

# **Effect of Schoolbag Weight and Carrying Way on Neck, Shoulder, and Back on Primary School Students in Nablus City**

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## **Abstract :**

**Objectives:**The purpose of this study was to determine the relationship between schoolbag weight, schoolbag type, duration of carrying bag, way to carrying bag, gender and age with neck, shoulder and back pain in Palestine's schools. The weights of schoolbags were measured and percentage bodyweight were determined, to explain the affect on current and future health like chronic neck, back, and shoulder pain, and spinal deformities such as kyphosis and lordosis, to put recommendations for get the right way to detect and commit with the ideal weight, type, and way to carry it.

**Methods:**This cross-sectional study was performed, among a sample of 200 primary school students in Nablus city. Data were collected using a questionnaire and from measurement of the schoolbag weight and BW of each participant. Data were analyzed using SPSS software.

**Results:**Two hundred students, mean age 9.5 years, successfully completed the questionnaire. The mean schoolbag weight was 3.6kg. The mean schoolbag weight as a percentage of mean BW carried by the students was (10.3%). Ratio of schoolbag to student weight >15% was 7.5%. We found 96% students use bags with two straps, but only 91.5% carried them on two shoulders. The females recorded the highest prevalence of shoulder discomfort (72%) more than boys (47%). Back pain was reported by females (36%) more than by males (6%). Neck pain were reported by females (15%) less than by males (17%).

**Conclusion:**The shoulder and other bodily pain experienced by the sample of scholars are strongly related to the bag weight and the grade of the students. Girls reported more discomfort due to carrying a schoolbag than boys. Preventive and educational activities should be implemented in this age group.

**Keywords:**Schoolbag, pain, primary students.