



Awareness Assessment of Parents and Teachers About School Backpack

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ABSTRACT

Backpacks are a easier way for children to carry essential educational materials to school, but they insert other materials that increases the bag weight. The present study was conducted on 100 children aged 10 to 13 years from DMI School in Meerut to know the awareness of parents and teachers about backpack. Data was collected through an interview cum record schedule. Results revealed that 90% parents and 60% teachers agreed that carrying of heavy bags considered to be a serious problem while 79% of parents agreed that poorly positioned backpack and the duration of carrying can be reasons for altered posture. Teachers (90%) were not aware with the guideline (weight of backpack should be 10% of individual's body weight) given by Central Government Backpack Act. All teachers disagreed that the school was providing a locker facility. Therefore, the study may encourage the teachers and parental involvement in overall development of child, that will affect the child's outcomes for success in education.

KEYWORDS

Backpack, Musculoskeletal pain, Posture.

INTRODUCTION

"Children Health-Tomorrow's Wealth" As children are the major consumers of health care, In India, 35% of total population are children below 15 years of age (Datta 2009). They are not only large in number but vulnerable to various health problems and considered as special risk group. Children always need special care to survive and thrive. Good health of these precious members of the society should be ensured as prime importance in all countries. "Parents' beliefs are the starting point for all experiences the parent has with the child, providing guides to action and, in turn, being reciprocally shaped by that action" (Weigel et al. 2006). Children often gain their parents' perceptions about schooling and literacy through observations and interactions.

Next to home, school is the most Strategic importance in regard to meeting the health needs of children. The teacher student relationship is very important for children. Children spend approximately 5 to 7 hours a day with a teacher for almost 10 months. According to Cottalorda et al. (2004) in recent years, school health has been the object of attention in the scientific community, especially with regard to postural changes of the spine and back pain in children and teenagers. Some of the most emphasized factors in scientific reports are habits related to school activities. Long periods of time in the seated position, the load carried in school backpacks, and the backpack model and mode of transport have been studied. Moreover, in spite of emphasizing appropriate weight limits for children's packs, little research has been conducted on teachers and parents knowledge about school backpack standard weight, choosing proper backpacks, and using backpack correctly. Cardon et al. (2002) claim that parent and teacher participation is an important reinforcement to the given recommendations. Based on the above mentioned background, the current study was designed to assess parents and teachers knowledge on school back packs. Hence the present study was planned with the following objectives:

1. To assess the awareness of respondent's parents about Characteristics of a School Backpack.
2. To study the awareness of school teachers regarding

Central Government's school bag act (2006) and negative consequences of the heavy backpack.

METHODOLOGY

Study was conducted in Meerut city (Uttar Pradesh) in 2014. A total sample of 100 children was selected from Dayawati Modi Academy School. Interview method was adopted to collect the information. Restructured and pre tested questionnaires were used as a tool for collection of the data. Based on the previous literature, assessment of parents and teachers knowledge on school back packs, this study was selected for the research. Percentages and frequencies were worked out to analyze the data.

RESULTS AND DISCUSSIONS

Awareness Assessment of parents regarding backpack

Data pertaining to awareness of parents regarding school backpack were presented in Table 1.1. It was found that 90 percent parents agreed that handling and carrying of heavy school backpacks considered to be a serious problem and the external forces such as load carrying influence the growth, development and maintenance of the alignment of the school children. Only ten percent parents were disagreeing with the fact. As per the finding of William (2002) neck pain was a cumulative annual incidence of 28.4% among school children of ranging between 12 to 16 years of age.

It was also observed that 88 percent parent were agreed that excessive and uneven loads has been linked to an increased risk of back trouble and deformity in the spine whereas 87 percent parents considered that the duration of carrying the backpack as well as its heavy load is an important factor favoring back pain while approximately 12 percent were disagree with it. Whereas Javadivala et al. (2012) conducted a study on the issue of knowledge on school backpacks among parents. It was found that approximately 51.6% of the parents were not aware of the recommended weight limit for carrying school backpacks and 56.3% were not aware that the size of the backpack must be proportionate to the upper back region. Significant difference was found for the mean

score of awareness of a safe and standard school backpack between fathers and mothers. Fathers had more knowledge about school backpack carriages in comparison with mothers ($P < 0.001$).

It was clear from the table 1.1 that 85 percent parents agreed with the statement that the way of carrying a backpack affect the normal posture. Very few parents (15%) disagreed with this statement. According to statement of 83 percent of the parents agreed that carrying the backpack on one shoulder strap affect the student posture and gait more than carrying it on two shoulders. Eighty one percent of the parents reported that material is an important factor for backpack designing. Seventy nine percent of parents agreed that poorly positioned backpack and the duration of carrying the backpack can be one of the reasons for altered posture and gait where as 21 percent parents disagreed with this statement. Similar study was reported by **Pascoe et al. (1997)** on the influence of book bags carried on the gait cycle and posture of children aged 11 to 13 years. It was found that carrying a backpack with two shoulder straps had the lowest effect on shoulder angle and spinal angle (bending to the side).

Regarding the postural problems it was found that seventy one percent of parents were optimized that the forward head posture was found out the major cause of musculoskeletal discomfort in neck & shoulder region followed by 70 percent of the parents who were agreed that the backpack hangs slightly below the shoulders with no more that 4 inches hanging below the waist line and they regularly check their children's backpack but the rest of the parents (30%) were disagreed with this statement. Many parents (96%) had never checked their child's backpack weight and 34% had never checked the backpack contents (**Forjuoh et al. 2003**). Whereas **Balague et al. (1995)** studied increased complaints of back pain, shoulder pain, and muscle soreness in older, high school students compared to elementary school children with a lifetime prevalence of low back pain, ranging from 12% in 12 year old students to as high as 74% in 17 year old students.

