Evaluate the effectiveness of selected nursing intervention on management of back pain among employees working in a selected company, Bangalore.

DOCTORAL THESIS 2018

Advance Research Journal of Multidisciplinary Discoveries [E-ISSN : 2456-1045]

Email: journal.ijf@gmail.com
Website: www.journalresearchijf.com
Publisher : International Journal Foundation

Edition : June 2018
Vol. 27 I Issue : 1

"Evaluate the Effectiveness of Selected Nursing Intervention on Management of Back Pain among Employees working in a Selected Company, Bangalore".

BY

Abilasha Sharma

Dissertation submitted to the
Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka.

In partial fulfillment
Of the requirements for the degree of
Master of Science
IN

COMMUNITY HEALTH NURSING
Under the Guidance of

Dr. LAKSHMI A
HOD
Department of Community Health Nursing

Sarvodaya College of Nursing
No. 11/2, Magadi Main Road,
(Beside Raheja Park) Agrahara Dasarahalli
Bangalore -560079.
2017
Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

RESEARCH & METHODOLOGY

CHAPTER-IV

RESEARCH & METHODOLOGY

CHAPTER-IV

Research methodology

This chapter deals with the methodology adopted for assessing the effectiveness of back strengthening exercises on pain among employees with back pain in a selected at Bangalore. Research methodology is a way to systematically solve the research problem. It includes the steps, procedures, and the strategies for gathering and analysing the data in a research investigation.

Research approach

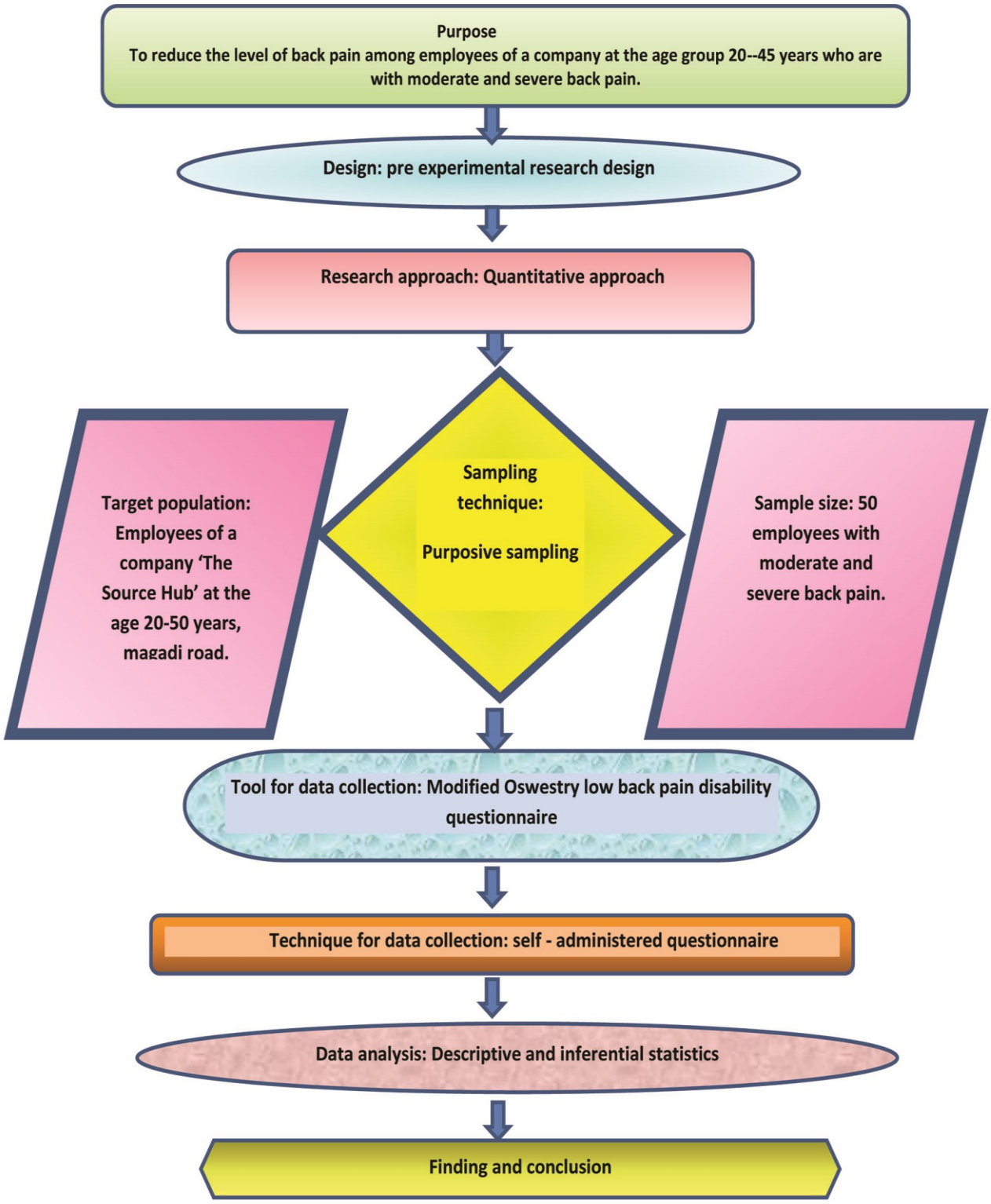
Quantitative research approach is an applied form of a research that involves finding out how well a programme, practice or policy is working. Its goal is to assess or evaluate the success of a programme.

