

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Seasonal variation in musculoskeletal extremity injuries in school children aged 6-12 followed prospectively over 2.5 years
AUTHORS	Jespersen, Eva; Holst, René; Franz, Claudia; Rexen, Christina; Wedderkopp, Niels

VERSION 1 - REVIEW

REVIEWER	Ki Hyuk Sung Department of Orthopaedic Surgery, Kwandong University Myongji Hospital Republic of Korea
REVIEW RETURNED	06-Nov-2013

GENERAL COMMENTS	<p>Seasonal variation in musculoskeletal extremity injuries in school children aged 6-12 followed prospectively over 2.5 years</p> <p>It was a pleasure to read this manuscript and the article is well-written and interesting.</p> <p>This prospective cohort study describe and analyse the seasonal variation in the extremity injuries in school children aged 6-12 using parents answering automated mobile phone test questions (SMS-track). This study showed clear seasonal differences in the occurrence of musculoskeletal extremity injuries among children with almost twice as high injury incidence and prevalence estimates during autumn, summer, and spring compared to winter.</p> <p>I have several comments, as follows:</p> <p>Introduction</p> <p>1) You described “We were unable to find any literature on the seasonal injury pattern among children in the general population”. However, I think Park et al.’s study reported the incidence and seasonal variation of pediatric and adolescent fracture in general population. (Park et al. 2013. Incidence patterns of pediatric and adolescent orthopaedic fractures according to age groups and seasons in South Korea: a population-based study. Clin Orthop</p>
-------------------------	---

	<p>Surg)</p> <p>Methods</p> <p>2) All children from ten schools were included? Children who have any pathologic condition also included? Any inclusion or exclusion criteria?</p> <p>Please clarify this in the Methods section.</p> <p>3) Children with a diagnosed injury were included in the data analysis. Contusion, strain or sprain also included? Which diagnoses were included in the data analysis? Please clarify.</p> <p>4) There are no comments about research ethics including participant consent and ethics approval.</p> <p>Results</p> <p>5) You described “This study consisted of a comparison between sports schools and normal schools” in the Method section. However, there was no description about comparison between sports schools and normal schools in the result section. Were there any difference in the incidence and the prevalence between sports schools and normal schools? Please describe this issues in the Result section.</p> <p>Discussion</p> <p>6) I suggest to compare your study with Park et al.’s study in the discussion section.</p> <p>7) Limitations of this study should be presented in the Discussion section. Please describe the limitations of this study in the Discussion section.</p>
--	--

REVIEWER	Dr Darren Beales Curtin University Australia
REVIEW RETURNED	09-Nov-2013

GENERAL COMMENTS	<p>Excellent presented manuscript</p> <p>I think a one line statement on ethics approval is required.</p> <p>Pg 9, Ln 13 I believe the decimal points in the numbers might be incorrect 109.245 should be 109,245, or just 109245? 4.297 should be 4,297, or just 4297?</p>
-------------------------	---

VERSION 1 – AUTHOR RESPONSE

Respons to reviewer Ki Hyuk Sung:

Introduction

1) Author's answer: Thank you for bringing this large and very interesting study from September 2013 to our attention. This study was not published when the present manuscript was initiated, but has now been integrated in the Introduction section as follows (reference 19 is the study by Park et al, 2013): "Only data on more serious injuries from emergency room treatments and hospitalized children are available and show an indication of seasonal pattern in the incidence and type of injuries (15-19). The literature on the seasonal injury pattern among children in the general population is scarce (19), but necessary in order to obtain proper incidence and prevalence data including less serious injuries and overuse injuries."

Methods

2) Author's answer: There were no exclusion criterias as this was a healthy, non-clinical school population. This has now been clarified in the Methods section as follows: "All boys and girls participating in the CHAMPS Study-DK were invited to participate in the registration of musculoskeletal pain and injuries. All children who accepted to participate were included."

3) Author's answer: All diagnosed injuries collected through 2.5 years in this school-based cohort study were included in data analysis. Thus, traumatic injuries like contusion, strains and sprains were also included, but also the surprising amount of overuse injuries were included (earlier described in Jespersen et al. 2013. Overuse and traumatic extremity injuries in schoolchildren surveyed with weekly text messages over 2.5 years. Scand J Med Sci Sports. 2013).

4) Author's answer: In the version submitted for BMJ Open on 02-oct-2013 a paragraph concerning ethical approval was included (page 16, line 48 to page 17 line 6 - also inserted below). We are very sorry if this was not visible in the version presented to reviewers. Maybe your point is that ethical approval should be inserted in the Method section instead of at the end of manuscripts. In that case, we have now inserted it in the Method section in the revised version. "Ethical approval Written informed consent was obtained from the child's parent, including verbal acceptance from both parent and child prior to every clinical examination for diagnosing injuries and medical record keeping. All participation in the data collection was voluntary with the option to withdraw at any time. The study was approved by the Ethics Committee for the region of Southern Denmark (ID S20080047)"

Results

5) Author's answer: Thank you very much for pointing out that this is a confusing statement. The sentence is referring to the natural experiment study (the CHAMPS Study-DK), but we now realise that this could be misunderstood. The present study has an observational approach – only adjusting for age and gender. We acknowledge that the amount of hours spend being physical active could indeed be an explanatory factor, but it is outside the scope of this manuscript to address this question.

To avoid confusion for readers we have now changed the sentence to:

“Children from the pre-school to the 6th grades from ten public schools in the county of Svendborg, Denmark, who participated in a natural experiment (the CHAMPS Study-DK) were surveyed weekly during 2.5 school years. That study consisted of a comparison between sports schools and normal schools and included a total of 1218 children at baseline.”

Discussion

6) Author's answer: We agree that the interesting findings from Park et al, should be compared to the findings from our study. We have inserted the following sentence in the Discussion in the revised version:

“The present results are in accordance with Park et al (2013) when looking at four categories of upper extremity fractures in the whole population of South Korean children and adolescents from 0-18 years, where the highest incidence was observed in summer, followed in order by autumn, spring and winter (19). In the same study, the reverse was observed for two groups of lower extremity fractures, with peak fracture incidence in winter (19).”

7) Author's answer: We are sorry not to have outlined the limitations to this study clearly in the Discussion section. We have now inserted the below:

“Data collection was put on hold during the six weeks of summer holiday, which is a limitation to this study. “

Respons to reviewer Dr Darren Beales:

Reviewers comment: I think a one line statement on ethics approval is required.

Author's answer: In the version submitted for BMJ Open on 02-oct-2013 a paragraph concerning ethical approval was included (page 16, line 48 to page 17 line 6 - also inserted below). We are very sorry if this was not visible in the version presented to reviewers.

Maybe your point is that ethical approval should be inserted in the Method section instead of the end of the manuscript. In that case, we have now placed it in the Method section in the revised version:

“Ethical approval Written informed consent was obtained from the child's parent, including verbal acceptance from both parent and child prior to every clinical examination for diagnosing injuries and medical record keeping. All participation in the data collection was voluntary with the option to withdraw at any time. The study was approved by the Ethics Committee for the region of Southern Denmark (ID S20080047)”

Reviewers comment: Pg 9, Ln 13

I believe the decimal points in the numbers might be incorrect

109.245 should be 109,245, or just 109245?

4.297 should be 4,297, or just 4297?

Author's answer: Thank you for pointing this out. The correct numbers are 109245 and 4297 – this has now been corrected in the revised version.