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Evaluation of a Back Pain Prevention Education Program for Transportation Workers

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Key words: structured teaching program, back pain, knowledge, and drivers.

Abstract

Background: In context, back pain refers to physical discomfort in the back. We classify aches in the back as upper-back, lower-back, or other types depending on which spinal region is afflicted. Depending on how long an episode of back pain lasts, we can classify it as acute, subacute, or chronic. Different people experience pain in different ways, such as a constant throb, sharp stabbing pains, or a burning sensation. Back pain can be caused by straining or twisting the back into an uncomfortable posture, or it can be the result of an injury to a spinal joint, ligament, or disc. The purpose of this research is to evaluate the efficiency of a proposed educational strategy for the prevention of back pain.

Material and Method: The same set of people were tested both before and after the intervention. Drivers in the transport unit of a tertiary care hospital in the Indian state of Maharashtra were surveyed to see how much they knew about back pain. The effectiveness of the planned education programme is evidenced by a rise in the percentage of workers successfully answering knowledge-related questions.After participating in a well-designed training programme, students' knowledge levels rose from 12 on the pretest to 83 on the posttest, a gain of 14.11 points.

Result: The p-value is significantly lower than 0.0001. The null hypothesis is rejected since the p value is less than 0.05.

Conclusion: To sum up, the results of this study indicate that the educational programme was an efficient means of raising driver-members' awareness of back pain prevention strategies.

1. Introduction

Back discomfort is responsible for more than 264 million lost work days in a single year; this equates to two days of lost productivity for every full-time worker in the country. According to some estimates, up to eighty percent of the general population will suffer from back discomfort at some point in their lives. Back discomfort is a common complaint

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among people of all ages, from teenagers to senior citizens. Back pain is extremely prevalent, since around nine out of ten persons will have it at some point in their life, and approximately five out of ten working adults will experience it each and every year. It is the most prevalent source of ongoing pain and a significant factor in both lost time at work and disability. Acute low back pain is the fifth most common reason for visits to physicians in the United States, and it is the source of forty percent of work days that are lost. (1) Low back pain affects between 9 and 12 percent of people (632 million) at any given time, and about 25 percent of people report having experienced it at some point during the course of a month. LBP affects approximately forty percent of people at some point in their lives, with some estimates placing that number as high as eighty percent for persons living in developed countries. Between the ages of 20 and 40 is typically when people start to experience difficulty. Both men and women are affected in the same way. Persons between the ages of 40 and 80 are more likely to suffer from low back pain, and it is anticipated that the overall number of people who have this condition will grow as the population continues to age. (1) In 2010, 26% of adults in the US who were covered by public insurance sought medical attention at least once for low back discomfort. People who suffer from back pain are at least twice as likely to have one of five mental conditions (depression, anxiety, stress, psychosis, and sleep deprivation) compared to those who do not suffer from back pain, according to the findings of a recent survey that included nearly 2,000 people from each of 43 different countries. (2) It is due to the fact that the cause of back pain is most frequently multifactorial. There are two possible origins for the risk factors that lead to back discomfort in drivers: the first is personal, and the second is occupational. According to the findings of a large number of research studies, back pain can be caused by a variety of individual risk factors, including physical activity, muscular weakness, smoking, obesity, and psychological stress. On the other side, occupational risk factors include patient lifting and handling, awkward and immobile postures, lack of suitable equipment, improper workplace design, strenuous physical labour, and inadequate work organisation. It is possible to adjust the individual risk factors through, but it is conceivable that it will not be possible for all people to modify all of the occupational risk factors. Therefore, the adoption of such preventative measures, which one may implement on themselves at their level, is the best approach. As a result, the researcher thought it was necessary to conduct an investigation into drivers' knowledge regarding the prevention of back discomfort and how to treat back pain. In addition, conduct an assessment of how well the planned educational programme on the treatment and prevention of back pain is working.

Aim: Aim is to evaluate of a back pain prevention education program for transportation workers

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2. Objectives

1. To evaluate of a back pain prevention education program for transportation workers.

3. Material & Methods

Both the before and after portions of the study were conducted on the same group of volunteers, who were drivers working in Karad's tertiary care hospital. The study recruited 85 drivers from the transport unit at Karad Tertiary Care Hospital since the criteria for inclusion in the sample were satisfied by their participation. Everyone who was willing to work was required to give their written informed consent. All drivers were asked to participate in the study when it was initiated.

Inclusion criteria:

Drivers who were present during the period when the data was collected.

drivers who are fluent in English, Hindi, and Marathi

Participants who are eager to take part in the activity.

Exclusion criteria:

Drivers who were not accessible throughout the time that the data was being collected.

Data collection.

The purpose of the current research was to evaluate the effectiveness of a planned educational programme on the prevention of back pain in terms of the knowledge gained by drivers. The data collection process involved the preparation of a structured questionnaire to be used as a pretest. The development of drivers' understanding was the focus of a planned educational programme that was prepared. A knowledge questionnaire with a structured format that was used to examine the level of information regarding the prevention of back pain held by drivers employed by a tertiary care hospital.

