



A DESCRIPTIVE STUDY ON ASSESSMENT OF MUSCULOSKELETAL DISCOMFORTS DUE TO BACKPACK AMONG SCHOOL GOING CHILDREN AT SELECTED SCHOOL OF JAMUHAR, DISTRICT ROHTAS, BIHAR.

¹ MS. Sushmita Kumari, ² Prof. (Dr.) Sapna Singh, ³ Ms. Nikee Minz

¹ M.Sc. nursing 2nd year, ² Professor Cum HOD, ³ Assistant Professor

Department of Child Health Nursing

Narayan Nursing College, Jamuhar, Sasaram, Rohtas, Bihar. India

ABSTRACT

Musculoskeletal discomforts in school going children are becoming a vital problem in health sector. Government recommendation of safe load limit of backpack among children is 10-15% of the body weight. Heavy backpacks may result in musculoskeletal and physiological discomforts and problems among primary school children. The most common example of musculoskeletal discomforts is neck, shoulder and back discomforts. These discomforts in school going children are much more likely to have a serious underlying disorder. Objectives of the study were to assess the musculoskeletal discomforts due to backpack in school going children, To find out the correlation between the backpack and musculoskeletal discomforts in school going children and To determine the association between the demographic variables and musculoskeletal discomfort among the school going children. The Methodology used for study was Non-experimental survey approach, the target population for the study was the school going children of class 7th to 10th. Total 100 samples were selected using the convenient sampling technique. The tool used for the data collection was NDMQ. The results of the study shows that 86% have mild musculoskeletal discomforts, 12% have moderate and 2% have severe. The Correlation between backpack weight and musculoskeletal discomforts among school going children through Pearson's correlation which gave r value 0.050 which was statistically non-significant with level of significance fixed at $p < 0.05$.

Key Words: School going children, Musculoskeletal discomforts, backpack

INTRODUCTION

In today's competitive world, children are getting exposed to the problems resulting from heavy backpacks. Musculoskeletal discomforts in children were uncommon earlier but now it is becoming a serious problem. Some causes of musculoskeletal discomforts in children include gender-female is more common, age-children at 12-16 years, heavy backpacks especially carried

on one shoulder, incorrectly packed backpacks, sedentary lifestyle, soft tissue injuries and insufficient diet. The backpack suggestions in Europe were 10% of their body weight. American occupational therapy recommends a limit of 15% of body weight. Different international medical associations have advised that a child should not carry more than 10%-15% of their total body weight.

There are numerous researches carried out all around the world including in India, indicate relative weight of backpack $\leq 10\%$ is mostly secure and relative weight of $\geq 15\%$ is associated with high risk of adverse musculoskeletal discomforts. There are just few studies that have given exact cut offs of relative weight in a particular population

From the above fact the investigator understood that backpacks are greater cause of musculoskeletal discomforts among children. So, the investigator felt the need for assessing the association and correlation between the musculoskeletal discomfort and backpack.

STATEMENT OF THE PROBLEM

“A descriptive study on assessment of musculoskeletal discomforts due to backpack among school going children at selected school of Jamuhar, District Rohtas, Bihar.

OBJECTIVE

- To assess the musculoskeletal discomfort due to backpack in school going children.
- To find out the correlation between the backpack and musculoskeletal discomfort in school going children.
- To determine the association between the demographic variables and musculoskeletal discomfort among the school going children.

OPERATIONAL DEFINITION

- Assessment: It refers to the methods or tools that investigators use to measures due to backpack.
- Musculoskeletal Discomforts: Musculoskeletal Discomforts or MSDs that affect the human body's movement like neck pain, body pain, shoulder pain, abnormal gait etc...
- Backpack: A bag carried on the back, usually of cloth with many pockets and straps that go over your shoulders, used to carry things
- School going children: Students studying between 7th to 10th class.

