

Prevalence of Back Pain in School Children

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Abstract: Background: The incidence of Back pain has lately reached the epidemic proportions. It is seen that Back pain has a relatively high prevalence in school going children. Many researches reported the incidence of Back Pain as 2 - 5% in children because of which it has become a serious health concern in school-aged children also. On surveys, about every fifth child of school-age reported back pain. Objective: The purpose of the study is to find out the Prevalence of Back pain in school going children and problems and limitation they face while doing any activity in school or at home. Methodology: Two hundred school children between age group of 11-15 years were recruited based on inclusion and exclusion criteria. Participants were assigned in four groups based on their age (11-12 years, 12-13 years, 13-14 years and 14-15 years). A Questionnaire was given to each participant consisting of various questions regarding their back pain and activities related to their day-to-day life, and they were asked to mark the answers. Result: Out of 200 children only 27.5% had complain of back pain. The prevalence is more in boys (16%) and less in girls (11.5%). The study had shown that the prevalence of back pain is more in 13-14 years age group and least in 11-12 years. The prevalence of back pain was more in boys than girls in age group 11-12 yrs, 12-13 yrs, 13-14 yrs but in 14-15 yrs age group girls have more pain than boys which depends on psychosocial factors, like lifestyle and physical activity. Conclusion: The study concludes that the prevalence of back pain in school going children is 27.5% which is more in boys (16%) than in girls (11.5%).

Keywords: Back pain, School Children, Questionnaire Based Survey

1. Introduction

Back pain (LBP) is common in adult population, and it is becoming a serious health concern in children and adolescents. Back pain has a relatively high prevalence during school age. The incidence of Back pain has lately reached the epidemic proportions. Number of population studies reported the incidence Back Pain between 2 - 5%.

Bad posture plays a very significant role in the genesis of the disease. So much is the contribution of the bad posture towards the problem back pain.

It has been recognized that back pain is a common phenomenon that affects public health (Maniakias and Gray 2000). Although a less globally recognized problem back pain has also been described as a health problem in school children. Epidemiological evidence indicates that non-specific back pain presents during childhood. On survey, non-specific back pain in school children is nearly as common as adults. The cumulative annual prevalence of back pain in 14-year old French children was 82.9% with reporting, 57.7% reporting recurrent pain and 8.9% chronic pain (Viry P, Marcelli C -1999).

The annual prevalence of back pain in Iranian children aged 11-14 years was 17.4% (Mohseni- Bandpei MA, Bagheri-Nesami M, Shayesteh-Azar M-2007). Twenty-two percent of English school aged children and 18% of finishing among 14 and 16-years adolescents reported having back pain (Murphy S, Buckle P -2007 and Taimela S, Kujala UM-1997).

Back pain with non-organic cause in school children has many biomechanical, neurophysiological associated with age, sex, health state and socio-economic factors, physical

activity and lifestyle. However, only a minority of the children suffering from back pain seek medical attention. Even more rarely diagnostic management is performed. Estimate of life-time prevalence for Back pain in school children vary from 13 to 51%, point prevalence ranges from 1 to 33% and prevalence of recurrent back pain ranges from 7 to 27% (Salminen 1992, Burton 1996, Leboeuf-Yde and Kyvik 1998, Harreby 1999, Vikat 2000)

The most apparent fact, from these studies of the pediatric population, is that many children experience back pain, A 1994 Scandinavian study, by Trouslter, identified the prevalence of back pain in a group of 1,174 school children at 51%. This study also found significance in the following risk factors:

- 1) Age: A significant increase in back pain incidence occurred at the age of 12-years and over. In all age groups above 11-years, more than 50 percent of the subjects had experienced back pain at some time in their life.
- 2) Gender: Females were more likely to experience back pain than males. A significant increase in back pain incidence in females was noted at 58.1 percent, compared with 43.2 percent for males.
- 3) Posture: There is a significant increase in back pain due to bad posture of the children while sitting. They mostly bent forward at the time of writing and carry heavy bags on their back while going to school which puts stress on their back which ultimately leads to back pain.
- 4) Sports: The Prevalence of back pain associated with sports was calculated and found to exceed 60 percent for participants of the following sports: volleyball (78.2 percent); climbing (68.7 percent); basketball (62.2 percent) and handball (61.7 percent).