Section A includes the demographic information of the study population, such as the participants' names, ages, educational levels, heights, and weights, as well as their marital and financial statuses and levels of experience.

The purpose of Section B's structured knowledge questionnaire is to measure the level of information that drivers have regarding the avoidance of back discomfort through the use of 23 multiple-choice questions.

There was a maximum possible score of 23, and the lowest possible score was 0. Each accurate response was awarded one point, while each incorrect response was deducted one point from the total score.

The following is an arbitrary breakdown of how the knowledge score was determined.

 Poor =1-3 Average=4-9 Good=10-16

Instruction using organised planning structures

The instructional material was written in intelligible writing, that is, it was translated into the local language of Marathi, so that the drivers could comprehend it without much difficulty. The instructional programme that was intended to be implemented utilised terminology that was as easy to understand as feasible. It provided information on the following topic, which was connected to the avoidance of back pain:

The following are some of the components that make up the curriculum for the teaching programme: 1.

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2. Definition \s3. Causes
4. Indications and manifestations
5. Treatment
6. Prevention

The investigator started off by preparing a relevant PowerPoint presentation complete with visuals, which was then followed by a conversation and a clarification of any questions regarding the prevention of back discomfort.

Consideration given to ethics

Prior to the beginning of the study, the Krishna institute of medical sciences believed to be university in Karad, Maharashtra, possessed an institutional ethics committee that reviewed and gave their stamp of approval to the research. On January 24th, 2019, a written authorization was acquired from the Dean of the Krishna Institute of Medical Science in Karad.

4. Result

Table 1. Distribution of socio-demographic variables

N-85

Age in years	Frequency	Percentage
20-30	4	4.705
31-40	26	30.588
41-50	45	52.941
51&Above	10	11.764
Height in cm		
150-160	13	15.294
161-170	50	58.823
171-180	15	17.647
181&Above	7	8.235
Weight		
30-40	0	0
41-50	13	15.294
51-60	27	31.764
61&Above	45	52.941
Education		
1-5 standard	20	23.529
6-10 standard	54	63.529

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11-12 standard	8	9.411
Degree and above	3	3.529
Marital status		
Single	11	12.941
Married	74	87.058
Divorced	0	0
House		
Owned	73	85.882
Rented	12	14.117
Salary		
Below 10000	3	3.529
10001-15000	27	31.764
15001-20000	33	38.823
20001&Above	22	25.882
Work duration		
1-5	11	12.941
6-10	12	14.117
11-15	19	22.352
16&Above	43	50.588

According to the vast majority of the data that is shown in table 1, the largest proportion of the sample 45, which is 52.9%, is female and falls within the age range of 41-50 years. The height category is represented by a majority of the 50 (58.2%) of the subjects. The majority of the subjects, 45 (52.9), belong to the category of weight, while the majority of the subjects, 54 (63.2%), belong to the category of education. A large majority of the subjects, 73 (85.8%), are residents of their own homes, and 74 (87%) of the subjects are married. There are 33 people who belong to the salary category, which constitutes the majority (38.8%). The majority of the subjects, 43 (or 50.5%), belong to the work duration category.

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Table 2. Distribution of frequency and percentage of pre test and post test knowledge score of drivers regarding prevention of back pain. N-85

Sr. no	Level of knowledge	Score	Pre test		Post test	
			F	%	F	%
1	Poor	1-3	14	16.47	0	0
2	Average	4-9	59	69.41	2	2.35
3	Good	10-16	12	14.11	83	97.64
4	Total		85	99.99	85	99.99

According to the results of the pre-test table, 59 (69.41) individuals have average knowledge regarding the prevention of back pain, 14 (16.47) individuals have bad knowledge, and 12 (14.11 individuals have good knowledge regarding the prevention of back pain). According to the post-test table, 83 people (97.6% of the total) have knowledge regarding the prevention of back pain, whereas 2 people (2.35% of the total) have average knowledge regarding the prevention of back pain.

Table 3. Mean median and standard deviation knowledge level of drivers regarding prevention of back pain.

Sr. no.	Test	Mean	SD	Mean difference	P Value
1	Pre test	5.6	2.817	7.67	
2	Post test	13.247	1.511	-1.306	<0.0001

The preceding table presents the results of a teaching programme that was administered to drivers, which resulted in an increase in their knowledge on the prevention of back discomfort from a mean of 5.6 before the test to a mean of 13.247 after the test. The standard deviation was 2.817 before the test, but it dropped to 1.511 after it.

The pre-test and post-test mean difference values are 7.67 and -1.306, respectively, and the P value for this comparison is less than 0.0001. 3

The above table demonstrates that after participating in a teaching programme, individuals' levels of knowledge on the avoidance of back pain increased significantly, from a mean of 5.6 before the programme to a mean of 13.247 after it. The standard deviation was 2.817 before the test, but it dropped to 1.511 after it. The pre-test and post-test mean difference values are 7.67 and -1.306, respectively; p 0.0001 for both. Because the test's p value is less than 0.05, we cannot accept the null hypothesis as true. It demonstrates that a teaching programme is an excellent technique for increasing the knowledge level of drivers on how to prevent back pain.