MATERIALS AND METHODS

• RESEARCH APPROACH

- Non experimental survey approach

• RESEARCH DESIGN

- Descriptive research design

VARIBLES UNDER STUDY

- **Research variables:** - The research variable under study is assess the musculoskeletal discomfort due to backpack in school going children.
- **Socio-Demographic variable:** - The socio demographic variables under the study are age, gender, weight of the child, height of the child, studying class of child, weight of school bag, dietary habit, father education, mother education, occupation of father,

occupation of mother, total duration of carrying backpack (from home to school and school to home), distance of school from home, reaching school by.

SETTING OF THE STUDY: -

The study conducted among the school going children who all are studying class 7th to 10th at selected school in jamuhar, Rohtas. This school is located under GNSU (Gopal Narayan Singh University).

SAMPLE

The sample for the study comprised of 100 school going children of 7th to 10th class.

SAMPLING TECHNIQUE

Convenience sampling technique used under the study.

SAMPLING CRITERIA

Inclusion criteria

1. School going children who will be available at the time of data collection.
2. School going children who will understand Hindi and English.
3. Children with any musculoskeletal injury like sports injury or arthritis.

Exclusion criteria

1. School going children who do not come under 7th to 10th class.
2. School going children who will not be willing to participate in the study.
3. Children with any musculoskeletal injury like sports injury or arthritis.

DESCRIPTION OF THE TOOLS

The tools consist of 2 sections.

Section A: - socio demographic data

- Consists of socio-demographic variables such as age, gender, weight of child, height of child, Class studying, weight of the school bag, dietary habits, educational level of parents, Occupation of Parents, duration of carrying backpack, Distance of school from home, Reaching school by.

SECTION: - B Nordic Musculoskeletal Discomforts Questionnaire

- A general questionnaire items identifying areas of the body causing musculoskeletal discomforts. This questionnaire is aided by a body map to indicate nine symptoms' sites being Necks, Shoulders, Upper back, elbows, Wrist/hand, Lower back, hips/thighs, knees, Ankles, Feet.
- Respondents are asked if they have had any musculoskeletal discomforts/trouble in last 12 months and last 7 days which has prevented normal activity.
- Scoring of the tool is 1 for YES and 0 for NO.