In this present study, the researcher aims to determine the effectiveness of back strengthening exercises using the quantitative approach.

Research design

Research design is the researcher's overall plan for obtaining answers to the research questions or testing the research hypothesis. It spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable.

Research design adopted for the study is Pre-experimental design. In Pre-experimental design manipulation of independent variable can be done, there is no randomization or control over the samples. This research design was used to measure the effectiveness of the back strengthening exercises on back pain among employees working in a company.



44

Figure 2: Schematic representation of research design

Variables

Variables are the qualities, properties or characteristics of persons, things or situation that change or vary. In this study, three types of variables were considered. They are demographic variable, dependent variable and independent variable.

Independent variable

The presumed cause is referred to as the independent variable. In this study selected nursing intervention was the independent variable

Dependent variable

A presumed effect is referred to as the dependent variable. In this study, back pain was the dependent variable.

Demographic variable

Demographic proforma consisted of 17 items namely gender, age, marital status, educational status, monthly income, exercise frequency in past 12 months, types of exercises you follow, family history of LBP, duration of employment, working hours per day and per week, type of working shift, frequent rest break, medical services provided by the company history of accident/injury, biophysical measurements, knowledge regarding back strengthening exercises.

Setting of the study

The main study was conducted at an outsourcing company named Source Hub which is situated at magdi road, agrahara dasarhalli Bangalore. Pilot study was conducted at a small company namely KINESTHETIC LABS at basweshwar nagar, Bangalore.

The researcher selected this setting for the following reasons.

o Availability of the sample.
o Economic feasibility for conducting the study.
o Familiarity with the setting.

Population

Population is the entire aggregation of cases that meet a designated set of criteria. In this study, employees who were at the age group between 20-50years using the modified Oswestry disability back pain questionnaire.

Sampling technique

In this study, a purposive sampling was used to select the employees at the age group of 20-50 with back pain. Purposive sampling is a type of non-probability sampling method in which the researcher selects respondents for the study on the basis of personal judgment about which one will be more representative of the population, also referred to as judgmental sampling. Purposive sampling was used to select the subjects who met the inclusion criteria were identified.

Sample

Sample consists of a subset of a population selected to participate in a research study. In this study, employees at the age group between 20-50 years who were identified with moderate and severe back pain and who have met the inclusion criteria were taken as the sample.

Sample size

Sample size represents the total number of samples taken for the study. In this study 50 employees who met the inclusion criteria have been selected as the sample size by the researcher.

Sampling criteria

Inclusion criteria:

Employees:
• Who were willing to participate.
• Who were with mild moderate and severe back pain.
• Who were between the age group 20-50 years.
• Who were present at the time of the study.

Exclusion criteria:

Employees:
- With vertebral and spinal cord deformities.
- With serious spinal disorders, including malignancy, osteoporosis etc.
- With cardiovascular problems.
- Who were pregnant.
- Who were on medications such as anti- coagulants, analgesics and steroids.
- Who previously underwent spinal surgery.
- Who were on physical therapy.

Data collection instruments

Method of data collection includes development of tool, testing of validity, reliability and data collection procedure. Tool is the instrument that is used by the researcher to collect the data. In the present study self-administered questionnaire was used for collecting data. After an extensive review of literature and discussion with experts modified Oswestry disability questionnaire was used to identify samples who are with mild and moderate and severe back pain.

Development of the tool

Instrument or tool is the written device that a researcher uses to collect data. The researcher developed the tools from the reviewed literature and those items that were relevant to the study. The tools were developed in order to attain the objectives of the study. The researcher adopted following steps in the

Development of the instruments:

• Review of literature provided adequate content for preparation of the tool.
• Personal experience and discussion with experts.

• Personal experience in clinical setting
• Consultation with statistician was done for data analysis

Description of the tool

Tool I: Demographic proforma.

Demographic proforma consisted of 17 items namely gender, age, marital status, educational status, monthly income, exercise frequency in past 12 months, types of exercises followed, family history of LBP, duration of employment, working hours per day and per week, type of working shift , frequent rest break, medical services provided by the company, history of accident/injury, biophysical measurements, knowledge regarding back strengthening exercises.