Although it is difficult to measure back pain incidence, studies have shown that "new onset" back pain is also

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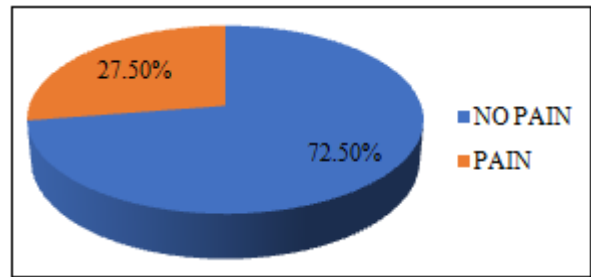
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common. A recent study revealed that 19% of children aged 11–14 years, and known to be free of symptoms at baseline, reported back pain 12 months subsequently.¹⁵ Other authors have presented similar results with 16%, 22%, and 22% of 8, 11, and 13-year-olds, respectively, reporting new onset back pain two years after initial assessment.

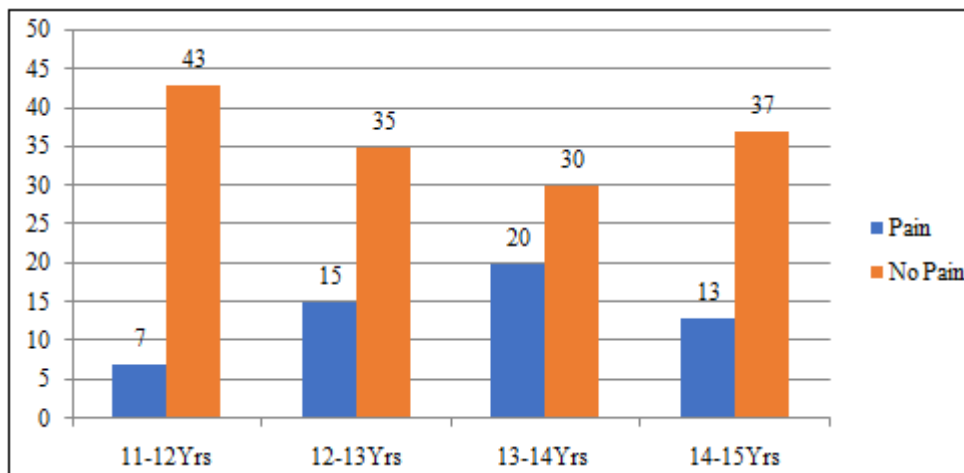
In summary, Back Pain is a common condition in childhood and, while it can be associated with serious pathology, this is rare and, for the majority, symptoms are mild, non-specific, and self-limiting. Although self-reported limitation is common, symptoms rarely result in consultation. Even among those consulting to family physicians, most will not have an organic cause identified.

2. Result



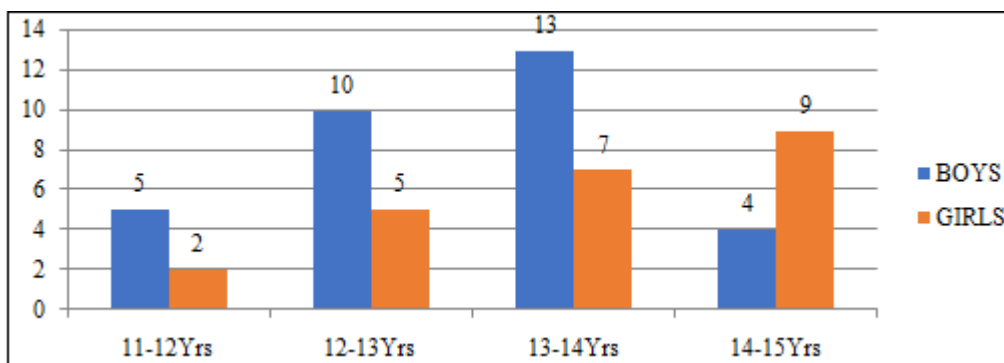
Pie chart shows that 27.5% of school children has complain of back pain.