RESULTS

1. Assessment of musculoskeletal discomforts due to backpack among school going children

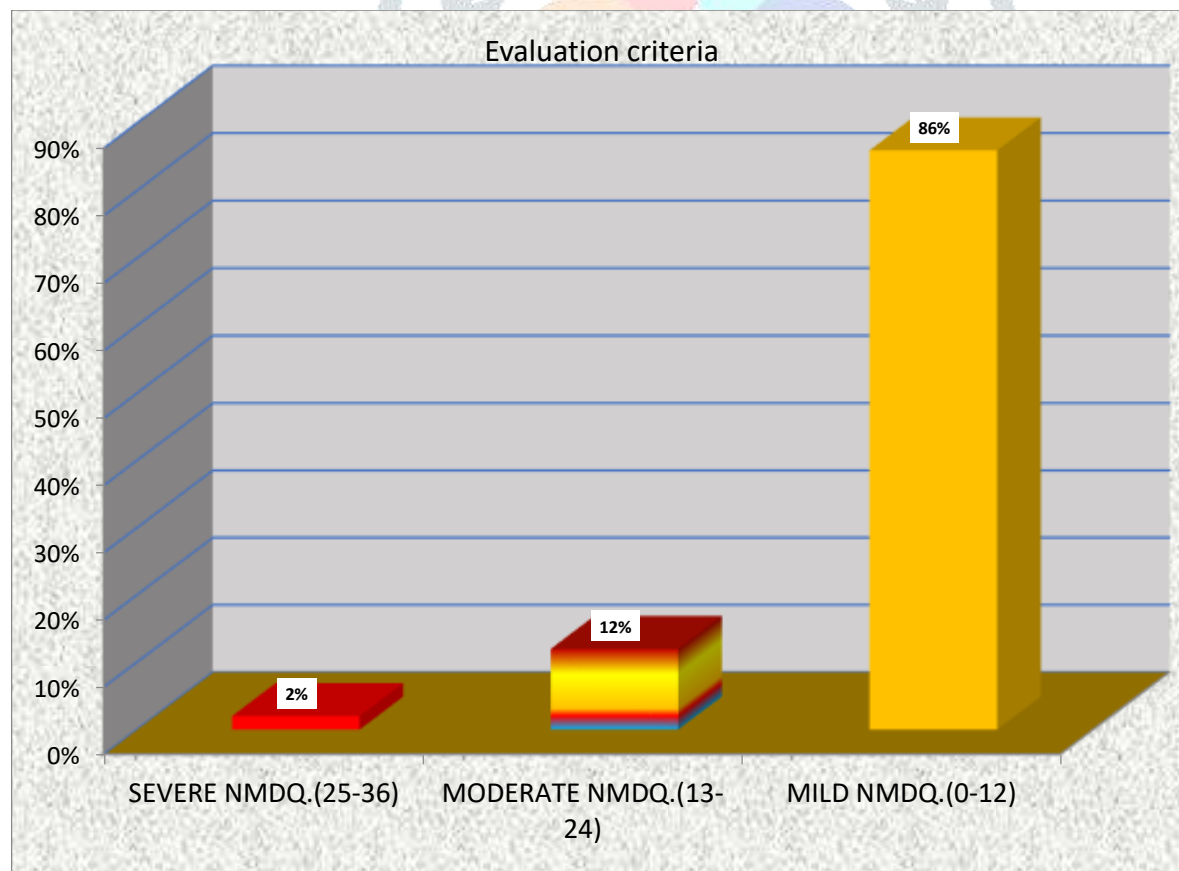
TABLE NO. 1.1

Frequency and Percentage distribution of musculoskeletal discomforts due to back pack among school going children

CRITERIA MEASURE OF NMDQ SCORE		
Category Score	Frequency	Percentage
SEVERE NMDQ (25-36)	2	2%
MODERATE NMDQ (13-24)	12	12%
MILD NMDQ (0-12)	86	86%