TABLE 1.1
ASSESSMENT OF AWARENESS OF PARENTS REGARDING BACKPACK

Sr. No.	Statements	Yes	No
1.	Is time spent carrying the backpack as well as its weight an important factor favoring back pain?	87 (87)	13 (13)
2.	Can a poorly positioned backpack modify posture and gait?	79 (79)	21 (21)
3.	Is carrying the backpack with one shoulder straps affects posture and gait more than carrying it on two shoulders?	83 (83)	17 (17)
4.	Is material important factor for bag designing?	81 (81)	19 (19)
5.	Is the handling of heavy school bags considered to be a serious problem?	90 (90)	10 (10)
6.	Is the position of carrying a backpack affecting posture?	85 (85)	15 (15)
7.	Is the time of carrying a backpack affecting posture?	79 (79)	21 (21)
8.	Have Excessive and uneven loads been linked to an increased risk of back trouble and deformation of the spine?	88 (88)	12 (12)
9.	Is the backpack hangs slightly below the shoulders with no more that 4 inches hanging below the waist line?	70 (70)	30 (30)
10.	Does the forward head posture major cause of any musculoskeletal disorder neck & shoulder region?	71 (71)	29 (29)
11.	Do you regularly check your children's backpack?	70 (70)	30 (30)
12.	Does the external forces such as load carrying influence the growth, development and maintenance of the alignment of the human body?	90 (90)	10 (10)

Awareness assessment of teachers regarding backpack

As per the findings of table 1.2 depicted information about awareness of teachers regarding backpack weight and the guidelines related to it. It was found out that all the teachers (100%) were well aware that change in alignment of the neck due to load produced strain at the cervical joints, soft tissue and it also alter imbalanced muscle performance and the posture of the respondents was found to be affected by both internal and external influences. They were strongly agreed that student's backpack should not exceed 10% of body weight and muscles strength was found to be one of the most important factors for the normal weight bearing functioning of the spine. The American Academy of Pediatrics (AAP) limit is 10 to 20% body weight while American Occupational Therapy Association (AOTA) has suggested a backpack load of 15% body weight. However, neither organization gives justification for their recommendation (**Backpack Strategies 2002**).

In the present study 90 percent teachers of school were not aware with this guideline given by American Academy of Pediatrics. Only 10 percent teachers were aware about these guidelines. The table 4.2 also depicts that 90 percent teachers knew that the use of overweight backpack is a contributing factor of back pain. Similarly they also knew that lugging the backpack over one around by one strap can cause a disproportionate shift of weight to one side of the body. Ten percent teachers were not aware with the fact that overweight backpack were found to be a contributing factor of back pain.

Hundred percent teachers were disagreed that the school was providing a locker facility and 80 percent teachers were not expecting from students to bring all learning materials to school every day. According to **Wiersema et al. (2003)** the backpack should not extend below the lower back. Teachers must be informed about reducing the need to bring home textbooks or if at all possible, have an extra set for home use. Sixty percent teachers were found to be agreed with the statement that the handling of heavy school bags was a serious problem at their school whereas 40 percent of the teachers were disagreed with this statement.

It was also observed that 90 percent teachers didn't know that the schools is violating back pack related rules & regulations. Only 10 percent of teachers were found aware of this act. As per the guidelines issued by **Central Government's children's school bag act (2012)** violating such rules, there is an imprisonment of a penalty of up to Rs. 3 lakhs.

TABLE 1.2
ASSESSMENT OF KNOWLEDGE OF TEACHERS REGARDING BACKPACK

Sr. No.	Statements	Yes	No
1.	Are you expecting from students to bring all learning materials to school every day?	2 (20)	8 (80)
2.	Is the handling of heavy school bags considered to be a serious problem at your school?	6 (60)	4 (40)
3.	Is muscles strength required for the normal weight bearing functioning of the spine?	10 (100)	0
4.	Can posture be affected by both internal and external influences?	10 (100)	0
5.	Should student's bag not exceed 10% of body weight?	10 (100)	0
6.	Is a change in alignment of the neck due to load produce strain of cervical joints and soft tissue as well as imbalanced muscle performance?	10 (100)	0
7.	Does the use of overweight backpack a contributing factor of back pain?	9 (90)	1 (10)
8.	Do you know schools violating back pack related rules & regulations liable to face a penalty of up to 3 lakhs?	1(10)	9 (90)

Sr. No.	Statements	Yes	No
9.	Are Lugging the backpack around by one strap can cause a disproportionate shift of weight to one side?	9 (90)	1 (10)
10.	Does your school provide a locker facility?	0	10 (100)

CONCLUSION

Ninety percent parents were considered that handling of heavy school backpacks was a serious problem and the external forces such as load carrying influence the growth, development and maintenance of the alignment of the children. 30 percent parents never checked their child's backpack and they also did not know that the backpack hangs slightly below the shoulders with no more than 4 inches hanging below the waist line. All the teachers knew that student's backpacks should not exceed 10% of their body weight and posture was affected by both internal and external influences. While minimum availability i.e. 100 percent was seen for locker facility as the school does not provide it. Ninety percent teachers did not know that schools violating back pack related rules & regulations liable to face a penalty of up to 3 lakhs. In today's life there is a growing concern among the teachers, medical professionals and parents over the increasing incidents of backpack related injury in school children (Iyer, 2000). Thus it is very important to create awareness among all the parents and teachers so that they can help the children to gain knowledge and understanding of health, develop favorable attitudes and formulate desirable habits to improve their own health as well as that of the community.

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