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Email: rbafs@sbafs.org.br

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We thank the following people for serving as peer reviewers and/or translators of the submitted scientific abstracts to CLIAFS.

Deborah Salvo
The University of Texas at Austin, USA

Alejandra Jáuregui
Instituto Nacional de Salud Pública, México

Andrea Ramirez Varela
Universidad de los Andes, Colombia

Javier Brazo-Sayavera
Universidad de la República, Uruguay

Adriano Akira Ferreira Hino
Pontificia Universidade Católica do Paraná, Brasil

Nicolas Aguilar-Farías
Universidad de La Frontera, Chile

Cecilia del Campo
Comisión Honoraria para la Salud Cardiovascular, Uruguay

Rodrigo Reis
Washington University in St. Louis, USA

Átila Alexandre Trapé
Universidade de São Paulo, Brasil

Eugen Resendiz Bontrud
Washington University in St. Louis, USA

Natalicio Serrano
Washington University in St. Louis, USA

Catalina Medina
Instituto Nacional de Salud Pública, México

María Hermosillo
Instituto Nacional de Salud Pública, México

Alexandre Augusto de Paula da Silva
Pontificia Universidade Católica do Paraná, Brasil

Barbara Klasmann
Pontificia Universidade Católica do Paraná, Brasil

Carolina Muraski Severiano
Pontificia Universidade Católica do Paraná, Brasil

Ciro Romelio Rodriguez Añez
Universidade Tecnológica Federal do Paraná, Brasil

Eduardo Ferreira Medici
Pontificia Universidade Católica do Paraná, Brasil

Fernanda Cristini Chiafitela Loch
Pontificia Universidade Católica do Paraná, Brasil

Julia Coraiola Zanella
Pontificia Universidade Católica do Paraná, Brasil

Letícia Dias Padua Pires
Pontificia Universidade Católica do Paraná, Brasil

Maraísa do Nascimento
Pontificia Universidade Católica do Paraná, Brasil

Mariana Soek
Pontificia Universidade Católica do Paraná, Brasil

Maurício de Oliveira Barros
Pontificia Universidade Católica do Paraná, Brasil

Milena Franco Silva
Pontificia Universidade Católica do Paraná, Brasil

Noelia de Moraes Aguirre Carnasciali
Pontificia Universidade Católica do Paraná, Brasil

Tarik Andrade Hamdar
Pontificia Universidade Católica do Paraná, Brasil

Thamires Gabrielly dos Santos Coco
Pontificia Universidade Católica do Paraná, Brasil

Sebastián Miranda
Universidad de La Frontera, Chile

Marcelo Toledo
Universidad de La Frontera, Chile

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Editorial

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Unifying and strengthening the physical activity and health research agenda in Latin America: moving together!

AUTHOR'S

Deborah Salvo[1]
Alejandra Jauregui[2]
Andrea Ramírez Varela[3]
Javier Brazo-Sayavera[4]
Adriano Akira Hino[5]
Nicolas Aguilar-Farias[6]
Cecilia del Campo[7]
Rodrigo S. Reis[1,5]

1 The University of Texas at Austin, USA
2 Instituto Nacional de Salud Pública, México
3 Universidad de los Andes, Colombia
4 Universidad de la República, Uruguay.
5 Universidade Pontificia Catolica do Parana, Brasil
6 Universidad de la Frontera, Chile.
7 Comision Honoraria para la Salud Cardiovascular, Uruguay

CORRESPONDING

dsalvo@austin.utexas.edu

Rev Bras Ativ Fis Saude 26(suppl 3):I-II

Welcome to this special volume of the *Brazilian Journal of Physical Activity and Health*, which includes all the scientific papers presented at the *First Latin American Congress of Research in Physical Activity and Health* (CLIAFS), hosted virtually, due to the CO-19 pandemic, by the National Institute of Public Health of Mexico, from June 21 to 24, 2021.

Without a doubt, CLIAFS represented a tipping point for the strengthening and unification of our research field in Latin America.[1] In it, high quality scientific papers from all of Latin America were presented. Several important speakers from the United States, Europe and Australia, were also present at CLIAFS, which fostered a rich environment for exchanging ideas, sharing new methods, and making new connections – something not previously seen for our field in Latin America. In spite of all the unexpected challenges presented by the COVID-19 pandemic, CLIAFS went above and beyond in fulfilling its objective of providing a high quality scientific exchange space, with a regional fraternal and collaborative spirit.

Physical inactivity is one of the main risk factors for the development of several non-communicable chronic diseases, including type II diabetes, cardiovascular diseases, and various types of cancer.[2] In Latin America, the burden of physical inactivity is high: one in three Latin Americans is physically inactive,[3,4] and 11.4% of deaths in the region are attributable to physical inactivity.[5] In addition, physical inactivity is responsible for 1.3 billion international dollars in costs to Latin American health systems. Despite this, until CLIAFS, there was no scientific forum that brought together researchers from across Latin America focused on this field of study. CLIAFS, and the formation of the *Latin American Society of Physical Activity and Health* (SLIAFS), have come to complement and strengthen, with scientific evidence of local and regional relevance, the important physical activity promotion efforts that have been developed in Latin America over the past two decades. Such efforts have been led by key networks, like *Agita São Paulo* the *Physical Activity Network of the Americas* (RAFA-PANA).[6]

We are firmly convinced of the importance of investing in increasing the capacity, quality, and quantity of physical activity and health research in Latin America. This should be part of a comprehensive strategy for improving public health policies, programs and actions of the region. The first CLIAFS left us an enormous legacy, which is reflected by the great scientific quality and diversity of topics and perspectives of the works presented during the Congress, and included in this special volume. In this volume, you will learn about new methodologies for measuring physical activity and its associated factors; epidemiological surveillance studies; new findings of

the effects of physical inactivity and sedentary lifestyle on different health outcomes; evidence of local and regional relevance regarding the population determinants of physical activity; several examples of innovative physical activity and health interventions; and studies examining the design, implementation and impact of public policies for the promotion of physical activity. However, this was only the first chapter of many more to come. On behalf of the Executive Council of the first CLIAFS and the newly formed SLIAFS, we thank all the speakers and co-authors of these abstracts, as they were undoubtedly the heart of the Congress. Let us continue *moving together!*

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FULL LENGTH ORAL PRESENTATIONS
Session 1 | Physical activity during childhood

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

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Adiposity indicators sports participation predict motor competency during childhood

AUTHOR'S

Daniel Queiroz Rocha
Javiera Alarcón Aguilar
Rodrigo Lima Antunes
Túlio Guilherme Guimaraes Martins
Fernanda Soares Cunha
Mauro Virgilio Barros Gomes

Universidade de Pernambuco - Brasil.

CORRESPONDING

efdanielrocha@live.com

Rev Bras Ativ Fis Saude 26(suppl 3):2

Background: Increasing sports participation is a strategy to promote physical activity and control adiposity during childhood. In this life stage, physical activity promotes the development of motor competencies, which in turn, can contribute to future involvement in the practice of physical activity and in the trajectories of adiposity through adulthood. **Aims:** To analyze the association between participation in sports, adiposity indicators, and motor skills during childhood. **Methods:** This is a longitudinal study (ELOS-Pré) conducted in the years 2012 and 2014 with children aged 5 to 7 years, who were enrolled in public and private schools (Recife, Brazil). The sample consisted of 391 children (6.34 ± 0.72 years). Motor competency was assessed by the Köperkoordinationstest für kinder test, using the total sum of the scores of the four tasks as a total score. The indicators of adiposity evaluated were waist circumference (WC), the sum of the tricipital and subscapular skin folds (CD), and body mass index (BMI). Physical activity was measured with accelerometers and operationalized as minutes in moderate to vigorous physical activity. Children's participation in sports was reported by parents or guardians. All analyzes used linear regression and were adjusted for age, sex, family income and physical activity. All analyzes were performed using the Stata 13.0 software. **Results:** For 2012 data, only adiposity indicators were associated with motor competency (CC beta= -1.27 p <0.01; DC beta= -1.20 p <0.01; BMI beta= -2.39 p <0.01). After two years (2014), WC (beta= -2.27 p <0.01) and BMI (beta= -4.12 p <0.01) maintained their association with CM. While DC (beta= -2.29 p <0.01) and participating in sports (beta= 10.82 p = 0.02) were associated with CM in 2014. **Conclusions:** Indicators of adiposity are associated with motor competency in childhood. Participation in sports, and the sum of skin folds score, predict motor competency after two years of follow-up. **Relevance:** Childhood interventions should encourage participation in sports and define strategies for assessing and controlling / reducing adiposity, to promote the development of adequate motor competencies.

Keywords: Motor activity, Sports, Body composition.

Abstract code: 87

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Physical activity and motor competency as predictors of adiposity indicators during childhood

AUTHOR'S

Javiera Alarcón Aguilar
Daniel Queiroz Rocha
Fernanda Soares Cunha
Túlio Guilherme Guimaraes Martins
Rodrigo Lima Antunes
Marcos André Santos Moura
Mauro Virgilio Barros Gomes

Universidade de Pernambuco - Brasil

CORRESPONDING

profejalarcon@gmail.com

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Background: Adiposity indicators are considered components of body composition and are a consistent health marker in childhood, in addition to being associated with health in adulthood. Several studies have investigated the association between adiposity indicators and factors such as physical activity and motor competency. However, few studies have explored these relationships inversely (i.e., the effect of physical activity and motor competency on longitudinal changes in adiposity), which may infer that exposure to physical activity and motor competence could predict adiposity during childhood. **Aims:** To analyze whether moderate to vigorous physical activity (MVPA) and motor competency (MC) are predictors of adiposity indicators after two years of follow up among Brazilian children. **Methods:** Longitudinal study (ELOS-Pré) conducted in 2012 and 2014. The sample consisted of 391 children (6.34 ± 0.72 years) enrolled in public and private schools (Recife, Brazil). The indicators of adiposity evaluated were waist circumference (WC), the sum of the tricipital and subscapular skin folds (SF) and the body mass index (BMI). Physical activity was measured using accelerometers and operationalized as minutes per week in AFMV. MC was evaluated by the Körperkoordinationstest Für Kinder, considering the total sum of the scores of the four tasks. Three linear regressions were performed to analyze the associations between physical activity and motor competence observed in 2012 and the adiposity indicators measured in 2014. The analyzes were adjusted for the variation in adiposity; age; sex; family income; peak growth speed and birth weight. The analyzes were performed on Stata 13.0. **Results:** MC (beta = -0.06; p <0.01) and MVPA (beta = -0.03; p = 0.04) were inversely associated with WC. MC (beta = -0.09; p <0.01) and MVPA (beta = -0.04; p = 0.02) were negatively associated with SF. MC (beta = -0.01; p <0.01) and MVPA (beta = -0.01; p <0.01) were inversely associated with BMI. **Conclusions:** MC and AFMV predict adiposity indicators in children after two years. **Relevance:** Interventions in childhood should focus on the development of motor skills and increasing the minutes of MVPA as a strategy to control / reduce adiposity.

Keywords: Motor activity, Body composition, Children.

Abstract code: 89

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The relation between physical fitness, nutritional status and school type among Chilean school-age children

AUTHOR'S

Mónica Suárez Reyes
Gabriela Salazar Rodriguez

Universidad de Santiago de Chile - Chile.

CORRESPONDING

monica.suarez@usach.cl

Rev Bras Ativ Fis Saude 26(suppl 3):4

Background: Poor physical fitness and inadequate nutritional status are two risk factors for the development of cardiovascular diseases. This association is less studied among children despite this process starts during the early years. Socioeconomic status is one of the factors influencing physical fitness and nutritional status. In Chile, children from all low, medium and high socioeconomic status attend one of three types of schools: public, subsidized and private, respectively **Aims:** To compare the physical fitness and nutritional status among Chilean school-age children from public, subsidized and private schools **Methods:** A total of 1656 school age children from 1st to 8th grade from public, subsidized and private elementary school in Santiago, Chile were measured. Physical fitness was measured using the 6-minute walk test (6MWT), dinamometry and horizontal jump. Nutritional status was measured using the prevalence of overweight/obesity, body fat levels and waist circumference. Variables were classified in categories according to pre-established cut-points or tertiles. To establish relations the percentage of school age children in each category across school type and sex was analyzed using Chi-square tests **Results:** There is a higher proportion of children in the lowest tertile of dynamometry performance and a higher proportion of children with high waist circumference in public schools compared to subsidized or private schools. There is a higher proportion of girls in the lowest tertile of dynamometry performance and horizontal jump in public schools compared to subsidized and private schools. There is also a higher proportion of girls in the highest tertile of body fat, a higher proportion with overweight and obesity and high waist circumference in public schools. **Conclusions:** The school type is related with some physical fitness and nutritional status indicators. School aged children attending public schools have a worse physical fitness and nutritional status. This is observed specially among girls. **Relevance:** School-age children attending public schools, specially girls, are more vulnerable for the development of cardiovascular risk factors. Physical activity promotion strategies should focus their efforts in improving physical fitness and nutritional status in this particular group.