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5. Discussion

The major objective of the research was to evaluate the efficacy of a teaching programme designed to reduce the risk of back pain in drivers who received treatment at the Krishna tertiary care hospital in Karad. The objectives served as the basis for the preparation of the structured knowledge questionnaire that was used in the study. The pre-test and post-test methodology was chosen as the research design for the investigation. The sample for the study was chosen using a sampling approach that did not rely on chance or convincing arguments. After obtaining the data, they were entered into the master sheet so that they could be tabulated and processed statistically. The results of the study were discussed with regard to the hypotheses and objectives of the investigation. The findings of this study were compared with those of previous investigations of a similar nature that had been carried out in a variety of environments.

In the current study, the majority of the sample 45, or 52.9%, belongs to the age group of 41-50 years in terms of gender. Additionally, 30.58% of the participants were in the age group of 31-40 years, 11.76% participated in the age group of 50 and above years, and 4.70% were in the age group of 20-30 years.

The research conducted by Mrs. Sadhana U. Adhyapak (11) on "Health teaching addressing low back pain among sedentary workers of Dr. D. Y. Patil public school" lent credence to the conclusions presented here. The majority of the samples, 33%, belonged to individuals between the ages of 31 and 40, 30% belonged to individuals between the ages of 20 and 30, 25% belonged to individuals between the ages of 41 and 50, and 12% belonged to individuals aged 51 and above.

In this particular study, 59 (69.41) people were found to have average knowledge regarding the prevention of back pain, 14 (16.47) people were found to have poor knowledge, and 12 (14.11) people were found to have good knowledge regarding the prevention of back pain. The results of the pre-test revealed that the drivers possessed insufficient information regarding the avoidance of back discomfort. The pre-test standard deviation was 2.817, and the pre-test mean difference value was 7.67.

Inadequate knowledge may be the result of inadequate sources of knowledge, in addition to the absence of a suitable education programme on the prevention of back pain.

In a study conducted by Mrs. Sadhana U. Adhyapak (11) and colleagues, the data indicated that 63% of the sample had some awareness regarding low back pain. The findings were similar to those of the previous study. The pre-test standard deviation was 2.59, and the pre-test mean difference value was 7.55, which indicated that the drivers had insufficient information on how to prevent back pain.

Because of this, it was essential for the investigator to broaden the sample's knowledge by providing explicit instruction on how to avoid experiencing back discomfort.

In the current investigation, the knowledge scores of drivers on the prevention of back discomfort indicated that the pre-test knowledge score is. The mean score on the

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pre-test was 5.6, while the mean score on the post-test was 13.247. The findings shown above indicate that drivers' prior knowledge on the prevention of back pain was inadequate before the test was taken. There was a notable increase in the amount of knowledge regarding the avoidance of back discomfort among drivers after the delivery of a scheduled teaching programme on the subject.

The findings of the study conducted by Mrs.Sadhana U. Adhyapak (11) were consistent with those of the present investigation. As the mean score on the pre-test for knowledge of low back pain was seven, and the post-test score was fourteen and fifty-five, this revealed that the planned teaching on low back pain is effective in imparting the knowledge that was intended. This difference is extremely significant, with a p-value less than 0.01.

In the current study, the analysis found that there is no association of drivers on prevention of back pain with height (3.333), weight (3.092), education(7.581),marital status (3.368),house (0.9635),salary(10.336) in pre test and in the post test there is no association of drivers on prevention of back pain with age (1.821), weight, salary (9.785) and house. In addition, there is no association of drivers on prevention of

Before carrying out the intended teaching programme, there is a substantial correlation between drivers on the prevention of back pain with age (12.645) and job duration (18.825). This was found before the programme was carried out. After carrying out the instruction programme that had been prepared, the study revealed that there is a significantly positive correlation between the height (46,517), education (53,805), and work duration of drivers with the prevention of back pain (42.726).

Mrs. Sadhana U. Adhyapak (11) came to the conclusion that there is no correlation between education, income, and knowledge using a significance level of p 0.05. These findings are in contrast to the conclusions of the current study.

Therefore, the level of knowledge is dependant on a number of different factors.

6. Conclusion

The following are some of the inferences that may be derived from the findings of the study: After going through the teaching programme that the plan provided, the drivers now have a greater understanding of back discomfort and how to avoid it. It may be deduced from this that the instructional programme for the strategy was successful as well as efficient. According to the findings of the survey, none of the drivers have sufficient knowledge about back pain and how to avoid developing it in the first place. They need to be properly oriented concerning such themes in order to develop their knowledge, which will assist them in making decisions when they are confronted with situations of this nature in the future.

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