Rate of pain analysis in various age groups



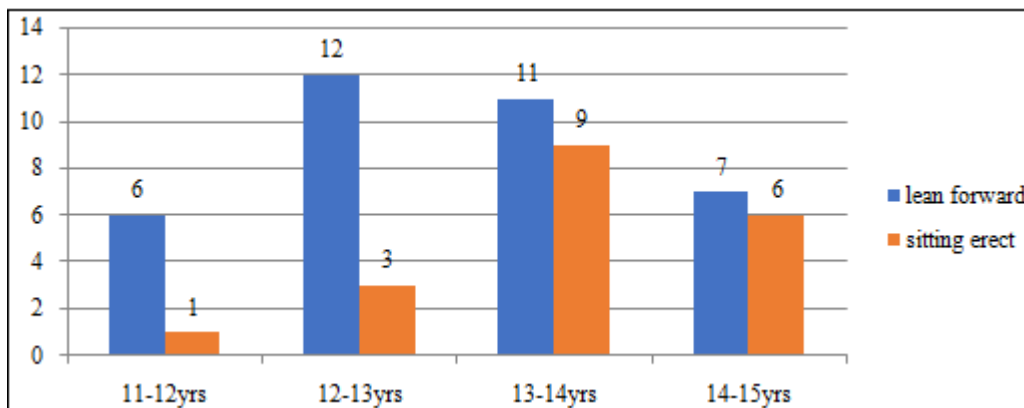
The graph indicates that the rate of back pain is more in 13-14years of age group while low in 11-12years.

Comparison of back pain between boys and girls



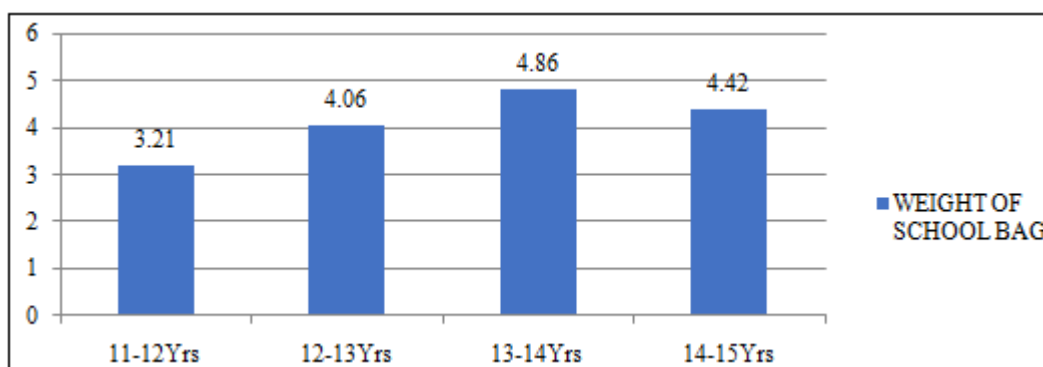
This graph shows that the back pain is more boys(16%) in 13-14;12-13 and 11-12years of age group whereas it is more in girls(11.5%) in 14-15years.