Keywords: Dinamometry, Obesity, Overweight, Fitness.

Abstract code: 62

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Latino caregivers perceptions of girls' physical activity in an urban low-income neighborhood

AUTHOR'S

Daisy Yvette Campos Morales
Ana Sofia Ocegueda
Deborah Parra-Medina

University of Texas at Austin - Estados Unidos.

CORRESPONDING

moralescampos@austin.utexas.edu

Rev Bras Ativ Fis Saude 26(suppl 3):5

Background: Background: Increasing physical activity (PA) during preadolescence and adolescence is critical to reversing the obesity epidemic. Latina girls aged 11-17 have high levels of obesity and are less active than the general adolescent population. The Physical Activity Partnership for Girls (PG) is a community-academic research partnership addressing the needs of Latina adolescent girls (ages 11-14) in an urban, economically disadvantaged community in Texas. Using a community-based participatory approach, we obtained caregiver (Latino/a mothers, grandmothers, and fathers) input to understand priorities and needs for promoting PA among this population. **Aims:** Objectives: This study assessed Latino caregivers' perceptions about the neighborhood environment that either promotes or inhibits Latina girls' physical activity. **Methods:** Methods: Caregivers (16 females and 15 males) from an urban neighborhood in south-central Texas each participated in one of four focus groups. Bilingual moderators facilitated the groups in English and Spanish. We analyzed transcripts of the discussions and identified themes using the grounded theory approach. **Results:** Fathers expressed the "need to be more careful with girls" because of older men, boys playing aggressively, and sexual predators living in the neighborhood. In addition, they identified built environment issues such insufficient locations for girls to play, high traffic areas, and stray dogs. Mothers/grandmothers expressed similar concerns as fathers, and talked more in depth of other concerns such as gangs, drug exchanges, and gun violence. These safety concerns made it difficult for caregivers to allow girls be outside and engage in outdoor PA. **Conclusions:** Conclusions: Findings inform the development of community-based PA programs for Latino families. Such programs should provide information to caregivers and girls on available local PA resources and activities. **Relevance:** Relevance for physical activity and health research in Latin America or with Latin American populations: The lessons learned from this project inform our knowledge about how neighborhood environments influence PA behaviors in US-based Latina adolescents. More specifically, they inform how to develop community-based PA programs for US- based Latino families living in low-income urban areas where these built environmental barriers may exist.

Keywords: Neighborhood, Physical activity, Latino adolescents.

Abstract code: 27

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Meeting Physical Activity Guidelines is associated with parental expectations and playing outside for Hispanic children in South Texas

AUTHOR'S

Marisol McDaniel
Deborah Parra-Medina
Vanessa Errisuriz

University of Texas at Austin - Estados Unidos.

CORRESPONDING

marisol.d.mcdaniel@austin.utexas.edu

Rev Bras Ativ Fis Saude 26(suppl 3):6

Background: The Physical Activity (PA) Guidelines for Americans issued by the US Department of Health and Human Services recommend that school-aged children engage in 60 minutes or more of moderate to vigorous PA (MVPA) a day. Hispanic children are less likely to meet the PA guidelines for a whole week compared to non-Hispanic white children. Consequently, Hispanic children are disproportionately burdened with overweight and obesity in the US. Identifying factors associated with meeting the PA guidelines is imperative to decrease disparities in unhealthy weight among Hispanic children. **Aims:** Identify factors associated with meeting the PA guidelines among primarily Mexican origin children in South Texas. Discuss how parental expectations may influence pediatric weight management. **Methods:** Participants were 209 overweight and obese children and their guardians who completed baseline assessments for the Health4Kids study in San Antonio, TX. We assessed average time per day in MVPA over the past week via accelerometry. We dichotomized MVPA as meeting or not meeting the PA Guidelines. We assessed parental outcome expectations for achieving a healthy weight, scored 0 "not at all" to 10 "very sure", greater scores signified higher outcome expectations. We also asked parents to report the number of days per week (i.e., 0 to 7 days) their child plays outside. Logistic regressions examined the relationship between child meeting PA guidelines, parental outcome expectation, and the number of days per week child played outside, controlling for age and gender. **Results:** Children were 8.7 years old and female (51.7%). Children whose parents believed that their child would succeed in achieving a healthy weight were more likely to meet PA guidelines (OR=1.20, p= .05). Children whose parents recalled a greater number of days per week that their child played outside were also more likely to meet PA guidelines (OR= 1.16, p=.07). **Conclusions:** Parental outcome expectations for achieving a healthy weight and number of days per week that children played outside were associated with children meeting PA guidelines. Parents may be more likely to rate their children as being able to reach a healthy weight if the children are already active. **Relevance:** Pediatric weight management interventions for Mexican origin children in South Texas must foster parents' confidence in their children's ability to reach a healthy weight. Further research to explore associations with meeting PA guidelines can potentially identify opportunities for interventions to promote a healthy weight.

Keywords: Physical activity, Parental expectation, Children.

Abstract code: 49

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FULL LENGTH ORAL PRESENTATIONS
Session 2 | Measurement, surveillance and policy

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Research on physical activity and health in the Americas temporal trends and main characteristics

AUTHOR'S

Andrea Ramírez Varela
Gloria Nino
Shana G. Silva Bruna G.C. da Silva
Cauane Blumenberg
Rafaela C. Martins
Marcelo C. da Silva
Luciana Zaranza
Pedro C. Hallal
Michael Pratt

GoPA - Colombia.

CORRESPONDING

an-*rami2@uniandes.edu.co*

Rev Bras Ativ Fis Saude 26(suppl 3):8

Background: Scientific production and research capacity are identified as strategies to improve public health policies and physical activity (PA) programs in different settings. **Aims:** To systematically review the literature assessing temporal trends and main characteristics of physical activity and health in the Americas. To quantify the physical activity-related research conducted in the Americas using country- specific data and to describe the characteristics of these publications. **Methods:** A systematic review was conducted from June-2017 to December-2018 using the electronic databases PubMed, SCOPUS and Web of Knowledge and followed PRISMA guidelines. The search terms used were "physical activity" (title or abstract) and each country name in English (title, abstract, text or affiliation). **Results:** Overall, 9,151 articles were included in this review (33 out of the 44 countries in the region contributed with at least one article) and the publication rate was 1.30 articles per 100,000 inhabitants. The United States (1st place, contributing with 30% of the total publications in the world between 1950-2016) followed by Canada (2nd) and Brazil (3rd -, the only upper middle income country among the top five countries in the region with most publications). More than 80% of the studies had an observational design, cross-sectional approach being the most frequent design. Multiple ages were investigated by 52.1% of the studies and one out of five included only children and adolescents. About 1/3 of the studies investigated the consequences of PA on health outcomes and the main frequent focus of these investigations were health outcomes and PA prevalence, while the least frequent focus was on PA policy (less than 5%). PA and cardiovascular disease, PA and nutrition and PA methods were the most common research topics. Less than 20% of the studies included objective physical activity measures and 4% of the studies were conducted as part of international projects including multiple countries. There was no information on Caribbean countries. The America's was one of the two regions with publications before 1980 and the number of studies increased more rapidly between 2000-2010. **Conclusions:** PA and health research in the Americas has been growing exponentially, achieving an important role in the production of global scientific knowledge. **Relevance:** The knowledge gained from research in physical activity and health in Latin America has increased significantly in recent decades, giving support to the development of prevention strategies to reduce chronic non- communicable diseases.

Keywords: Research, Surveillance, Physical activity, Global, Dissemination.

Abstract code: 99

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Accuracy of physical activity questionnaires to estimate total energy expenditure in a sample of Mexican adults

AUTHOR'S

César Iván Ayala Guzmán
Luis Ortiz Hernández
Ricardo López Solís
Rafael Alejandro Martínez Bolaños
Mariana Tejeda Espinosa
Norma Angélica Guarneros Rivera
Erik Gaona Hernández

Universidad Autónoma Metropolitana - México.

CORRESPONDING

nutrivan@hotmail.es

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Background: The questionnaires are a simple and inexpensive way to evaluate physical activity. For some of them, procedures have been proposed to estimate total energy expenditure (TEE). However, in the Mexican adult population, the accuracy of such estimates is unknown **Aims:** To evaluate the predictive capacity of questionnaires to estimate the GET of a sample of Mexican adults. **Methods:** A sample participated for convenience of 115 Mexican adults aged 18 to 45, with different occupations, levels of physical activity, physical condition and body weight. The TEE was measured by means of three evaluations: 1) indirect calorimetry at rest, 2) indirect calorimetry in the cardiopulmonary stress test and 3) heart rate monitoring under conditions of freedom for one week. The TEE was estimated through the report of activities with the Laval questionnaire, the global physical activity questionnaire (GPAQ) and the Ainsworth method (i.e. metabolic equivalents). Correlation and concordance were estimated by means of Pearson (rp) and intraclass (ric) coefficients. Predictive ability was assessed with simple linear regression models, as well as with the Akaike information criterion (AIC). **Results:** The average TEE measured by indirect calorimetry and heart rate monitoring was 2,229.01 ± 577.0 kcal; while the estimate was higher with the Laval questionnaire (2,693.8 ± 718.6 kcal) and lower with the GPAQ (2189.6 ± 667.0 kcal). The difference between the average of the TEE evaluated, and that of the estimate based on the questionnaires ranged between 29.1 and 464.7 kcal. The correlation between methods was moderated with the Laval questionnaire (rp = 0.593, p = 0.000), but low by the GPAQ (rp = 0.421, p = 0.000) and the Ainsworth method (rp = 0.479, p = 0.000). The questionnaires showed low concordance (ric = 0.42 to 0.45, p <0.05) and predictive capacity (R2 = 17.8% to 35.2%). The intercept differed statistically from the origin with the three methods (α = 946.23 to 1430.48 kcal / d, p <0.050). The optimal method to estimate the TEE was through the Laval questionnaire (ΔAIC = 7.44 to 10.23). **Conclusions:** Although the questionnaires can be used to classify people according to their TEE, their accuracy is low. **Relevance:** It is recommended to develop a simpler TEE estimation questionnaire, with less estimation error and greater predictive capacity. The above can be useful for clinical evaluations and population studies.

Keywords: Questionnaires, Evaluation, Energy expenditure, Adults, Physical Activity.

Abstract code: 51

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SAPASEN: Physical activity and sedentary behavior research collaboration in South America

AUTHOR'S

Danilo Silva
Kabir Prem Sadarangani

Universidade Federal de Sergipe - Brasil

CORRESPONDING

kabir.sadarangani@gmail.com

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The South American Physical Activity and Sedentary Behavior Network (SAPASEN), was designed to provide ongoing transnational empirical evidence about physical activity and sedentary behavior in South America

Keywords: surveillance, physical activity, sedentary lifestyle

Abstract code: 170

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Involvement of Latin American countries in the Global Matrix on Physical Activity of Children and Youth initiative

AUTHOR'S

Silvia Alejandra González Cifuentes
Salome Aubert
Mark S. Tremblay

Universidad de Ottawa - Canadá.

