



# Proposition of a General Scoring System to the BackPEI



**Luiza Rampi Pivotto, Bruna Nichele da Rosa, Cláudia Tarragô Candotti\*, Matias Noll, Adriane Vieira and Jefferson Fagundes Loss**

*Exercise Research Laboratory & School of Physical Education, Physical Therapy and Dance of Federal University of Rio Grande do Sul, Brazil*

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**\*Corresponding author:** Cláudia Tarragô Candotti, Exercise Research Laboratory & School of Physical Education, Physical Therapy and Dance of Federal University of Rio Grande do Sul, Rua Felizardo, nº 750 - Jardim Botânico-Porto Alegre, Rio Grande do Sul, Brasil, Tel: 5133085861; Email: claudia.candotti@ufrgs.br

## Abstract

Questionnaires are important tools to assessment due its easy application, low charge and possibility of self-report of the assessed. The Back Pain and Body Posture Evaluation Instrument (BackPEI) and the Back Pain and Body Posture Evaluation Instrument for Adults (BackPEI-A) are questionnaires to assess the back-pain presence and associated risk factors. The BackPEI assess only school children while BackPEI-A assess only adults and has a score system which indicates the subject risk factors exposition level to back pain development. The aim is proposing a score system specific to BackPEI. The score system uses only those questions involving risk factors to back pain development, such as: physical exercise practice; time spent watching television and using computer; number of hours sleeping and habit of reading/studying on bed; occurrence of back pain among parents; postures adopted to sleep, to sit, to write, to use computer and to lift an object from the ground; school bag used to transport material and mode of transportation school bag; and parents' schooling. As higher as the score, lower is the risk factors exposition to back pain. From this communication, BackPEI has a general score system which expresses the level of risk factor exposition to back pain development among school children.

**Keywords:** Back pain; Posture; Adolescent; Development; Questionnaire

**Abbreviations:** BackPEI: Back Pain and Body Posture Evaluation Instrument; BackPEI-A: Back Pain and Body Posture Evaluation Instrument for Adults

## Introduction

It's been increasing the interesting to investigate the risk factors related to spine. This is due to high prevalence of postural changes and of back pain. These problems affect not only the adults [1-5], but also children and adolescents [6-10]. Most epidemiologic studies which investigate back pain and associated risk factors use questionnaires, due the easy application, low charge and possibility of self-report of assessed [11-15].

The BackPEI and BackPEI-A are questionnaires developed to assess both back pain presence and the associated risk factors, presenting validity and reliability proven. The BackPEI have 21 multiple choice questions [16] which assess only school children (from 11 to 16 years old). The BackPEI-A assesses exclusively adults and is composed by 20 multiple choice. Only the BackPEI-A presents a score system indicating the exposition level of risk factors to back pain development [17]. In this perspective, the aim of this short communication is proposing a score system specific to BackPEI.

## Methods

The general score system proposed to BackPEI involves only the questions related to risk factors to back pain development

among children and adolescents, such as: physical exercise practice (questions 1 and 3) [11,18]; time spent watching television (question 4) and using computer (question 5); number of hours sleeping (question 8) and habit of reading/studying on bed (question 6) [10,19,20]; occurrence of back pain among parents (question 17) [20,21]; posture adopted to sleep (question 7); to sit on a chair (question 10), to write (question 9), to use computer (question 11) and to lift an object from the ground (question 12) [22,23]; school bag used to transport material and mode of transportation school bag (questions 13 and 14) [24,25]; and parents' schooling (questions 15 and 16) [21].

On question 1, affirmative answer scores 1, while negative answer scores 0. The question 2 does not score. On questions 3, 6 and 17, affirmative answer scores 0 and negative answer scores 1. On questions 4 and 5, the options containing up to 3 hours per day score 1 and the options from 4 hours per day score 0. On question 7, the option "face down (on my stomach)" scores 0, while the other options score 1. On question 8, options containing less than 7 hours spent sleeping per night score 0 and the other options score 1. On questions 9 - 12 and 14, the suitable postures score 1, and the unsuitable postures score 0. On these questions, only

one option is considered suitable. On question 13, the options containing backpack with 2 straps, backpack with 1 strap and wheeled backpack score 1, while the others options score 0. On questions 15 and 16, the options "higher education (University)" and "secondary school (1st to 3rd grade)" score 1, and the other options score 0. The final score is resulting from sum of all scores (maximum of 16 points). As higher as the score, lower is the risk factor exposition to back pain development.

## Conclusion

From this short communication, the BackPEI questionnaire now has available a general score system, like the BackPEI-A has. This score aims to express how much the school children assessed is exposed to risk factors related to back pain development.

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