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This book contains information obtained from authentic and highly regarded sources. This is an edition made for publication of the works resulting from the ICHWBI2021 which are available on Congress website, where the reader will find a significant heterogeneity. Abstracts are ongoing or completed project-based research papers submitted by researchers from various academic degrees. This diversity is also found in the authors' scientific areas, reflecting on the variety of research themes presented at the Congress itself.

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Based on ICHWBI2021 abstracts that are available at

<https://healthwellbeingcongress.ipiaget.org/pt-pt/abstracts>

traditional backpack, in order to minimize the impact of the side effects of its use. **Methods:** This scope review was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-analysis extension for Scoping Reviews guidelines. The MedLine®, PubMed®, PEDro and Science Direct databases were consulted concerning the Population, Concept and Context strategy, in English and Portuguese, from 1st January, 2000 to 25th June, 2020. A manual search was also carried out to cover a larger number of studies. Systematic reviews and meta-analyses, conference proceedings and technical reports were excluded. All articles were submitted to three levels of screening by three reviewers, and the disagreements were resolved through a fourth reviewer whenever necessary. Finally, a table of results was constructed that included the main characteristics of each of the articles under analysis. **Results:** 5 articles met the eligibility criteria proposed in this review. Only one study showed modifications to the traditional backpack, while the rest developed new models of school backpack (n = 4). Among the main changes proposed to the traditional backpack, there is an attempt to improve the distribution of the load inside, as well as an adjustment of its dimensions to the anthropometric characteristics of the user. It should be noted the importance given to an approach centered on the preferences of children and young people, as well as their usability. **Conclusions:** A new approach to this long-lasting problem requires a new vision for the backpack, so we should look to it as part of the solution instead of part of the problem.

Keywords: *Backpack, School Age, Prototypes*

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Backpack weight and load distribution: kinetic assessment tools in schoolchildren - scope review

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BACKGROUND: The backpack is the most used mean of transporting school supplies among children and young people, and the weight and distribution of the load, in its inside, is often variable. The adverse consequences, resulting from these parameters, have raised a growing concern on the part of the scientific community, parents and teachers. **Objectives:** To identify the kinetic parameters used to verify the effects of weight and load position, inside the backpack, in school aged children and young people. **Methods:** A literature search was performed, according to the PRISMA Extension for Scoping Reviews guidelines, considering the Population, Concept and Context strategy, in the electronic databases MedLine®, PubMed®, PEDro and Science Direct. Articles published between 1st January 2000 and 9th June 2020, in Portuguese and English, without restriction of geographical area, were included. The aim population was children and youth between 6 and 18 years of age, using a backpack as a mean of transporting school supplies. Systematic reviews and meta-analyses, conference proceedings, theses, technical reports and studies whose participants had neuro-musculoskeletal conditions were excluded. The general characteristics extracted from the units of analysis were recorded in a table of results. **Results:** 14 articles were considered for final analysis, in which 1 analyzed the position of the load inside the backpack and the rest (n=13) on the effects of the backpack's weight. Of the total considered (n=14), the kinetic parameters identified in the different studies were the ground forces reaction (n=10) and muscle activity (n=4). **Conclusions:** The kinetic parameters considered to verify the effect of the weight and the position of the load inside the backpack were, mainly, on upper and lower trapezius, spinal erector and rectus abdominus muscle activity, as well as the ground forces reaction, in different functional tasks.

Keywords: *Children, Backpack, Kinetics, Load Position, Backpack Weight*

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Carrying backpack: motor tasks and kinematic assessment tools on schoolchildren - scope review

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BACKGROUND: The schoolbag with two straps, usually known as backpack represents the most used and well-known method of carrying school material among children and most young people. The amount and weight of load they carry has become an increasing concern for parents, teachers and researchers, once students spend a significant part of their day carrying this overweight on their backs. **Objectives:** Identify which motor tasks and which measurement tools are used in the kinematic analysis of human movement, when referred to children and teenagers who use the backpack to transport their school supplies. **Methods:** PRISMA-ScR guidelines were followed for the preparation of this scope review using the acronym PCC to outline a research question. MedLine®, PubMed®, PEDro and Science Direct were the databases selected for the literature search. There were included studies developed on a school-age population, published after 2000 in English and French. Systematic reviews, meta-analyses, conference proceedings, theses and technical reports were excluded. **Results:** 289 references were initially extracted, from which 17 met the eligibility criteria. Of these, 11 analyzed the walk and the rest the STS (n = 1), the standing and walking position (n = 4) and the standing and walking up/downstairs position (n = 1). The kinematic parameters were collected using image capture systems (n = 16) and only in one case a camera was used. **Conclusions:** The most analyzed and observed motor task was walking. There was a preference for image capture systems, particularly video cameras in the kinematic analysis of human movement.

Keywords: Backpack, Motor Tasks, Measurement Tools, School Age, Kinematic

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Plantas africanas com atividade citotóxica

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INTRODUÇÃO: O cancro é a segunda causa de morte, globalmente, atingindo uma em cada seis pessoas, em 2018. Os tipos de cancros mais prevalentes são o cancro da mama, próstata,

colorretal, pulmão, colo do útero e estômago. O continente africano possui um amplo património de plantas, muitas ainda por explorar, e outras que têm demonstrado atividades diversas como, antioxidante, anti-inflamatória, antimicrobiana e/ou anticancerígena. Além disso, muitos pacientes apenas têm acesso a medicina tradicional o que inclui o uso de plantas medicinais, face a problemas económicos. Desta forma, a procura de evidências acerca das plantas com potencial atividade anticancerígena é importante. **Objetivo:** Compilar informação sobre atividade anticancerígena de plantas existentes no continente africano. **Métodos:** A pesquisa foi realizada nas bases de dados B-on e Science Direct, utilizando as palavras-chave "African plants", "Cytotoxic activity" e "Anticancer activity". Foram selecionados artigos com 10 anos ou menos; artigos com as palavras-chave no título e artigos experimentais (*in vitro*, *in vivo* e ensaios clínicos). **Resultados e Discussão:** Foram incluídos no estudo 12 artigos, após análise. Nos estudos analisados, a atividade citotóxica foi avaliada através do ensaio MTT e consequente cálculo do IC50. O maior valor de IC50 pertence ao extrato etanólico de *Boophone disticha* contra as células HeLa (IC50=1,9 mg/ml) e o menor valor de IC50 é relativo ao extrato com acetato de etilo da planta *Melastomastrum capitatum* Fern., contra a linha celular H7MVII (IC50=0,01 - 0,001 µg/ml). A avaliação fitoquímica mostrou que o potencial citotóxico está relacionado com a presença de compostos como triterpenos, diterpenos, flavonóides e alcalóides, nos extratos analisados, sendo reportado em alguns estudos uma possível seletividade para tipos específicos de cancro. **Conclusão:** Apesar de os vários artigos confirmarem a presença de atividade citotóxica nas plantas africanas estudadas, os mesmos referem a importância de serem realizados mais estudos nesta área.

Palavras chave: Plantas Africanas; Atividade anticancerígena; Atividade citotóxica.

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Association among different methods for neutral foot condition diagnosis