CORRESPONDING

sgonz025@uottawa.ca

Rev Bras Ativ Fis Saude 26(suppl 3):11

Background: The Global Matrix on Physical Activity of Children and Youth is a global initiative that brings together physical activity (PA) researchers and experts from around the world to develop national Report Cards on PA of children and youth. This initiative, led by the Active Healthy Kids Global Alliance, aims to compare common PA indicators informed by the best evidence available for each country, following a harmonized methodology. This initiative has been operational since 2014. To date, there have been 3 Global Matrices produced. Despite the scarce evidence on PA among Latin American children and youth, the number of Latin American countries involved in the Global Matrix project has increased progressively since the first version. **Aims:** The aims of this analysis are to describe the participation of Latin American countries in the Global Matrix initiative over time and to highlight the main outcomes and lessons learned from their involvement in the Global Matrix initiative. **Methods:** The present analysis is based on data from Global Matrices 1.0, 2.0 and 3.0, and on periodic surveys conducted by the AHKGA among the country leaders. A descriptive analysis and a qualitative analysis of the surveys were conducted. **Results:** Since 2014, 14 Report Cards on Physical Activity of Children and Youth have been developed by Latin American countries. The participation of Latin American countries has increased from 2 to 7 countries between 2014 and 2018. In the most recent version of the Global Matrix, Latin American countries represented 14% of the participating countries and involved 35 different institutions, including academic institutions, government institutions, and nongovernmental organizations. Researchers and leaders from the Latin American countries have participated in 38 publications and have been involved in 27 presentations including posters and oral presentations. The main benefits from the involvement in Global Matrix reported were an increase in awareness of the relevance of PA promotion, capacity building for research in PA, a few policy changes, and improvements in surveillance systems. Overall, Latin American countries had the lowest average grades in the Global Matrix 3.0. **Conclusions:** The Global Matrix represents a promising opportunity to advocate for PA, to build local capacity and to improve PA policies and research for a region that has been historically under-represented in the global surveillance of PA. **Relevance:** This project provides evidence of the physical inactivity crisis among Latin American children compared to other global regions and has identified research gaps and capacity building opportunities in the region.

Keywords: Children, Advocacy, Report cards, Physical activity.

Abstract code: 79

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Report card of physical activity indicators in Ecuadorian children and adolescents

AUTHOR'S

Susana Andrade Andrade Tenesaca
Angelica Ochoa Aviles
Wilma Freire
Natalia Romero Sandoval
Daniel Orellana
Teodoro Contreras Calle
Jose Pillco
Jessica Sacta
Miguel Marti
Silvana Donoso

Universidad de Cuenca - Ecuador.

CORRESPONDING

susana.andrade@ucuenca.edu.ec

Rev Bras Ativ Fis Saude 26(suppl 3):12

Background: The Active Healthy Kids Global Alliance (AHKGA) organization focuses on the development of a dissemination tool called Report Card, which allows monitoring and surveillance of physical activity in children and adolescents around the world. **Aims:** Describe the Report Card for Ecuadorian children and adolescents, specifically the indicators on general physical activity, participation in organized sports, active play, active transportation, sedentary behaviors, physical fitness, family and partners, school, community and environment, and government are reported . **Methods:** A literature review was conducted to identify possible sources of information and experts in the field of physical activity in Ecuador. Databases such as SCOPUS, Taylor & Francis, SpringerLink, ScienceDirect, Scielo and Google Scholar were reviewed; government web pages (Ministries, SENPLADES, INEC). A group of experts (5 from the academy and 2 from government organizations) were identified and invited, who reviewed the relevance of the data sources and rated the indicators (following the AHKGA scheme). National surveys were the main sources of data used to calculate report card ratings. **Results:** Thirthy-two point six percent and 55.4% of Ecuadorian children and adolescents reported complying with the recommendation of physical activity (at least 60 min of moderate-and-vigorous activity (AFMV) in at least 4 of the last 7 days) and sedentary behavior. **Conclusions:** Ecuadorian children and adolescents are insufficiently active, therefore, context- appropriate interventions are necessary to reverse this unfavorable state. **Relevance:** Only 5 Latin American countries have developed a report card, the above is unfortunate considering that this tool allows the compilation of knowledge gaps and highlights the most urgent needs and problems that policy makers should consider to promote an active and healthy lifestyle among children and youth in each country.

Keywords: Physical activity, Report Card, Indicators.

Abstract code: 88

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Current state of urban public policy related to the promotion of Physical Activity in Mexico City

AUTHOR'S

Eugen Resendiz
Alejandra Jáuregui de la Mota
Deborah Salvo
Perla Carolina Gris Legorreta

Washington University in St. Louis - USA

CORRESPONDING

eugen@wustl.edu

Rev Bras Ativ Fis Saude 26(suppl 3):13

Background: Recent findings suggest that the practice of physical activity (PA) in Mexico is determined by five key Built Environment (BE) constructs: streets, parks, transit, aesthetics, and safety. The purpose of this study was to determine how supportive the policy environment of Mexico City is for active living, and how it can be improved. **Aims:** 1. Identify the currently valid urban policy instruments in Mexico City related to the 5 key BE constructs through a systematic literature review. 2. Analyze the content of the public policy instruments that relate to these key constructs. **Methods:** Policy documents were identified through a comprehensive, and systematic, desk review of the official websites of the main government institutions and NGOs. Policy documents were categorized into five levels of territorial jurisdiction. Systematic content analysis for the BE constructs was conducted using the "Urban Policy Indicators Data Collection Survey", to evaluate the relation between urban policy and health. International guidelines'–for activity-friendly urban settings– concepts and keywords were used to analyzed the documents for 1) presence of streets and sidewalks, 2) the presence of Parks, 3) presence and access to public transit, 4) public safety and 5) aesthetics, using the software NVivo 12. **Results:** A total of 79 urban public policy instruments were found, however, content analysis could be conducted only on 41 documents. The analysis showed that none of the documents have as an explicit objective the promotion of healthy and active lifestyles. A low level of congruence among the different government levels was found, which can hinder the compliance of the documents. Although content analysis reveals that the 5 key BE constructs are present in several documents, there is a critical lack of technical specification, with low to no definition of projects, deadlines, budgets, or evaluation plans/methods. **Conclusions:** This is the first in-depth examination of urban policies concerning the key BE constructs known to influence PA in Mexico. Findings suggest that the lack of specificity in terms of defined actions, measurable goals, and allocation of resources, results in the sub-optimal implementation of policies that may promote active living. **Relevance:** Our methodology can be used to assess urban policy documents in other Latin American countries that have a similar political system. Understanding the current urban policy state can have impacts expected to extend beyond health, as they could improve the quality of life and social capital.

Keywords: Built environment, Urban health, Public policy, Physical activity, Active lifestyles.

Abstract code: 9

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FULL LENGTH ORAL PRESENTATIONS
Session 3 | Vulnerable populations and special interest groups

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Factors associated with time spent in physical activity within the physical education class in Chilean adolescents

AUTHOR'S

Nicolas Aguilar Farias
Sebastian Miranda Marquez
Camila Mella Garcia
Constanza Ulloa Lopez
Paula Guarda Saavedra
Marcelo Toledo Vargas
Damian Chandia Poblete

Universidad de La Frontera - Chile.

CORRESPONDING

nicolas.aguilar@ufrontera.cl

Rev Bras Ativ Fis Saude 26(suppl 3):15

Background: Physical education (PE) plays a fundamental role in the performance of physical activity (PA) in children and adolescents. There is limited evidence regarding time invested in PA in Chile and Latin America. In addition, it is necessary to understand what factors affect the performance of PA in PE. **Aims:** Evaluate the factors associated with the time of PA within the PE class in Chilean adolescents in the city of Temuco. **Methods:** Ten establishments in the city of Temuco were stratified according to socioeconomic level. In each of them two classes of 7th and 8th grade were selected randomly. PE classes were directly observed with SOFIT: System for Observing Fitness Instruction Time. This instrument records time in different types of physical activity, class context, interaction and teacher behavior in the class. The association of class factors (interaction, context and behavior) with time in PA was evaluated, adjusted according to the teacher's gender using multivariate analysis. **Results:** Ninety-four physical education classes were observed in total. On average 42.0±16.0% of classes invest their time in activities of moderate to vigorous intensity (MVPA). Sedentary activities were found in 20.0% of the class, standing in 36.1%, walking in 29.9% and vigorous intensity in 12.1% of the class. The most prevalent contexts were the practice of skills (24.5%) and playtime (32.0%). The three most prevalent aspects of teachers' behavior in the class were instruction (33.0%), organization (25.2%) and observation (22.2%). For each percentage unit of time invested in administration, the performance of MVPA was reduced by 4.3%. When content was reviewed, a similar ratio was observed (-4.9% of MVPA for every 1% in content), but this activity was very rare within the observed classes (3.7%). The time spent on demonstration did not affect MVPA. **Conclusions:** The time invested in class organization is key in the delivery process, however, strategies should be sought to minimize these times and optimize the organization so as not to affect the time of children's PA. **Relevance:** The use of standardized tools will help to compare the situation of PE in different countries of the region. The time invested in MVPA in this sample was longer than those reported in other countries around the world.

Keywords: SOFIT, Physical education, Adolescents.

Abstract code: 126

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Physical Fitness determination after a counseling and exercise program with nutrition students

AUTHOR'S

Richard Marine Alvarado
Milagros Almonte
Monserrat Pena
Sandra Arias

Nutrimed - República Dominicana.

CORRESPONDING

dr.richardmarine@nutrimed.com.do

Rev Bras Ativ Fis Saude 26(suppl 3):16

Background: Physical activity (PA) performed regularly and properly, is very important for the prevention of chronic noncommunicable diseases. To promote adherence to PA, changes in the patient's behavior are necessary. This can be achieved using different methods, such as motivational interviewing, a form of counseling. **Aims:** Determine the physical fitness of a group of university students in the nutrition degree, before and after a 3-month program of physical activity and counseling. **Methods:** An observational, descriptive, and prospective study was conducted in a group of students. For three months, they participated in a program of moderate physical activity and guided motivational interviewing sessions. Change in anthropometric variables and physical fitness was determined using different instruments. **Results:** The group that participated consisted of 25 students. The changes obtained after the physical activity program were: Body mass index (BMI): -0.59 kg / m2; Heart rate (HR): -0.84 beats / min; systolic blood pressure (SBP): -9.00 mmHg; diastolic blood pressure (PAD): - 3.00 mmHg; abdominal perimeter: -4.02 cms; push-ups / min: 9.56 repetitions; abdominals in 30 seconds: 15.96 repetitions; flexibility 3.45 inches. **Conclusions:** The physical activity and counseling program carried out produced significant changes in the values of physical fitness. We consider it is worth to be implement in universities to reduce physical inactivity and prevent chronic diseases. **Relevance:** This study demonstrates the importance of measuring physical fitness of people and implementing health programs, in the short term, in specific populations, such as university students. so you can go having the data of that population and show the benefit of physical activity programs. This is a way of starting to obtain data of these population, and to demonstrate the benefit of physical activity programs.

Keywords: Interview, Physical fitness, Evaluation, Counseling, Physical activity.

Abstract code: 118

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Effect of a physical activity intervention on depressive symptoms in low-income Latina women living on the US-Mexico border

AUTHOR'S

Vanessa Errisuriz
Jennifer Salinas
Laura Esparza
Deborah Parra Medina

The University of Texas at Austin - Estados Unidos.

CORRESPONDING

vlerrisuriz@austin.utexas.edu

Rev Bras Ativ Fis Saude 26(suppl 3):17

Background: Depression is associated with high societal costs and greater debilitation relative to other chronic diseases (e.g., diabetes, arthritis). Foreign-born Latinas living in the U.S. often have poorer mental health outcomes than women in other racial/ethnic groups. Few prospective studies have examined impact of physical activity (PA) interventions on depressive symptoms in Latina populations. **Aims:** This study utilizes data from Enlace, a randomized controlled trial, to assess the impact of a PA intervention, session attendance, and time in PA on depressive symptoms among low-income, foreign- born Latina women. **Methods:** Eight community resource centers (CRCs) in four south Texas counties were recruited and randomly assigned to the 16-week Enlace PA intervention (4 CRCs) or an attention- control group (4 CRCs). 620 Latina women living in colonias on the U.S.-Mexico border were enrolled in Enlace (Mage = 40 years, 86% Mexican immigrant, 83% uninsured). Participants completed assessments for depressive symptoms (CES-D 10), demographics, and PA measures (CHAMPS and accelerometry) pre- and post-intervention. Stepwise regression evaluated: 1) effects of study condition, session attendance, moderate-to-vigorous physical activity (MVPA; accelerometry and CHAMPS), on depressive symptoms at 16-week follow-up, and 2) whether session attendance or MVPA (accelerometry) moderated the relationship between study condition and depressive symptoms. Analyses controlled for baseline age, BMI, and depressive symptoms. Fitted predictive value graphs examined if there was a dose-response relationship between session attendance or MVPA (accelerometry) and depressive symptoms. **Results:** Greater session attendance (p=.035) and MVPA (accelerometry; p=.006) was associated with fewer depressive symptoms at follow-up across both intervention and control groups. Study condition and CHAMPS MVPA were not associated with depressive symptoms at follow-up. Session attendance and MVPA (accelerometry) did not moderate the relationship between study condition and depressive symptoms at 16-weeks. Fitted predictive value graphs indicated a small dose effect for session attendance, but not MVPA (accelerometry). Participants who attended 10-12 sessions showed fewer depressive symptoms from pre- to post- intervention. **Conclusions:** Latinas who participated in Enlace, regardless of study condition, experienced a reduction in depressive symptoms at follow-up. Engagement in group-based education sessions, irrespective of session content, may support mental wellbeing among low-income Latina women. **Relevance:** Previous research is primarily cross-sectional and focuses on non-Latino, clinical populations. This study examines the impact of PA on depressive symptoms among low-income, foreign-born Latinas, utilizing data from a RCT. Findings underscore importance of engaging in group- based programs to alleviate depressive symptoms in this population.