Back pain in relation to posture while sitting in school



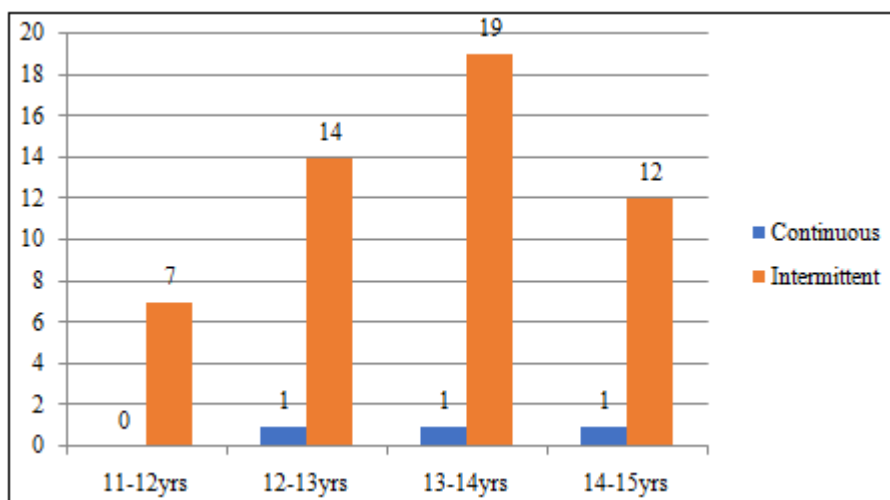
The graph shows that 18% of the school children has forward leaning posture and 9.5% has erect posture while sitting in the school.

Back pain in relation with weight of school bag



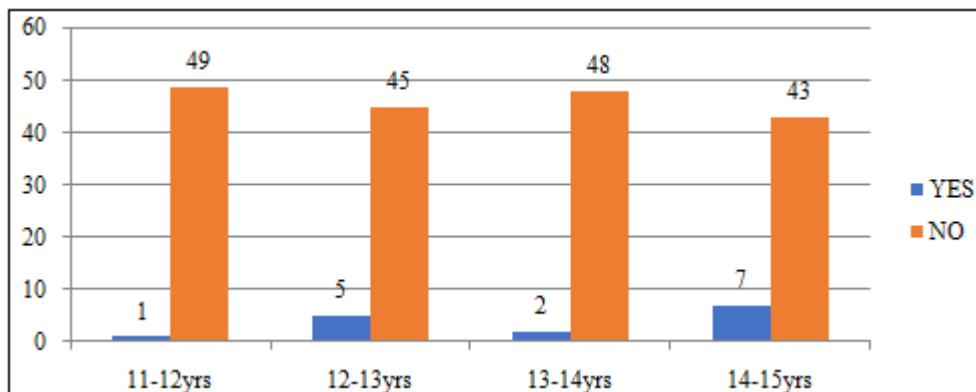
The average weight of the school bag is more in 13-14 years of age group and least in 11-12 years age group.

Nature of back pain in various age groups



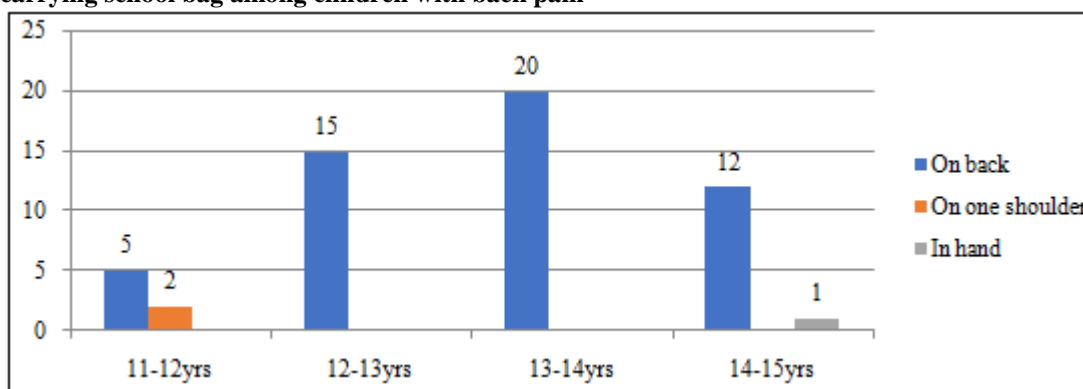
The graph shows that out of 27.5% children with back pain, 26% children has intermittent pain while 1.5% has continuous pain.