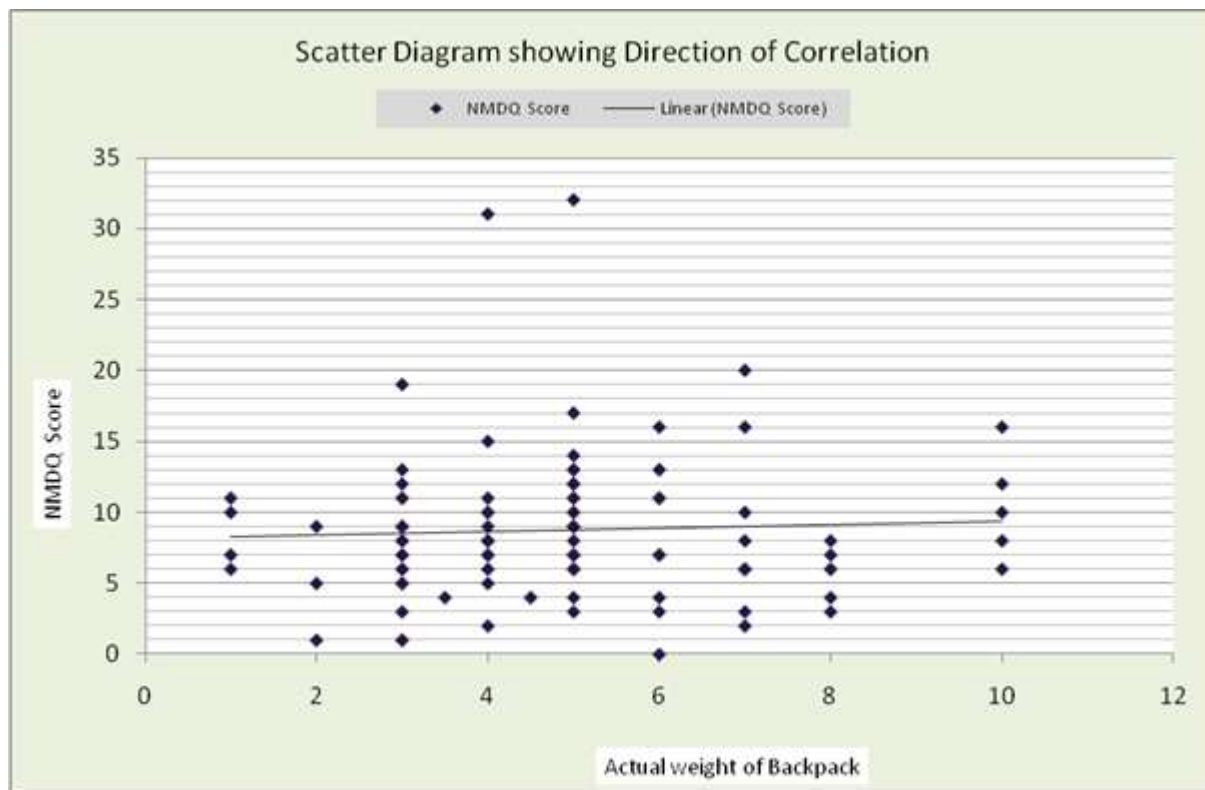
Maximum Score=36 Minimum Score=0

Table. No. 1.1 showed the percentage distribution of musculoskeletal discomforts due to back pack among school going children. Majority of school going children NMDQ score 86% was mild, followed by 12% was moderate and 2% was severe.



2. Correlation between backpack and musculoskeletal discomforts among school going children

The Correlation between backpack weight and musculoskeletal discomforts among school going children through Pearson's correlation which gave r value 0.050 which was statistically non-significant with level of significance fixed at $p < 0.05$. Hence it was concluded that the backpack and NMDQ score revealed no correlation among school going children.



3. Association between musculoskeletal discomforts due to backpack among school going children with their selected demographic variables

School going children, age and NMDQ score of the school going children has significant association. The calculated value of chi-square is (14.523) which is more than the tabled value (9.488) at 0.05% level of significance, with (4df). Hence, we can conclude that age and NMDQ score of the school going children are significantly associated with each other.

IMPLICATION OF THE STUDY

In nursing practice

1. Nurse is the key person of the health team who play a vital role in promotion and maintenance of health.
2. As a nurse practitioner she should instruct the students about the prevention of musculoskeletal discomforts due to backpack which will help school going children to improve knowledge and prevent from musculoskeletal discomforts.
3. Nurse should plan health education on awareness of musculoskeletal discomforts.
4. As a nurse practitioner she should instruct the school going children pattern and lifestyle modification.
5. Nurse can instruct the teachers to teach the school going children regarding to reduce the discomforts due to backpack.

In nursing administration

1. Nurse administrator can plan and organize educational programme for school going children regarding prevention of musculoskeletal discomforts due to backpack.
2. As a nurse administrator she can teach their subordinates/team members regarding knowledge about prevention of musculoskeletal discomforts due to backpack.
3. Nurse administrator should be able to conduct the teaching programme regarding lifestyle modification.
4. Nursing administrator can encourage the involvement of family, community, and friend groups in improving the health of school going children.

In nursing research

1. The information contained in present study can be valuable source of data for the future researchers. It can help them in conducting research with large sample size in different settings.
2. Research can help to identify the existing knowledge gap regarding prevention of musculoskeletal discomforts due to backpack.
3. Nursing research could improve the body of knowledge of the profession and help the professional nurses to build baseline knowledge.

In nursing education

1. Students should be taught about prevention of musculoskeletal discomforts due to backpack, so that they can apply this knowledge in future.
2. Nurse educator can teach the student to acquire adequate knowledge on prevention of musculoskeletal discomforts due to backpack.
3. As a nurse educator, there are abundant opportunities for the professional nurse to educate the students and their family members

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