Keywords: Physical activity, Latinas, Depressive symptoms, RCT.

Abstract code: 54

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"My body My Rhythm My Voice" Physical activity promotion among breast cancer survivors A co-creation experience

AUTHOR'S

María Alejandra Rubio Rojas
María Alejandra Wilches
Carolyn Finck
Sol Angie Romero
Lisa G. Rosas
Oscar Rubiano
Argemiro Alberto Flórez
Jose Gabriel León
Olga L. Sarmiento
Abby C. King

Universidad de Los Andes - Colombia.

CORRESPONDING

ma.rubior@uniandes.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):18

Background: Among the major concerns of programs aimed at promoting physical activity (PA) among breast cancer (BC) survivors are program sustainability and patient adherence. **Aims:** The overall aim of this study was to test a theory-driven, community-based program to promote PA among BC survivors, delivered by a governmental entity. Our specific aims were to: 1) design and implement an eight-week musicalized behavioral PA program for BC survivors; 2) assess attendance and monitor PA intensity; 3) assess program effects on physical condition; and 4) qualitatively evaluate the experiences of program users and stakeholders. **Methods:** This quasi-experimental study used a concurrent mixed methods approach involving: 1) Interviews with purposive sampling methods conducted with multisector stakeholders, following the RE-AIM framework, to finalize program content; 2) Pre and post data collection through sociodemographic surveys, anthropometric and accelerometer measurements, six-minute walk test, and focus groups exploring patient motivations and perceived barriers. 24 PA sessions were held 3 times per week, and were 45 minutes long initially, followed by increases to 60 minutes during the last week. Social cognitive theory-derived strategies were employed throughout the program. **Results:** We interviewed 15 PA and health stakeholders, who underscored the relevance of community-level PA promotion for BC survivors and the challenges of engaging healthcare system actors for program adoption and maintenance. Participants of the study (n=64) were 56 years old (SD=9.6), from low to middle-income households (98%), and diagnosed with cancer 6.2 years ago (SD=5.53). Seventy-seven percent were overweight and 56% reported meeting PA recommendations. Eighty-eight percent of intervention participants attended more than 50% of the sessions. Average moderate-to-vigorous PA (MVPA) during the sessions ranged from 10.9-16.0 minutes. Among women who participated in at least 70% of the sessions, the 6-min walk distance meters increased on average 26 meters (p=0.02)while among control group it decreased on average -0.4 meters (p=0.97). Similarly, the oxygen consumption increased on average 0.8ml/kg/min among intervention group and did not change in control group 0.0ml/kg/min. Intervention participants reported receiving multiple benefits in relation to their wellbeing and having strengthened their self-efficacy to overcome barriers to PA attendance. **Conclusions:** The preliminary results of this co-created PA program indicate positive outcomes for PA participation among BC survivors. **Relevance:** "Mi Cuerpo Mi Ritmo Mi Voz" is a promising intervention for promoting PA among BC survivors in Latin America, building behavior change knowledge and strategies. The high adherence and delivering by a government entity are relevant factors for sustainability.

Keywords: Cancer survivors, Adherence, Physical activity, Behavior change, Intervention.

Abstract code: 28

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Fragility and Light Physical Activity in the Maule Region in Chile

AUTHOR'S

Natalia Bustamante Ara

Universidad Autónoma de Chile - Chile.

CORRESPONDING

natalia.bustamante@uautonoma.cl

Rev Bras Ativ Fis Saude 26(suppl 3):19

Background: Chile, with high life expectancy within Latin America, accelerated aging projects 24% of the population older than 2030. Older adults (OA) who remain physically active have better health criteria, cognitive function and adverse consequences, favoring better aging. Fragility, geriatric syndrome, generates vulnerability to disease, dependence, disability and premature death. The OA carry out light intensity activities for a large part of the day, and it has been little studied alongside fragility. **Aims:** Analyze fragility and light intensity physical activity in older adults in the Maule region, Chile **Methods:** Cross-sectional study, people aged 60-74 enrolled between 2015-2017, belonging to the MAUCO Cohort. Physical activity (PA) was evaluated with tri-axial accelerometers, for 7 days, considering ≥3 days and ≥10 hours of use. Light-intensity PA was defined in 100-1951 counts/minutes. Fragility was assessed according to criteria of exhaustion, weight loss, muscle weakness, slowness, and low level of moderate PA (percentile 20 per sex). It was considered fragile to be positive in ≥3, pre-fragile 1-2 and robust 0 criteria. We analyzed factors associated with fragility and significant variables were included in the multinomial, adjusted model. **Results:** We analyzed 619 OA, age 66.0 ± 4.5 years, 42% men, 40% said they were agricultural workers, and 7% illiterate. The prevalence of multi-morbidity was 12% higher in women, p=.007. The mean of light PA was 5.9 ± 1.6 hrs/day. The prevalence of fragile was 6%, 48% pre-fragile and 46% robust. Women, 3 times more fragile than men (8.2% vs. 2.3%). The fragile had a high prevalence of worse health, diabetes, hypertension, multi- morbidity, falls and difficulty in daily living activities. The fragile performed 5.1 ± 1.5 hrs / day, pre- fragile 5.7 ± 1.6 hrs / day and robust 6.2 ± 1.4 hrs / day of light PA. **Conclusions:** Fragility is dynamic and preventable, the pre-fragile population is likely to benefit from intervention programs according to the environment to increase light and moderate PA, a tool for active-healthy aging. **Relevance:** To evaluate the fragility with objective indicators of PA and the associated factors in the Latin American population with low socioeconomic and agricultural status.

Keywords: Fragility, Aging, Physical activity.

Abstract code: 149

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Physical exercise, health and ageing – 10 years of experience in research in the University of São Paulo-USP

AUTHOR'S

Átila Alexandre Trapé
Javier Brazo-Sayavera
Jonatas Evandro Nogueira
Elisangela Aparecida Lizzi da Silva
Letícia Ferezin Perticarrara
Jhennyfer Aline Lima Rodrigues
André Jacomini Mourão
Carlos Roberto Bueno Júnior
Anderson Zago Saranz

Universidade de Sao Paulo USP - Escola de Educacao Fisica e Esporte de Ribeirao Preto EEFERP - Brasil.

CORRESPONDING

atrape@usp.br

Rev Bras Ativ Fis Saude 26(suppl 3):20

Background: Between 1996-2007 the number of deaths due to non communicable diseases increased in Brazil, but age-adjusted mortality decreased. The causes of the decrease in deaths caused by cardiovascular and respiratory diseases could be the different public policies implemented (Schmidt et al., 2011). In 2010, with the beginning of the activities in the School of Physical Education and Sports Ribeirão Preto (EEFERP) in the University of São Paulo (USP), we followed up on the research interests that Brazil had been developing, by implementing actions related to physical exercise, health and ageing. The focus was on improving physical fitness and preventing and controlling cardiovascular disease risk factors (CVDRF). **Aims:** To study the association between fitness, CVDRF and socioeconomic aspects among older adults. To analyze the effects of an extension program based on a multi-component training for physical fitness and CVDRF. **Methods:** First, a cross-sectional study with 213 participants (≥50 years of age; 76,5% women) was conducted. Evaluations: questionnaires, motor tests, anthropometric measures, blood pressure, blood glucose and lipid profile. Then, we carried out a longitudinal study with 171 participants ((≥50 years of age; 84,2% women) with an intervention consisting on a multi-component training (several motor capacities), twice per week, 90 minutes per session. Evaluations: the same as the ones used in the cross-sectional study plus oxidative stress, nitrites and genotyping tests. **Results:** In the cross-sectional study, some factors were better associated with physical fitness and CVDRF: participating in other types of exercise in addition to waking; time engaging in physical exercises (at least six months); supervision (presence of a physical education professional). Additionally, these results were associated with higher income and scholarship. Regarding the longitudinal study, improvements in physical fitness and all CVDRF were observed with influence of some genetic variants in this effect. **Conclusions:** The best results in physical fitness and CVDRF among participants were associated with the amount of physical exercises done, the time engaging in physical exercises, supervision, income and scholarship. The multi- component training promoted improvements in physical fitness and CVDRF and genetic variants influenced this effect. Relevance: This project provided relevant knowledge on "Physical activity and health" with a progression in the complexity of the studies. Future perspectives include the development of community projects. **Relevance:** NA

Keywords: Physical fitness, genetics, risk factors, cardiovascular disease, physical activity.

Abstract code: 68

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

FULL LENGTH ORAL PRESENTATIONS
Session 4 | Urban settings and built environment

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Perceived neighborhood environment and walking trips among Brazilian older adults over time

AUTHOR'S

Francisco Timbó de Paiva Neto
Susana Cararo Confortin
Gabriel Claudino Budal Arins
Ana Carolina Belther Santos
Eleonora Dorsi
Cassiano Ricardo Rech

Universidade Federal de Santa Catarina - Brasil.

CORRESPONDING

timbonetto@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):22

Background: Brazil has a marked increase in the population over 60 years. It is important to understand the determinants physically activity among older adults in Brazil. The built environment has significant potential to promote walking, especially among the elderly, as the availability of safe and accessible structures that can facilitate independent living. **Aims:** To investigate the association between the attributes of the perceived environment of the neighborhood and changes in the walking trips among Brazilian older adults. **Methods:** Longitudinal, population-based study, entitled "EpiFloripa Idoso", carried out in 2009/2010, with follow-up in 2013/2014. Changes in walking trips were measured using the international physical activity questionnaire (IPAQ), across two time points of the study (2009/2010 and 2013/2014). For each assessment time-point, older adults who walked for transportation for at least 150 minutes per week or more were classified as "active", whilst those with less walking for transportation per week were classified as insufficiently active. The perceived environment was assessed using the international A-NEWS scale, with the assessment taking place only at the baseline. The NEWS scales were used as independent variables for analysis. Multinomial logistic regression analyzes were performed to test associations between the perceived built environment and changes in walking for transport. **Results:** 1162 elderly people (65.2% women) participated in the longitudinal follow-up, with a mean age of 73.7 years (± 7.12). Elderly people who perceived high presence of parks and squares (OR = 2.44; 95% CI: 1.70-3.51), sidewalks (OR = 1.66; 95% CI: 1.03-2.70), pedestrian crossings (OR = 1.69; 95% CI: 1.05-2.72), illuminated streets (OR = 2.80; 95% CI: 1.24-6.33) and felt safe walking during the day (OR = 1 , 93; 95% CI: 1.14-3.24), were more likely to remain active or to become active (walking for transport) when compared to their peers. **Conclusions:** Older adults who perceived their neighborhood environment as being favorable for walking were more likely to be active. This study identified environmental attributes associated with walking among the elderly, reinforcing the need to create and maintain favorable environments for this practice. **Relevance:** Walking has recognized health benefits for the elderly, as it is accessible, safe and low cost. This study presents aspects that can be considered to enhance this practice at the population level, and provides theoretical support for interventions that seek to promote changes in health-related behaviors for older adults.

Keywords: Aging, Walking, Trips.

Abstract code: 84

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Environments and physical activity among older adults from three Colombian cities. Effects and mediation mechanisms

AUTHOR'S

Diana Isabel Muñoz Rodriguez
Angela Segura Cardona
Beatriz Caicedo Velasquez
Doris Cardona Arango
Catalina Maria Arango Alzate

Universidad CES - Colombia.