Tool II: Modified Oswestry Low Back Pain Disability Questionnaire

Modified Oswestry Low Back Pain Disability Questionnaire was the tool used to identify the level of pain among those subjects with low back pain. The tool consisted of 10 sections which include pain intensity, personal care, lifting, walking, sitting, standing, sleeping, social life, travelling, and homemaking/employment. Each question is scored from 0-5 (minimum to maximum).
Interpretation: Level of pain: point total / 50X 100 = % pain (aka: 'point total' divided by '50' multiply by ' 100 = percent pain).

Scoring:

- 1% to 20%: minimal disability or mild back pain
- 21%-40%: moderate disability or moderate back pain
- 41%-60%: severe disability or severe back pain
- 61%-80%: crippled
- 81%-100%: bed bound

Content validity of the tool

Validity refers to the degree to which an instrument measures what it is intended to measure. Content validity is the extent to which the method of measurement includes all the major elements relevant to the concept being measured. The Demographic proforma, Modified Oswestry Low Back Pain Disability Questionnaire along with the statements of problem, objectives, hypotheses, operational definitions and questionnaire were submitted to eight experts in the field of physiotherapy, department of orthopaedic, community health nursing, ,statistics to establish the content validity. The experts were requested to give opinion regarding the relevancy, appropriateness and usefulness of the items of the tool.

The opinions of eight experts were obtained in the stipulated time and their suggestions were considered. In case of Demographic proforma , there was 100% agreement for all the items. With regards to the Modified Oswestry Low Back Pain Disability Questionnaire, two experts suggested to simplify the statements for better understanding. Suggestions from the experts were discussed with the guide and corrections were made before the tool was administered to the clients.

Reliability of the tool

According to Polit and Hungler (1999), reliability is the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure. One method for testing the reliability of the tool is the inter rater method or inter observer reliability method. It is the degree to which two observers, operating independently, assign the same rating or values for an attribute being measured or observed.

Modified Oswestry Low Back Pain Disability Questionnaire was administered to 6 employees with back pain. The Reliability was established by karl pearson's formula. The reliability co-efficient was 0.95 which showed the tool was highly reliable.

Pilot study and the preparation of the final draft

Pilot study is a small preliminary investigation of the same general character as a major study. It is designed to acquaint the researcher with the problems to be corrected in preparation for the larger research project and to try out the procedure for collecting the data.

The pilot study was conducted between 21-11-2016 to 27-11-2016 to check the clarity of the items, reliability, feasibility and practicability of the research design. A formal permission was obtained from the concerned authority to conduct pilot study at KINESTHETIC LABS one of the companies at Basweshwar nagar, Bangalore. The purpose of the study was explained and the confidentiality was assured to all samples who participated in the study to get their cooperation. An informed consent was taken from the subjects. Initially, the Demographic Proforma was administered to identify the employees of age group 20-50. Employees with back pain were selected by purposive sampling method. These employees were administered with the Modified Oswestry Low Back Pain Disability Questionnaire to identify the severity of low back pain. The back strengthening exercises were performed daily for 30 minutes for a duration of 7 days. After 7 days of practice, Modified Oswestry Low Back Pain Disability Questionnaire (post and practicable test) was administered to those 6 employees who underwent the intervention (back strengthening exercises). The time taken by the respondents to answer the tool was 20 minutes.

At the end of the study, the respondents were thanked for their co-operation. The effectiveness of back strengthening exercises on pain was analysed using Paired 't'test. The mean of back pain post-test scores (11) was found to be significantly lower than the mean of back pain pre-test scores (15). The research design and the tool were found to be appropriate, clear, practicable and feasible. Standard deviation of pre-test was 2.09 and post-test was 2.19.No modifications were made in the tool. The investigation plan was found feasible.

Data collection process for main study

A formal permission was obtained from Head of the Institution and research committee of the Sarvodaya College of Nursing. A formal permission from the concerned authorities of the company was obtained for conducting the study. The Duration of the study was from 19-12-2016 to 17-01-2017. The investigator took consent from the employees who met the inclusion criteria. The purpose of the study was explained and the confidentiality was assured to all samples who participated in the study to get their co-operation. An informed consent was taken from the subjects. Initially, the Demographic proforma was administered to the employees .Employees with back pain were selected by purposive sampling method. These employees were administered with the Modified Oswestry Low Back Pain Disability Questionnaire to identify the severity of low back pain. The back strengthening exercises

were performed daily for 30 minutes for a duration of 15 days. After 15 days of practice, Modified Oswestry Low Back Pain Disability Questionnaire (post-test) was administered to those 50 employees who underwent the intervention (back strengthening exercises). The time taken by the respondents to answer the tool was 20 minutes. At the end of the study, the respondents were thanked for their co-operation.

Protection of human subjects

The proposed study was conducted after the approval of Ethical clearance Committee of the college. Permission was obtained from the Director of the company. The respondents were assured regarding the risks and benefits of the study procedure. The respondents were told to withdraw at any time from the study without affecting their relationship with the health care authorities. Assurance was given to the respondents regarding confidentiality of the information provided by them. The respondents were assured about anonymity and security regarding the information provided by them.