

A Study to Evaluate the Effectiveness of Video Assisted Teaching Program on Knowledge Regarding Prevention of Work Related Musculoskeletal Disorders Among Employees of Selected Office at Agartala, West Tripura

Prasanjit Biswas

Senior Nursing Tutor, Jiaganj School and College of Nursing, Sadarghat, Jiaganj, Murshidabad, West Bengal, PIN - 742123

DOI: https://doi.org/10.52403/ijshr.20230213

ABSTRACT

A pre-experimental study was conducted to evaluate the effectiveness of video assisted teaching program on knowledge regarding prevention of work related musculoskeletal disorders among employees of a selected office at Agartala, West Tripura. A quantitative evaluative approach was adopted, purposive sampling technique and one group pre-test post-test research design were used for this study. Data were collected from 40 bank employees who were working in Tripura Gramin Bank (Head Office), Abhoynagar, Agartala, West Tripura. Structured knowledge questionnaire was developed to assess the knowledge of office employees regarding prevention of work related musculoskeletal disorders. The results showed that the mean (22.7 ± 2.74), median (22.9) of the post test knowledge score was higher than the mean (12.35 ± 3.07), median (12.07) of the pre-test knowledge score. The mean difference was (10.35). Paired 't' value (23.77) which was statistically significant at 0.05 level (df-39, table value 2.02). There was a significant association with the selected demographic variable-responsibility at the office - 'F' value = 2.90 (tabulated F value = 2.42, df between the group-6, within the group- 33) at 0.05 level of significance. The researcher concluded that the video assisted teaching program was effective in increasing the knowledge of the office employees regarding prevention of work related musculoskeletal disorders.

Key words: Work Related Musculoskeletal Disorders, Knowledge, Video assisted teaching program.

INTRODUCTION

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 related to the overuse of muscles, bad posture, and repeated tasks. A workplace ergonomics program can aim to stop or control injuries and illnesses by eliminating or reducing worker exposure to WMSD's risk factors. Employees who spend many hours at a workstation may develop ergonomic related problems resulting in musculoskeletal disorders (MSDs).[1]

Musculoskeletal disorders (MSDs) are injuries or pain in the human musculoskeletal system, including the joints, ligaments, muscles, nerves, tendo ns, and structures that support limbs, neck and back. MSDs can affect many different parts of the body including the upper and lower back, neck, shoulders and extremities (arms, legs, feet, and hands). Examples includes epicondylitis, tendonitis, back pain, tension neck syndrome, and carpal tunnel syndrome etc.[2]

A recent analysis of the Global Burden of Disease (GBD) (2021) data showed that approximately 1.71 billion people globally have musculoskeletal conditions. Musculoskeletal conditions are also the biggest contributor to years lived with disability (YLDs) worldwide with approximately 149 million YLDs, accounting for 17% of all YLDs worldwide.[3]

Sulaiman SK, et al. (2015) conducted a cross sectional analytical survey to determine the prevalence of MSDs and associated disabilities among bank workers in the Kancheepuram district, Tamil Nadu, India. Results showed that annual prevalence of 33.8% was observed for MSD, with a disability rate of 8.5%. The body region mostly affected was the lower back (51.8%) followed by the neck (48.2%), shoulder (40.2%), and upper back (39.6%).[4]

MATERIALS AND METHODS

Research Approach: Quantitative evaluative approach

Research Design: Pre-experimental one group pre-test post-test design

Research Setting: Tripura Gramin Bank (Head Office), Abhoynagar, Agartala, West Tripura

Sampling Technique: Purposive sampling technique

Sample Size: 40 no. of office employees

Description of the tool: Tool I: Socio-demographic proforma.
Tool II: Section- A) Structured knowledge questionnaire regarding prevention of work related musculoskeletal disorders which consists of 30 questions.
Section- B) Video CD on prevention of work related musculoskeletal disorders.

Data collection method: Self-administered structured knowledge questionnaire

Plan of data analysis: Descriptive & inferential statistics were used to analyse the data.