CORRESPONDING

dmunoz@ces.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):23

Background: Demographic change, particularly in Latin American populations, has imposed priority intersectoral challenges. Physical activity (PA) is the most cost-effective strategy to achieve these challenges. However, older adults are the most inactive population group, and the causes of this pandemic are multifactorial. Although Colombia has progressed in the study of PA, this has focused on individual conditions with an underdevelopment in the study of the effect of other levels of influence, such as the environment, which is one of the most challenging in Latin America. Models used to study the effect of multilevel factors have not allowed the understanding of the mediating role of individual characteristics in the relation between environments and PA, and this could be, the most plausible explanation to understand the failure of interventions and to promote new public health strategies. **Aims:** To determine the effects and mediation mechanisms of the social and built environment on achieving the recommended levels of PA among older adults from three Colombian cities. **Methods:** Using an ecologic model approach and a cross-sectional design, a total of 1463 older adults from three Colombian cities were included. Participants were recruited using a two-phase probabilistic sampling. Individual characteristics (demographics, health and habits, social support and perceived environment) were considered as "mediators" in the relation between the built environment and PA, using multi-level techniques and structural equations. **Results:** The prevalence of PA was of 5,5% and factors associated with this were intra-personal, inter-personal and of the perceived and built environment. Aesthetics had a direct effect on PA, whereas social support mediated the relation between urban design and PA; not perceiving barriers for PA moderated the association between social and perceived environment conditions with PA. **Conclusions:** In order to promote engagement in PA among older adults, multi-sectoral efforts are required that integrate individual and environmental level interventions, focused in building social support networks and improving the urban design of neighborhoods to achieve an active ageing. **Relevance:** Understanding PA from new determinants allows redesigning strategies which may be implemented in Latin American contexts and improving research capacity.

Keywords: Multi-level, Ageing, Mediation.

Abstract code: 61

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Sociodemographic Health Status and Transport related Mobility in Private Cyclists and Bike Sharing Users from Chile

AUTHOR'S

Kabir Sadarangani Khianey
Rodrigo Mora
Ricardo Hurtubia
Margarita Greene
David Martínez Gómez
Carlos Cristi Montero
Nicolás Aguilar Farías
Sebastián Miranda Marquez

Universidad Diego Portales - Chile

CORRESPONDING

kabir.sadarangani@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):24

Background: Active transport, mainly cycling, is associated not only with health benefits, but also with health care economic savings, climate change mitigation, and reductions in traffic congestion and air pollution. However, only a minority of the population cycles as a mode of transport. Due to this, various cities have implemented public bike sharing systems and bicycle lanes, promoting active transport. **Aims:** To explore sociodemographic, behavioral and health conditions, and transport related mobility between private cyclists (PC) and bike sharing users (BSU) from Santiago de Chile. **Methods:** Cross- sectional study conducted between May and September 2018. PC and BSU from 3 different systems answered to a survey about physical activity levels, frequency of cycling, social habits, health conditions (diabetes, hypertension, hypercholesterolemia and overweight) and urban perceptions. BSU were intercepted in affluent neighborhoods in approximately 30 points on bike lanes. However, PC were approached during the red-light phase in middle-high income neighborhoods. Also, distance (meters) travelled was estimated via geocoding determined by the origin and destination of their trips (likely routes) at a reference value of 15 km/hour. Multivariate logistic regression was fitted in order to estimate the association between overweight and type of users. **Results:** 1305 adults' participants (62.9% males) with an average age of 33.0 (±10.9) years and 88.9% fulfilled physical activity recommendations. BSU represented 44.7% (n=591) and had higher educational levels (>12 years: 89.5% vs 81.8%) and car ownership (88.8% vs 61.5%) than PC. However, PC had higher cycling frequency (>3 times/week: 63.3% vs 55.2%), higher distance travelled (5951.7 vs 5220.8 meters) and their main reason was cycling to work (53.8% vs 49.4%). Moreover, 41.2% of BSU and 31,0% of PC reported that instead of cycling, they would opt for private transport and public transport, respectively. Lastly, PC were associated with higher odds of overweight (OR 1.35; 95%CI 1.05-1.74) after controlling for socio-demographics. **Conclusions:** Amongst cycling users, we found a distinct demographic profile suggesting that BSU have more modes of transport and lower odds of being overweight than PC, despite higher usage. **Relevance:** The success of strategies to promote bicycle use as means of transport relies, in one hand, on knowing the characteristics of whom using it, facilitating modifications toward increasing quantity and diversity of users. On the other hand, impact assessments of those strategies should incorporate the evaluation of results not only in user's quantity, but also its effects in other dimensions, such as physical activity, health and urban planning.

Keywords: Bicycling, Bicycle share, Active travel.

Abstract code: 26

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Lead and chrome particulate matter concentrations in a gymnasium located next to a vehicle roadway

AUTHOR'S

Luis Camilo Blanco Becerra, Johan Alexander Álvarez Berrio, Ana María Mosquera, Monguí Yuritza, Alejandra Garavito Gamboa

Universidad Santo Tomas - Colombia.

CORRESPONDING

luis.blanco@usantotomas.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):25

Background: Physical activity produces health benefits, including the prevention of cardiovascular and mental diseases. Intramural spaces, like gymnasiums, where people engage in these activities must meet the locative conditions that allow that physical activity achieves the expected benefits. Indoor air pollution is one of the most relevant environmental risks, because it exposes people to pollutants that may affect their health in an acute or chronic way. **Aims:** To establish the concentrations of particulate matter less than 10 microns (PM10), lead and chrome in a gymnasium located next to a vehicle roadway represented by mobile sources (public and private transportation) en Bogotá, Colombia. **Methods:** During a period of 20 consecutive days (excluding Saturday and Sunday), between 7 am to 9 pm (14 hours) PM10 measures were conducted using a personal sampling bomb GilAir-3 with PVC filters; the filters were analyzed for lead and chrome in the laboratory, using the inductively coupled plasma mass spectrometry (ICP-MS) technique. **Results:** PM10 concentrations per day registered ranged from 119 to 238 µg/m3, with a mean value of 188 µg/m3 per day; lead interquartile values ranged from 0,001 to 0,003 µg/m3 with a daily mean of 0,002 µg/m3, whereas chrome interquartile levels ranged from 0,31 to 0,58 ng/m3 with a mean of 0,47 ng/m3. **Conclusions:** Daily concentrations of PM10, lead and chrome did not exceed the values established by the National Institute for Occupational Security and Health (NIOSH), for an 8 hour period (3000 µg/m3, 50 µg/m3 and 500.000 ng/m3, respectively); however, except for lead, the World Health Organization criteria were exceeded (50 µg/m3 daily and 25 µg/m3 anually, 0,5 µg/m3 anually y 0,25 ng/m3 anually, respectively). **Relevance:** Results show that people engaging in sports activities in closed spaces, such as gymnasiums located close to vehicular roadways, are exposed to air pollutant concentrations that could reduce the benefits of physical activity. Therefore, places similar to the one studied here should be re- located or built in locations without the presence of mobile or fixed sources that could modify the air quality inside these buildings.

Keywords: Chrome, PM10, physical activity, exposure, environmental risks.

Abstract code: 60

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Development of a mobile-app for the identification of places where physical activity is carried out in Bogotá

AUTHOR'S

María Alejandra Wilches Mogollón
María Isabel Arévalo Robinson
Mario Linares Vásquez
Olga Lucía Sarmiento Dueñas
Diana Higuera Mendieta

Universidad de los Andes - Colombia.

CORRESPONDING

ma.wilches529@uniandes.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):26

Background: The identification of places where physical activity is carried out is essential for the development of interventions that promote physical activity. This GPS identification must be done discreetly to avoid altering participants' behavior. Within the study "Urban Transformations and Health: the case of TransMiCable in Bogotá, Colombia" (TrUST), the mobile application Move it! ("Muévelo" in Spanish) was developed. This app, together with the use of accelerometers, identifies places where the participants are physically active and allows the generation of indicators of compliance with physical activity recommendations. **Aims:** Develop a mobile-app for passive collection of GPS information of participants' movements and areas of interest to detect places to do physical activity. **Methods:** The Move it! mobile-app was developed for Android devices, which uses GPS to record participants' places of interest and movements divided into four modes: "Walking," "Running," "Bicycling," and "Motorized Transportation." Move it! has a low battery consumption using adaptive search GPS, it does use much cell-phone memory space (8.81Mb) and works on a wide range of Android devices. The data collected by the application is stored on a server of their own and fed to an analytical engine, in which validations and analysis of information are carried out in real time. Additionally, GT3X and GT3X + accelerometers were used, and "IPAQ" surveys and travel stages were carried out to collect physical activity information performed during one week. **Results:** Data were obtained from 447 adults living in the poorest areas of Bogotá. Seventy-three percent met with physical activity recommendations. The main places to do physical activity included transportation, work, parks and home. Participants reported that the application was easy to use and consumed less battery than other applications with GPS (e.g. MOVES). **Conclusions:** Move it!, evaluated in a vulnerable population of Bogotá, proved to be useful for the identification of places where participants perform physical activity. By combining the information collected by the application with the accelerometry and IPAQ information more and better indicators of physical activity could be estimated. **Relevance:** Move it!, developed in Colombia, proved to be a useful and easy tool to use in a vulnerable population as it includes socio-cultural aspects, availability of low- end cell phones, and passive data collection. Move it! can facilitate studies on physical activity promotion in Latin America.

Keywords: Mobile-app, Accelerometry, Measurement.

Abstract code: 94

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Innovative approaches to assess community-based physical activity programs the cases of Ciclovía and Recreovía of Bogotá

AUTHOR'S

Santiago Enrique Cabas Orjuela
María Alejandra Rubio
María Alejandra Wilches
Alberto Flórez
Óscar Rubiano
Edwin Valencia
Benjamin Chrisinger
Lisa Goldman
Olga Lucía Sarmiento
Abby King

Universidad de los Andes - Colombia

CORRESPONDING

se.cabas@uniandes.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):27

Background: Community-based programs encouraging physical activity (PA) practice are modifier strategies of sedentary behaviors. Ciclovía and Recreovía have been implemented in Bogotá, as opportunities to increase PA levels in leisure time. However, studies evaluating adherence in such programs are limited. **Aims:** The purpose of this study was to assess uptake of the Ciclovía and Recreovía programs, understanding associated factors with participation and effects on wellness. **Methods:** This prospective study included quantitative and qualitative data of 120 Recreovía and 30 Ciclovía users. We collected baseline and follow-up data recording anthropometric and sociodemographic characteristics, self-reported engagement in PA (using International Physical Activity Questionnaire), and PA during activity (using accelerometers). Ciclovía users' electrodermal activity (EDA), as a marker for stress levels, was assessed. Recreovía users' brainwaves were evaluated to determine attention and meditation, and their emotions were captured using a face recognition software. The qualitative component involved the Our Voice citizen science model in which participants identify environmental features that encourage or hinder participation. Data analysis was conducted to test statistical significance of the variables, and associated factors with the non-continuity of the Recreovía program. Qualitative data was thematically analyzed. **Results:** Ciclovía participants were primarily men (77%) on average 36 years old (SD=12.88) and 53% were overweight. Recreovía participants were mainly women (88%), on average 49 years old (SD=14.22) and 66% were overweight. Follow-up rate was 57% for Ciclovía participants and 68% for Recreovía participants. 63% of Ciclovía and 83% of Recreovía participants meet PA recommendations in leisure time. Moderate to vigorous PA during the Recreovía sessions on Sundays represents about 24% of the total session time. Ciclovía users' EDA was recorded on average 1.5 (SD 0.76) hours while participating in the program. In addition, face coding of Recreovía users showed prevalence of positive emotions (21% happiness) and brainwaves during PA reported 52% attention and 57% meditation. Associated variables with non-continuity in Recreovía were to be younger, unfamiliarity with PA recommendations, and not frequenting other Recreovía sites. Ciclovía and Recreovía users underscored organization and quality of the programs as facilitators, while reported facilities' limited maintenance as barrier to PA practice. **Conclusions:** The accomplished high response rate shows feasibility of following-up Ciclovía and Recreovía users over time. **Relevance:** This exploratory study provides an adaptable and innovative design to assess the uptake of similar PA programs through follow up and effects in emotional experience. Latin America has numerous community-based health promotion programs featuring regular free programming in public spaces.

Keywords: Physical activity, Follow-up, Uptake program, Community-based, Longitudinal studies.