Doctor Visit



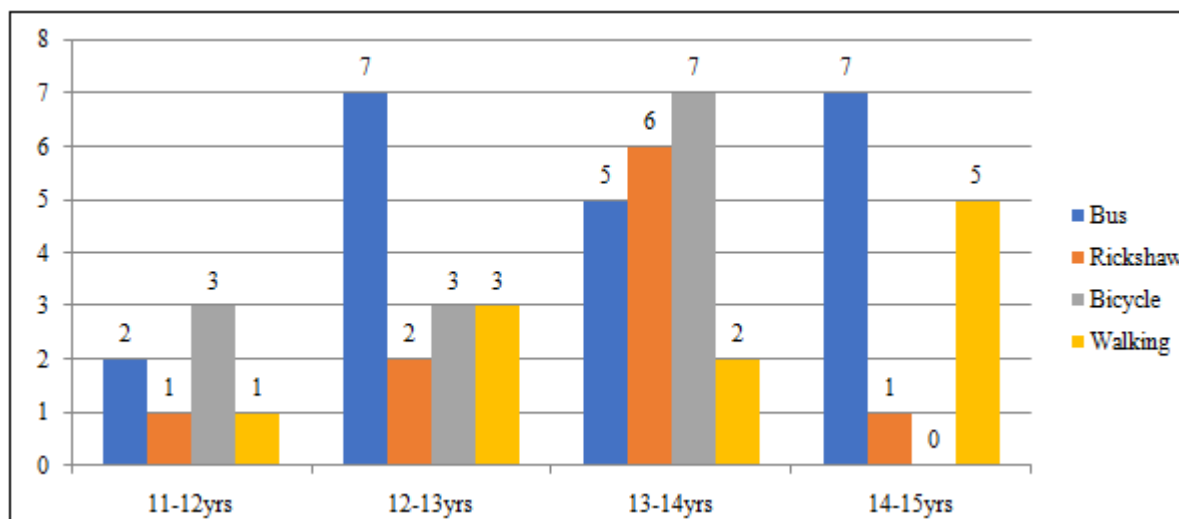
This graph shows that out 27.5% children only 7.5% consults with the Doctor for their back pain.

Position of carrying school bag among children with back pain



The graph shows that 26% of the children with back pain carry bag on the back, 1% carry on one shoulder and only 0.5% carry bag in the hand.

Mode of travelling from home to school and back to home in students with back pain



Graph indicates that among the fifty-five students with back pain, 38.18% come to school by bus, 23.63% by bicycle, 20% by walking and 18.18% by rickshaw.

3. Discussion

- The study has measured the Prevalence of Back Pain in 200 school children in the age group of 11-15 years. The subjects were taken from Dr. D.Y. Patil Public School, Pimpri, Pune using a Questionnaire.

- Out of 200 children only 27.5% had complain of back pain. The prevalence is more in boys (16%) and less in girls (11.5%).
- The study had shown that the prevalence of back pain is more in 13-14 years age group and least in 11-12 years.
- The prevalence of back pain was more in boys than girls in age group 11-12yrs,12-13yrs,13-14yrs but in 14-

15yrs age group girls have more pain than boys which depends on psychosocial factors, like lifestyle and physical activity.

- Bad posture while sitting such as leaning forward also leads to back pain. In age group of 12-13yrs forward leaning is very common while in 14-15yrs children has reported that erect sitting is common. The nature of the back pain was found to intermittent (27%) and continuous (1.5%) of school children. But only 7.5% of children had visited to the doctors for the back pain.
- The study also shows that 26% of the school children used to carry their bags on the back which exerts more stress on the back because of the heavy weight.
- Average weight of the school bag in 13-14 years is 4.86 which is more than the other age groups.

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4. Conclusion

The study concludes that the prevalence of back pain in school children is 27.5% which is more in boys(16%) than girls(11.5%).

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