STATISTICAL METHODS

The data obtained from the subjects were tabulated and analyzed in terms of the objectives of the study using descriptive and inferential statistics. The results showed that the mean (22.7 ± 2.74), median (22.9) of the post test knowledge score was higher than the mean (12.35 ± 3.07), median (12.07) of the pre-test knowledge score. The mean difference was (10.35). Paired 't' value (23.77) was found statistically significant at 0.05 level (df-39, table value 2.02). There was a significant association with the selected demographic variable-responsibility at the office - 'F' value = 2.90 (tabulated F value = 2.42, df between the group- 6, within the group- 33) at 0.05 level of significance.

RESULTS

Table 1: Frequency and percentage distribution of Pre-test and Post-test knowledge score level regarding prevention of work related musculoskeletal disorders among bank employees. N = 40

Level of knowledge scoring		Pre-test		Post-test	
Level of knowledge	**Scoring**	**No. of bank employees (frequency)**	**Percentage (%)**	**No. of bank employees (frequency)**	**Percentage (%)**
Adequate knowledge	21-30 (66.7-100%)	0	0%	31	77.5%
Moderate knowledge	11-20 (33.4-66.6 %)	27	67.5%	9	22.5%
Inadequate knowledge	1-10 (0-33.3%)	13	32.5%	0	0%
Total	30 (100%)	40	100%	40	100%

Minimum possible score = 0
Maximum possible score = 30

Table 1 revealed that in the pre-test out of 40 bank employees 32.5% of samples had inadequate knowledge, 67.5% had moderate knowledge and 0% samples had adequate knowledge. In the post-test out of 40 bank employees 0% samples had inadequate knowledge, 22.5% had moderate knowledge and 77.5% had adequate knowledge regarding the prevention of work-related musculoskeletal disorders.

Table 2: Mean, Median, Standard Deviation (SD), mean difference and 't'- value of pre-test and post-test knowledge score on video assisted teaching program regarding prevention of work related musculoskeletal disorders among bank employees. N = 40

Group	Mean	Median	SD	Mean difference	't' value (paired)
Pre-test	12.35	12.07	3.07		
Post-test	22.7	22.9	2.74	10.35	23.77 *

* = Significant at 0.05 level, (df- 39, table value 2.02)

Table 2 revealed that the mean post test knowledge score (22.7) was higher than the mean pre-test knowledge score (12.35). Post-test median knowledge score (22.9) was also higher than the pre-test median knowledge score (12.07). The standard deviation of the post-test (2.74) was lesser dispersion than the standard deviation of the pre-test knowledge score (3.07). The mean difference between the post-test and pre-test knowledge score was (10.35). Paired 't' value was 23.77* (df- 39, table value 2.02) which was significant at 0.05 level.

Table 3: Area-wise comparison of mean percentage, actual and modified knowledge gain between pre-test and post-test. N = 40

Sl no.	Area of knowledge	Maximum Score	Mean %		Gain Score	
			Pre-test	Post-test	Actual gain	Modified gain
1.	Introduction and definition Work-Related Musculoskeletal Disorders.	2	65%	96%	31	0.88
2.	Etiological risk factors	3	44.33%	80%	36.67	.64
3.	Sign & Symptoms of WRMD's.	3	41.66%	71.66%	30	.51
4.	Common WRMD's.	7	31.71%	65.71%	34	.49
5.	Diagnostic evaluation	2	37.5%	76%	38.5	.61
6.	Complications of WRMD's	2	40%	75%	35	.58
7.	Prevention of WRMD's	11	44.54%	80.90%	36.36	.65
		Total = 30				

Minimum possible score = 0
Maximum possible score = 30

Table 3 showed that the overall post-test mean percentage was higher than the pre-test mean percentage. The maximum modified gain (.88) was found in the area of 'Introduction and definition of WRMDs' and minimal modified gain (.49) found in the area of 'common WRMDs'. So it can be concluded that there was an area-wise significant gain in the knowledge score.