Abstract code: 32

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

FLASH ORAL PRESENTATIONS

Topics:

Physiology

Obesity and non-communicable chronic diseases

Measurement and surveillance

Children and adolescents / Barriers and facilitators

Barreras y facilitadores en adultos

Urban settings and built environment

Active transport

Inverventions and programs

Public policy

Abstract
Topic: Physiology

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Identifying health risks in individuals with no physical continioning using the Five Minutes Shaper-type apparatus. A Biomecanical Analysis

AUTHOR'S

Cristian David Guerrero Mendez
Laura Montealegre Montealegre
Brayan Moreno Arevalo
David Lopez Díaz
Sebastián Jaramillo Isaza

Universidad Antonio Nariño - Colombia.

CORRESPONDING

crguerrero69@uan.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):29

Background: Latin America has the highest percentage of population with insufficient physical activity. When physical activity is resumed, there are usually osteo-articular ailments associated to physiological factors, poor execution of movements and lack of precise recommendations to achieve a good gesture. There are different training systems such as the Five Minute Shaper, which stimulates physical activity in people promising results in a short time. However, most of these systems lack scientific endorsements that demonstrate their effectiveness and clear and relevant indications adapted to people without physical conditioning. **Aims:** Use biomechanical analysis to identify possible health risks for people using abdominal training systems like the Five Minutes Shaper. **Methods:** Ten middle- aged individuals divided into groups according to gender. A Five Minute Shaper type machine was used in three demanding positions (low, medium and high). Each individual performed the exercise for one minute with rest intervals between. Each movement was recorded on video and analyzed using the Kinovea software to determine biomechanical variables such as joint amplitude, speed and acceleration. Graphical representations were constructed using MatLab. Statistical analysis and comparisons with standard values of joint amplitude were performed for the movements performed. **Results:** In low and medium degrees of difficulty, men and women presented a stable joint amplitude in the first 10 seconds; after this time the frequency in performing the exercise was lost and consequently the joint amplitude was reduced, leading to a poor execution of the requested gesture. In the position of greatest demand, which is the position where the amplitude of the machine is minimal, a greater loss of joint amplitude was found because of the greater muscular effort requested and therefore an increase in the possibility of osteo-muscular lesions was found. **Conclusions:** The use of training systems can favor and stimulate physical activity in the Latin American population as they are accessible and affordable for the majority. However, it is highly recommended to review and properly advise on the risks associated with the use of these types of systems since these can easily induce osteo-muscular injuries. **Relevance:** The results obtained in this work allow us to build training plans, recommendations and protocols for use that are clearer to avoid risks and health problems and stimulate the proper use of these devices in the Latin American population.

Keywords: Biomechanics, risks, Five-minute-shaper.

Abstract code: 113

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Body composition, body fat, muscle mass and maximum oxygen uptake among polytechnic employees and professors from Ecuador

AUTHOR'S

David Orozco Brito
Angel Parreño Urquizo
Patricia Rios Guarango
Lorena Yaulema Brito
Patricio Chavez Hernadez
Marcos Caiza Ruiz

ESPOCH - Ecuador.

CORRESPONDING

david.orozco@espoch.edu.ec

Rev Bras Ativ Fis Saude 26(suppl 3):30

Background: According to WHO, 60% of the population in the world does not get sufficient physical activity as to obtain health benefits. **Aims:** To establish the changes in body composition (body fat and muscle mass) and maximum oxygen uptake when applying 30 minutes of exercise, 3 days per week for 3 months among polytechnic employees and professors from Riobamba Ecuador. **Methods:** A sample of 121 ploytechnic employees and professors realized a physical activity program, 3 days for 3 months for 30 minutes. We conducted a pre- post-intervention study evaluating anthropometry by bioimpedance and aerobic capacity in a treadmill with pulsometer and ACSM protocol. Exercise prescription used the maximum heart rate (MHR), work loads were calculated from 50% to 60% of the MHR. **Results:** The analysis was conducted using the statistical program R and applying a paired T- student test. Comparing baseline and final body fat resulted in a p value of 0,87 with improvements of 0,28%. Baseline and final muscle mass reached a p value of 0.42 with an increase of 1,35%. The VO2max achieved a p value of 0,06 and an increase of 2,45%. **Conclusions:** No changes were observed in body fat and muscle mass in the sample because the exercise type used improves health in the population; in contrast, exercise prescription for body weight reduction involves a lager duration of physical exercise and caloric restriction. VO2 max showed a pre- post intervention change, improving the ability and adaptation of the group of participants to execute aerobic exercise. We recommend conducting a study that controls the frequency of execution, because we infer that this would be a key parameter for achieving the desired results. Physical activity prescription among polytechnic employees and professors maintains regular body composition and pre- post intervention VO2max, however, no significant changes were observed, because this is a phase for exercise adaptation, in which prescription is not intended for body weight reduction. **Relevance:** Disseminating results that show improvements in physical fitness and their relation with health will keep moving forward research in Latin American populations. We aim to foster actions that promote healthy lifestyles among the population.

Keywords: Physical Exercise, Body Fat, VO2max, Body Composition.

Abstract code: 63

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Impact of the adapted Farklet method on Balb/c mice health during the consumption of commercial caloric drinks

AUTHOR'S

Andres Caloso Ruiz
Mayra Olivares Eslava
Jóse Luis Gomez Olivares
Noe Salinas Arreortua
Rosa María López Durán

UNEVE - México.

CORRESPONDING

andres_caloso@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):31

Background: Effect of strenuous exercise on the metabolism of glutamine in skeletal muscle and liver of 12-month-old BALB-c mice, Santillán Martínez, Alicia, 2016-02-02. Metabolic syndrome (MS) is defined as a set of different metabolic abnormalities, they are related to chronic degenerative diseases, such as: non-alcoholic fatty liver, diabetes, hypertension, cardiovascular events, alterations in cognitive functions, among others, this generated by the oxidative and inflammatory state, caused by the consumption of high-calorie commercial beverages, which decrease the quality of life and survival of the individual. **Aims:** Determine if the Fartlek method adapted in Balb/c mice subjected to a continuous intake of high-calorie commercial beverages improves their health status **Methods:** Thirty male Balb C mice were used and divided into 6 groups, each with 5 mice. 1) Water and sedentary control (AS), Water and activity control (AA), 3) Cola drink and sedentary (CS), 4) Cola drink and activity (CA), 5) Juice and sedentary (JS) Juice and activity (JA). The animals were kept at a temperature of 22 ± ° C with a light/dark period (12h x 12h). The animals had free access to food and drink. The experiment lasted 8 weeks divided into two stages, a) Adaptation and b) Directed physical exercise. After 28 days of continuous intake of commercial drinks, the AA, CA, JA groups underwent a physical exercise program directed for 4 weeks. **Results:** Blood glucose levels increased in the CA and JA groups, as of the third week of free consumption of high-calorie commercial beverages, caloric intake decreased in the AA group, compared to CA and JA. Sendentary groups increased in body weight compared to the groups that underwent the adapted farklet method, from the application of this method the parameters improved in each group. **Conclusions:** The Fartlek method adapted in Balb/c mice that ingested high-calorie commercial beverages, improved glucose levels, increased their caloric intake. While the body weight remained stable in comparison to the group that was not submitted to the protocol, it can be inferred that the adapted Fartlek method helps to improve the state of health due to the continuous intake of high-calorie commercial beverages. **Relevance:** Professionalize sports sciences in improving health and the quality of life in the general population.

Keywords: Farklet method, training, metabolic syndrome.

Abstract code: 148

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Caloric intake, energy expenditure and somatotype of combat athletes from the national selection in Managua, Nicaragua

AUTHOR'S

Kenia Páramo Gómez

Comité Olímpico Nicaraguense - Nicaragua.

CORRESPONDING

kpgnutricion19@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):32

Background: Venkatraman, Leddy & Pendergast conducted a study to determine the clinical implications of fat intake in the immunologic status of cyclists, soldiers and runners, defining that many athletes consume approximately 25% fewer calories than estimated energy expenditure. Spirito, Garat and Bazán determined the differences between energy intake, energy expenditure and adequacy of a group club of grass hockey players. By categorizing the adequacy, they observed a higher proportion in the inadequate category, who did not meet the estimated energy expenditure. **Aims:** To describe the sociodemographic characteristics, classify body composition, establish the energy intake and estimate energy expenditure. **Methods:** The sample consisted on 81 athletes. We used a demographic survey and energy intake estimated through a 24 hour dietary recall. Anthropometric evaluation was done using the Heath and Carter method and energy expenditure was determined by calculating the basal metabolic rate through the WHO/FAO factorial method. Total energy expenditure was estimated by adding the basal metabolic rate, the activity factor according to the physical activity level, and the energy expenditure during training. Adequacy was considered as adequate when between 90 and 100%, inadequate by deficit, when below 90% and inadequate by excess, when above 110%. We calculated central tendency estimates, frequecies and contingency tables. **Results:** Of the studied athletes, 49.4% were males and 50.6% were females, 37.1% had acceptable body fat, and the predominant somatotype was the mesomorph with 51.9%, which indicates a higher development of muscle mass. The adequacy between caloric intake and energy expenditure was of 88.9% inadequate by deficit. **Conclusions:** Body composition was mostly mesomorph and with an acceptable percentage of body fat, the consumption of carbohydrates and proteins in grams was inadequate by deficit according to their requirements, the adequacy between caloric intake and energy expenditure was inadequate by deficit. **Relevance:** For Nicaragua, from the public health point of view this was the first research conducted in the fields of nutrition and physical activity, as a baseline for future research in the importance of eating correctly and training adequately in order to improve sports performance.

Keywords: Caloric Intake, Energy Expenditure, Combat Sports, Somatotype.

Abstract code: 66

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Relationship between sedentary behaviors and respiratory capacity of white-collar university employees

AUTHOR'S

María Cristina Enríquez Reyna
Julissa Maythé Loredo Muñíz
Angelly Del Carmen Villarreal Salazar
Olga Liliana Gallardo Tovar
Perla Lizeth Hernández Cortés

Universidad Autónoma de Nuevo León - México.

CORRESPONDING

maria.enriquezryn@uanl.edu.mx

Rev Bras Ativ Fis Saude 26(suppl 3):33

Background: White collar employees are characterized by multiple desk activities during their workday, many of them usually have purchasing power, physical culture and motivation to achieve physical activity recommendations for health. This raises the possibility of being active and sedentary at the same time. The association between sedentary behaviors and maximum respiratory capacity in economically active population has not been adequately explained. **Aims:** To analyze the association between sedentary behaviors and the respiratory capacity of white collar university employees. **Methods:** Descriptive correlational study in apparently healthy adults aged 30 to 60 years; without medical contraindication for the exercise, who agreed to participate voluntarily in the study. ActiGraph ™ wGT3X accelerometers were used around the hip for seven to nine days, the Sedentary Behavior Questionnaire and Rockport test were used. Personal characteristics and cardiovascular risk were included in the data card. Analysis with descriptive statistics and correlation tests. **Results:** Preliminary sample of 59 participants of 41.64 years (SD = 8.17). Forty-six percent reported achieving physical activity recommendations for health. All participants reported more than 10 hours of sedentary behavior during the week; On the weekend, women reported lower values than men [28.24 hours (SD = 5.24) vs. 10.07 (SD = 4.87), p = .179]. The respiratory capacity was higher in men than women [39.84 ml/kg/min (SD = 6.73) vs 30.44 (SD = 8.76), p < .01]. At least three of out ten participants had regular or poor respiratory capacity. Sedentary weekdays were associated with sedentary weekend time (r = .433, p < .01). Respiratory capacity was associated with age, cardiovascular risk burden and moderate to vigorous physical activity (r = -.336, -.438 and .400 respectively, p < .05). No association was found between sedentary behaviors and respiratory capacity (p > .01). **Conclusions:** Sedentary behaviors prevail among white collar university employees both during and on the weekend. Moderate to vigorous physical activity increases respiratory capacity while higher age and cardiovascular risk decrease it. **Relevance:** The monitoring and control of health risks associated with sedentary work is an emerging issue to consider in national political agendas.

Keywords: Cardiovascular risk, Fitness, Sedentary behavior, VO2máx, Employees.

Abstract code: 11

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Isokinetic strength of lower limbs and grip strength in relation to cardiometabolic risk markers

AUTHOR'S

Sebastián Felipe Arango Ramírez
Manuel Alberto Riveros Medina
María Alejandra Carranza Castrillón
Lizeth Tatiana Mercado Ruíz

Universidad Manuela Beltrán - Colombia.

CORRESPONDING

sebastian.arango0515@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):34

Background: The incidence and prevalence of chronic noncommunicable diseases (NCDs) such as diabetes, high blood pressure, among others, are presenting an exponential increase, affecting the health condition of the population. Globally, according to the WHO, non-communicable chronic diseases generate deaths of people equivalent to 41 million people each year, with cardiovascular diseases being the highest incidence with 17.9 million people each year, 80% of those responsible for the deaths premature, caused by factors such as smoking, sedentary lifestyle, alcoholism and poor diet. **Aims:** To correlate the isokinetic strength of lower limbs and grip strength with indicators of cardiometabolic risk in sedentary and active adult population between 30-50 years of age in Bogotá. **Methods:** For the present study of non-experimental design, quantitative approach and correlational scope, probabilistic sampling was carried out, simple randomization, application of inclusion and exclusion criteria, classification of sedentary and active by means of the International Physical Activity Questionary (IPAQ), until constituting homogeneous intervention groups, typical of experimental studies. The final sample was 100 individuals (50 sedentary and 50 physically active). With the authorization of the institutional ethics committee and prior signature of informed consent, the clinical evaluation (body composition, blood clinic, grip strength and isokinetic strength of lower limbs) was performed. **Results:** Two research groups were standardized, where active and sedentary people were selected taking into account the IPAQ tool, obtaining 50 active people and 50 sedentary people. Regarding the correlation of variables, the independent variables that are the prehensile force and the isokinetic force of the lower limbs were taken into account compared to the morphological variables in the active population, where moderate indirect correlations of the prehensile force and the isokinetic force of the limbs lower with the fatty percentage (ICC = -0.525 to -0.593) (p <0.01), very high direct correlation with kilograms of muscle mass (ICC = 0.829 to 0.909) (p <0.01) and moderate direct correlation with the abdominal perimeter (ICC = 0.454 to 0.541) (p <0.01). In relation to the levels of prehensile strength and isokinetic strength of lower limbs compared to morphological variables in sedentary population, it was evident that moderate-low indirect correlations of prehensile strength and isokinetic strength of lower limbs with fat percentage (ICC = - 0.310 to -0.526) (p <0.01), high-very high direct correlation with kilograms of muscle mass (ICC = 0.750 to 0.811) (p <0.01), Moderate direct correlation of visceral fat (ICC = 0.461 to 0.636) (p <0.01) and low-moderate direct correlation with the abdominal perimeter. Subsequently, the relationship of muscle strength with functional metabolic variables in the active population was evaluated by identifying very low-low inverse correlations with cholesterol (ICC = -0.074 to -0.200) (p> 0.05), low inverse correlation with triglycerides (ICC = -0.219 to -0.303) (p> 0.05), low-moderate direct correlation with systolic blood pressure (ICC = 0.386 to 0.493) (p <0.01) and very low-low direct correlation with blood pressure systolic Finally, the correlation of muscular strength against metabolic functional variables in a sedentary population, it was possible to show a very low-low direct correlation with cholesterol, low-moderate inverse correlation with triglycerides (ICC = 0.268 to 0.425) (p <0.05), low direct correlation with systolic blood pressure and low direct and indirect correlation with diastolic blood pressure. **Conclusions:** In view of the study, we can conclude that muscle strength levels have a close relationship with body composition variables such as body fat percentage, BMI, kilograms of muscle mass, blood pressure, triglycerides, and total cholesterol, being relevant variables in the standardization of objective measurement techniques that recognize patients with metabolic disorders. **Relevance:** The standardization of identification models of cardiometabolic risk markers from muscle strength becomes an early detection tool when predisposing chronic noncommunicable diseases.

Keywords: Cardiometabolic, grip strength, Isokinetic force.

Abstract code: 18

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Effect of beetroot juice on glutathione and performance of master swimmers exposed to lactate resistance stimuli

AUTHOR'S

Vianney Curiel
Juan Manuel Morales
Minerva Ramos
Iza Pérez
Adriana Aguilar
Ana Vega
Liliana Olalde
Miriam Aracely Anaya

Universidad Autónoma de Querétaro - México.

CORRESPONDING

viana.ccjv@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):35

Background: High-intensity exercise induces oxidative stress. Adaptation to such stress offers benefits to health and physical performance. Studies in humans and animals have shown that the response to exercise-induced oxidative stress can be affected by the consumption of antioxidant-rich foods such as beetroots. **Aims:** To evaluate the effect of consumption of beet juice on the performance and levels of reduced glutathione (GSH) of moderately trained master swimmers exposed to stimuli of lactate resistance. **Methods:** Experimental-cross study. Thirteen male and female master swimmers (age 45.8 ± 10.2), completed two blocks of one-week high-intensity training, which included supplementation with two portions of 140 ml of beet juice for eight days, separated by a cleaning period. The performance was evaluated using a 6x50m Test crawl style before and after supplementation. Time and lactate were recorded during the test. Total glutathione (GSH) was analyzed before and after supplementation. **Results:** The swimmers had an average BMI of 25.3 ± 3.1 kg / m2, body fat 27.3 ± 5.1%, leukocytes 5.4 ± 0.7 x103 / µL and hemoglobin 15.5 ± 3.1 g / dL. Lactate at the beginning of the performance test was not significantly different in both groups (p = 0.08), while at the end, it was lower in the GSJB 13.1 ± 2.3 mmol / L compared to the GNS 13.8 ± 1.9 mmol / L (p = 0.046). The GSJB decreased the time to swim 50 meters free in 4 of the six repetitions of the performance test by 1.56sec (p <0.05), and the GSH was greater in the GNS group after the RLA stimuli (4.9 vs. 7.8 µM / mL, respectively, p = 0.045). **Conclusions:** These results suggest that beetroot juice supplementation favors exercise adaptations, improving lactate tolerance during stimuli of lactate resistance in master swimmers. Likewise, the stimulation of lactated exercise without the use of exogenous antioxidants can induce a response in endogenous antioxidant systems. **Relevance:** Our results show the benefits of including intense stimuli in exercise programs to favor the endogenous antioxidant response in non- elite active people during the aging process that can also help improve inflammatory states induced by obesity or sedentary lifestyle. On the other hand, support is given regarding the use of beet juice in the physical-sports performance of moderately trained adults.

Keywords: beetroot, Physical activity, Antioxidants, Physical performance.

Abstract code: 12

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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The importance of nutrition of the pregnant woman and the fetus for the promotion of health and quality of life

AUTHOR'S

Deborah Gariba Nunes
Maria Gisele Santos

Universidade Federal do Paraná (UFPR) - Brasil.

CORRESPONDING

deborahgariba@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):36

Introduction. The gestational period is marked by a dynamic anabolic state, promoting continuous adjustments in relation to the nutritional demand of macro and micronutrients. The expected weight gain of the eutrophic pregnant woman is around 15 to 20% of her pre-gestational weight, and such monitoring is of fundamental importance in order to avoid deficiency or excess. Excess maternal weight can lead to hypertensive syndrome, gestational diabetes, obesity, fetal macrosomia, and complications in childbirth and the puerperium. Low maternal weight can impact fetal growth and development. Studies show that regular physical exercise during pregnancy can promote physical and psychological benefits, but few pregnant women have this knowledge or are confident in performing such practices. **Objective**. To review the impact of regular physical activity and healthy eating to promote maternal and child health. **Method**. Medline and Pubmed databases for the period from March to June 2021 were used. **Results**. Maternal nutrition had a direct impact on the baby's health. Thus, all food groups should be considered, prioritizing fresh and minimally processed foods. It is also essential to encourage the consumption of healthy fats, such as omega-3 (LCPUFA) for adequate fetal neurological development. As for weight gain, it was not recommended to carry out a restrictive diet or weight loss during this period, which could harm the baby's correct weight development. In addition, recent meta-analysis studies relate the positive effect of regular exercise on the maintenance and weight gain of pregnant women. The practice of exercise for overweight and obese pregnant women must be guided and supervised and must be associated with nutritional guidelines, in order to promote weight control. In addition, several studies have shown that regular physical activity during pregnancy reduced the risk of gestational diabetes by 50%. As for preeclampsia, there is little evidence on such a protective effect. **Conclusion**. The practice of regular maternal oriented physical activity positively impacted the health of the pregnant woman, with no negative evidence for the offspring. In addition to not being associated with preterm labor or low birth weight. The nutritional monitoring of pregnant women is essential for the maintenance of their needs, in order to promote adequate weight gain. The results suggest that nutritional monitoring and guided practice of physical exercises are related to health promotion during and after pregnancy. **Relevance**. The adoption of healthy lifestyle habits during pregnancy promotes maternal and child health and prevents unfavorable postpartum outcomes, in addition to reducing the morbidity and mortality of this population.

Keywords: Pregnancy, Physical activity, Health promotion.

Abstract code: 8

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Physical activity and immunology in the elderly

AUTHOR'S

Eugenio Merellano Navarro
Leandra Norambuena Mardones
Alexandra Olate-Briones
Andres Herrada Hidalgo

Universidad Autónoma de Chile - Chile.

CORRESPONDING

emerellano@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):37

Background: The deterioration of the immune system associated with age, called immunosenescence, is characterized by functional deregulation of T cells. Although it affects all individuals, different environmental and genetic factors affect the individual's susceptibility or resistance to immunosenescence. It has been shown that physical activity improves autonomy and functionality in older adults. However, it has not been studied if physical activity affects immunosenescence. **Aims:** To analyze peripheral blood T cells in older adults and correlate these data with physical activity levels. **Methods:** Thirty volunteers over 65 years old and 7 young controls were recruited. The functional capacity was measured through the "Composite Physical Function (CPF) scale", in addition to a battery of questionnaires that included instruments of physical activity, physical condition, health-related quality of life, depression, medical history, and sociodemographic data. Peripheral virgin CD4 + and CD8 + T cells were analyzed by flow cytometry. **Results:** Virgin T cells were shown to decrease and IL-6 levels increase as older people age. Interestingly, there is a strong negative correlation between the number of virgin T cells and IL-6 levels in older adults, which suggests a direct link between the reduction of the group of virgin T cells and the increase in inflammation. Physical activity in youth did not affect immunosenescence and inflammation in older adults, but physical activity increases the number of virgin T cells and reduces inflammation in the elderly. **Conclusions:** The results showed a reduced number of virgin T cells and higher levels of IL-6 as older people get older. In addition, the strong negative correlation between these parameters suggests that virgin T cells may have a direct suppressive activity on innate immune components. In addition, physical activity can reduce immunosenescence and inflammation in older people. **Relevance:** Latin America is undergoing a demographic transition that is increasing people's life expectancy. Through the results of this study, physical activity can modulate the immune response in the elderly.

Keywords: Physical activity, Elderly, Immunology, T lymphocytes.

Abstract code: 59

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Benefits of Physical Activity to the immune system of patients with breast cancer

AUTHOR'S

Estefania Quintana Mendias

Universidad Autónoma de Chihuahua - México

CORRESPONDING

esquintana@uach.mx

Rev Bras Ativ Fis Saude 26(suppl 3):38

Background: The immune system is one of the biological mechanisms that show great relevance in the development of carcinogenesis ,and shows an immediate response to the effect of physical activity in healthy people, or cancer survivors. In particular, Natural Killer (NK) cells show an increase in peripheral blood, in number and in their cytotoxic activity, after minutes of starting a physical effort, being the first line of defense against tumor cells. However, there are still few studies that analyze the behavior of these cells in the most critical stages of treatment, specifically during chemotherapy. **Aims:** To assess the acute effect of physical activity on immune markers in healthy women and with breast cancer during chemotherapy treatment. **Methods:** A quasi-experimental study will be conducted to assess the acute effect of physical exercise on NK cells during chemotherapy treatment. A 30-minute aerobic exercise session on an endless band, at moderate intensity, and with pre-post measurements will be applied. The measurements will consist of the extraction of a blood sample before and immediately after the exercise session, to determine the percentage and cytotoxic activity of NK cells. Clinically healthy women and patients with breast cancer participating in their first chemotherapy scheme will participate. **Results:** The study is currently in the experimental phase, however, preliminary results of four subjects (two from each group), show an increase in the proportion of NK cells and changes in the distribution of their populations can be observed as a result of a single aerobic exercise session. **Conclusions:** No conclusions can be established in this study yet, but preliminary, it can be observed that the exercise causes an increase in NK cells in peripheral blood, immediately after an exercise session, regardless of the health status of the subject. **Relevance:** These results provide us with a tools for the design of accessible, low cost, and scalable physical activity programs for prevention, and as part of the treatment offered by health institutions.