DISCUSSION

In the pre-test out of 40 bank employees, 32.5% of the samples had inadequate knowledge, 67.5% had moderate knowledge and 0% of the samples had adequate knowledge. In the post-test out of 40 bank employees 0% samples had inadequate knowledge, 22.5% had moderate knowledge and 77.5% had adequate knowledge regarding the prevention of work-related musculoskeletal disorders.

The statistical findings in the present study revealed that the mean post-test knowledge score (22.7 ± 2.74) was higher than the mean pre-test knowledge score (12.35 ± 3.07), the mean difference was 10.35. The paired 't' test value (23.77) was found statistically significant at 0.05level (df-39, table value 2.02).

The maximum post-test modified knowledge gain (.88) was found in the area of 'Introduction and definition of WRMDs', and the minimum modified gain (.49) was found in the area of 'common WRMDs'.

Analysis of Variance (ANOVA) 'F' value showed a significant association between

pre-test knowledge score with their selected demographic variables- 'responsibility at the office', 'F' Value = 2.90 (tabulated F value = 2.42, df between the group- 6, within the group-33) at 0.05 level of significance. So the knowledge of the office employees regarding the prevention of work-related musculoskeletal disorders was dependent on their demographic variable responsibility at the office and the other variables - age, educational status, total hours spent by sitting position, vehicle used to attend the office, years of working experience, performing exercise, types of chair used at the office showed no significant association. According to a pre-experimental study conducted by Prashma in 2016 in Karnataka (India), revealed that the Post test mean Knowledge score (39.22 ± 4.5) was higher than the Pre test mean Knowledge score (12.16 ± 6.5). The calculated paired 't' test value (t= 24.71*) was greater than table value (p<0.05, 49df) showed there was significant increase in knowledge. Chi square test reveals that the calculated χ 2 Value with regard to age (χ 2= 4.32, *P<0.05) and type of family (χ2= 4.76, *P<0.05) demographic variables has significance association with pre-test knowledge score.[5]

CONCLUSION

From the findings of the present study it can be concluded that video assisted teaching program was effective to increase the knowledge level of the bank employees regarding prevention of work related musculoskeletal disorders and "responsibility at office" was an independent variable which indicates that the pre-test knowledge score regarding prevention of work related musculoskeletal disorders among bank employees was dependent.

Declaration by Authors

Ethical Approval: Ethical approval was taken from the concerned authorities of the office and informed consent was obtained from the samples.

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Work-Related Musculoskeletal Disorders & Ergonomics. Centers for Disease Control and Prevention [Internet]. 2020 Feb 12. Available from: https://www.cdc.gov/workplacehealthpromotion/health-strategies/musculoskeletal-disorders/index.html
2. Musculoskeletal disorders [Internet]. 2021 May 29. Available from: https://en.wikipedia.org/wiki/Musculoskeletal_disorder
3. Musculoskeletal conditions. WHO [Internet]. 2021 Feb 8. Available from: https://www.who.int/news-room/fact-sheets/detail/musculoskeletal-conditions.
4. Sulaiman SK, et al. Musculoskeletal disorders and associated disabilities among bank workers. International Journal of Research in Medical Sciences. 2015; 3(5):1153-1158. Available from : https// DOI:10.5455/2320-6012.ijrms20150523
5. Prashma. Effectiveness of video assisted teaching programme on knowledge and practice regarding range of motion exercises among restricted mobile patients in orthopaedic wards at SC Hospital Hassan. Int. J. Nur. Edu. and Research. 2016; 4(2):141-156. Available from : doi: 10.5958/2454-2660.2016.00032.6

How to cite this article: Prasanjit Biswas. A study to evaluate the effectiveness of video assisted teaching program on knowledge regarding prevention of work related musculoskeletal disorders among employees of selected office at Agartala, West Tripura. *International Journal of Science & Healthcare Research.* 2023; 8(2): 107-110. DOI: *https://doi.org/10.52403/ijshr.20230213*

******