Keywords: Physical activity, Breast cancer, Immune system.

Abstract code: 139

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Physiology

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Analysis of the benefits of ballet for pregnant women, during pregnancy, childbirth and postpartum

AUTHOR'S

Renata Della Enns
Maria Gisele dos Santos

Universidade Federal do Paraná (UFPR) - Brasil.

CORRESPONDING

renata.enns@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):39

Background and objective. This study aims to analyze, from a bibliographic review, the benefits of classical ballet for pregnant women, both during the gestational period and at the time of delivery and postpartum, targeting both beginner and professional dancers. **Results**. Research indicates that only 4.7% of pregnant women in Brazil perform physical activity during the entire gestation period, and only 12.9% perform some physical activity during this period. Until 1985 there was a fear about prescribing physical activities during pregnancy, but to date, we already know that physical activity during pregnancy can be extremely beneficial. Contrary to what many still believe, pregnancy is not a pathological or unhealthy state where the woman must remain at rest, but a moment where she must take care of herself and her well-being. This research area began seeking to understand all the changes resulting from pregnancy in the woman's body, including the metabolic, hormonal, cardiovascular, and respiratory systems, musculoskeletal and central nervous systems. Soon after, the benefits of Classical Ballet for its practitioners were studied, including cardiovascular, hormonal, psychological, neural, musculoskeletal, metabolic, flexibility, respiratory, and body awareness conditioning. A correlation was then established between these benefits and the woman's needs during pregnancy. The benefits of music for the fetus were also studied, and it was possible to perceive through the literature review that the fetus already hears the sounds of their surroundings acutely from the sixth month of gestation, and is able to distinguish sounds, react to them and also memorize them. **Conclusion**. The practice of classical ballet during the gestational period can be extremely beneficial, not only for the mother but also for the baby. There is a huge shortage of literature on this subject; however, dance schools provide this modality for their students, without the necessary knowledge about the care that must be taken, risking both the woman and her baby. Also in the professional world, many dancers stop getting pregnant so as not to stop their practice and thus lose some of their performance. **Relevance**. This work aims to help both dance professionals and dancers to better understand the practice of ballet during this magical period in their lives.

Keywords: Ballet, Gestation, Pregnancy.

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

RBAFS Revista Brasileira de Atividade Física & Saúde
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Evaluation of adherence to diet and exercise in patients with diabetes and arterial hypertension as prevention of complications

AUTHOR'S

Corina Flores Hernández
Azucena Guadalupe Molina Gaxiola
Wendy S. Rochin Sotelo
Noe David Lemini Tirado
Gilberto Perea Olmos
María Guadalupe Díaz Cisneros

DCAT-DCS - Universidad de Guanajuato - México.

CORRESPONDING

fhcorina@ugto.mx

Rev Bras Ativ Fis Saude 26(suppl 3):40

Background: According to the World Health Organization, the Non-Communicable Diseases occupy the first place in morbidity and mortality in more than 75% of the population worldwide. In Mexico the average age of mortality is 67.7 years. In 90% of these cases is due to excessive body weight, physical inactivity and lack of adherence to a healthy diet. **Aims:** Evaluate the adherence to diet and exercise in patients with arterial hypertension (AH) and diabetes mellitus (DM) of the endocrinology service of the General Hospital in León. **Methods:** The study was a cross-sectional comparison, the sample size was calculated in EPIDAT 3.0 with a power of 95%=75 patients. The study's objective was explained and informed consent was obtained from the Hospital and the patient. Instruments (filled between 20 and 30 minutes) used were a 24-hour remined, a questionnaire to know adherence to the diet, IPAQ short version, clinical history and BMI. The data was analyzed in the Epiinfo program. **Results:** The average age was 54.01 ± 12.1 years. Fourty three percent had DM, 31.90% AH and 25% DM + AH. The prevalence of a BMI>25 was 78%. There was a positive correlation between lack of adherence to diet, lack of exercise, being a woman and being overweight and obese of 0.80 with a p≤0.001, women were 2: 1 overweight and type 1 obesity more than men (test of X2; ≤0.04). **Conclusions:** Adherence to diet and exercise is a Public Health problem and plays a crucial role in the development of morbi- mortality in the prevention and control of NCD. Patients are aware of the complications of their disease, it is assumed that they would have good adherence to diet and exercise to improve the quality of life and health, however; the results obtained show the opposite, the higher the BMI> 25, the lower the adherence to diet and exercise with a correlation coefficient of 0.90. **Relevance:** Being the lack of adherence to diet and exercise in systemically compromised patients, constant measurements have to be implemented to know if the patient really adheres or not within their treatment. On the other hand it has been observed that when this does not happen the patient deteriorates and this is worldwide, the quality of life in health decreases. On the other hand, all studies focus on biomedical measurements and biomonitoring but not on interventions to improve and adhere the patient to exercise.

Keywords: Diet, Exercise, Ncds, Diabetes, Arterial Hypertension.

Abstract code: 93

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Abstract
Topic: Obesity and non-communicable chronic diseases

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Physical activity and its relationship with metabolic variables in Costa Rican adult women

AUTHOR'S

Jorge Cervantes Sanabria
Jessenia Hernández Elizondo
David Loría Masís

Universidad de Costa Rica - Costa Rica.

CORRESPONDING

jcersa3@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):41

Background: The level of physical activity generates adaptations for people's health. The objective measurement of physical activity is increasingly available to Latin American countries. Therefore, it is important to know the relationships with other factors that are also part of the health of Latino people, as has been done in other latitudes. **Aims:** To determine the relationship between the percentage of sedentary time and low, moderate and vigorous physical activity with fasting glucose metabolic variables and lipid profile in Costa Rican adult women. **Methods:** Forty-three women of legal age were recruited through the social action project ED-3367 Physical Activity for the Prevention of Chronic Noncommunicable Diseases of the Atlantic Headquarters of the University of Costa Rica. Each participant was taken a height and body weight, a fasting blood sample, and an ActiGraph wGT3X-BT accelerometer was placed on the wrist of the dominant hand for 6 -11 days. **Results:** Thirty-one women (age = 43.64 ± 11.18 years, weight = 74.96 ± 16.54 kg) participated in the study. There was no significant correlation between reported physical activity levels and metabolic variables ($p > 0.05$). A 42.73 ± 9.56% of the time reported was sedentary, a 34.79 ± 5.90% low physical activity, a 22.48 ± 7.44% moderate physical activity and 0% vigorous physical activity. Metabolic variables reported a fasting glucose = 99.38 ± 10.52 mg/dL, total cholesterol = 201.45 ± 45.90 mg/dL, triglycerides = 165.22 ± 118.64 mg/dL, HDL-c = 45.22 ± 12.90 mg/dL and LDL-c = 122.03 ± 36.35 mg/dL. **Conclusions:** The level of physical activity is not related to fasting glucose or blood lipids levels in women. **Relevance:** This study is relevant in Latin America because it is based on the use of objective instruments to measure physical activity and its relationship with biological mechanisms.

Keywords: Accelerometry, Lipid Profile, Fasting Glucose, Women.

Abstract code: 23

Abstract
Topic: Obesity and non-communicable chronic diseases

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Moral awareness of self-care and physical activity in children with obesity

AUTHOR'S

María de la Cruz Ruiz Jaramillo
Lourdes Belize Macías Felipe
Mónica Jazmín Osorio Guzmán
Mariana Getsemaní Pérez Landeros
María Isabel García García
Jorge Luis Hernández Arriaga

Hospital General León - México.

CORRESPONDING

maricruiz@gmail.com
Rev Bras Ativ Fis Saude 26(suppl 3):42

Background: In a cohort of 2418 subjects Hampson SE et al. analyzed the association of consciousness at 10 years of age with risk behaviors of smoking, physical inactivity and obesity, and with markers of physiological dys-regulation (systolic and diastolic blood pressure, lipid levels, fasting blood glucose and proteinuria) at 50 years of age. The highest level of awareness in childhood was associated with lower disregulation and lower harmful health behaviors in adulthood. **Aims:** General: Analyze the association between self-care awareness and the level of physical activity in children with obesity (8 to 12 years old) of the pediatric service of the General Hospital of León. Specific objectives: Describe the levels of the trans-theoretical model in relation to physical activity, the level of sedentary lifestyle, cardio-respiratory fitness, cardio-respiratory resistance and the association of each physical activity descriptor with the levels of the trans-theoretical model exchange. **Methods:** Prospective, cross-sectional, comparative study conducted in the pediatric department of the General Hospital of León from July to September 2019. Inclusion criteria: children of both sexes, from 8 to 12 years old with a BMI greater than the 95th percentile according to graphs of the CDC and/or waist/size index greater than 0.5. Non-inclusion criteria: illness during the previous 7 days, contraindications for physical activity, neurodevelopmental delay, lack of consent or consent to participate. Instruments: Harvard Step Test to measure cardio-respiratory fitness and cardio-respiratory resistance. Transteoretical model of change of Prochaska with the adaptation of Ishii Q et al to evaluate the stages of action and preaction, Physical Activity Questionnaire for Childern (PAQ-C) version validated in Spanish to identify sedentary lifestyle (cut-off point). **Results:** Twenty-six children (16 male, 10 female), aged 10.4 + 1.5 years were studied. There were 19 in pre-action stage (73%) and 7 in action level (27%). Physical efficiency index was 66 + 14. Cardio-respiratory fitness index was excellent in 13 (50%), very good in 5 (19%), good in 5 (19%), enough in 1 (4%) and poor in 2 (8%). Sixteen children were sedentary (62%). PAQ-C score in preaction stages was 2.4 + 0.6, and 3 + 0.5 (p: 0.008, power 82%) in state of action. **Conclusions:** The level of sedentary lifestyle is associated with the level of change of Prochaska. **Relevance:** The study provides evidence of the usefulness of instruments to objectively measure physical activity and the level of awareness of self-care in children

Keywords: Children, Obesity, Physical ability, Moral awareness, Self-care.

Abstract code: 112

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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Effect of a primary health care intervention in Mexican adults with overweight. Pilot test

AUTHOR'S

María de Jesús Serrano Plata
María Eugenia Álvarez Orozco
Rafael Manjarrez Montes de Oca
Martha Angélica Corona Guadarrama

Universidad Autónoma del Estado de México - México.

CORRESPONDING

lnmdjsp@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):43

Background: Since 1980, obesity rates have increased at an alarming rate. Current strategies to lose weight are still directed to low-risk treatments, one of them is the regular practice of physical activity. It is essential to apply easy and accessible primary health care interventions for the entire population. **Aims:** To compare body weight and fat before and after a primary health care intervention in overweight Mexican adults. **Methods:** Quasi-experimental study of a group with pre and post intervention evaluation. The entire student population and / or their families from a faculty of the Autonomous University of the State of Mexico were invited to participate in the "Stand up, walk or dance" program. Sedentary people with excess weight, without pregnancy, and without chronic degenerative diseases were eligible. After signing the informed consent, anthropometric measurements were taken following standardized procedures, which were repeated at the end of the program. The intervention consisted of providing physical activity recommendations, according to national and international criteria for two months in face-to-face sessions and individually. **Results:** The intervention was completed by 19 adults (age = 38.7 ± 12.8), mostly women (57.9%), with paid work as occupation (47.4%) and the socioeconomic level C + prevailed. At the end of the two months of intervention, the participants reduced body weight (-0.843 ± 0.36 kg, p 0.11). **Conclusions:** Primary health care strategies are effective for losing weight, without drastically changing the habits of the population. It is suggested to train health professionals to employ simple strategies that are appropriate for the population group through pleasant, appropriate, and culturally accepted options that facilitate the regular practice of physical activity. **Relevance:** Experimental and longitudinal studies involving large samples are needed to implement primary health care interventions.

Keywords: Physical activity, Overweight, Primary care.

Abstract code: 130

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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Early effect of a physical exercise program on functional capacity in older adult women with dynapenia

AUTHOR'S

Mariana Romero García
Marcos Galván García
Guadalupe López Rodríguez

Universidad Autónoma del Estado de Hidalgo - México

CORRESPONDING

nut_marianaroga@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):44

Background: During aging, loss of muscle strength – dynapenia–(MS) accompanied by unhealthy lifestyles and a sedentary lifestyle can trigger functional limitations and dependence. **Aims:** To assess the early effect of a multi-component exercise program on physical functionality in older adult women with dynapenia. **Methods:** Non-randomized clinical trial in 59 women, > 65 years of age with dynapenia (MS3 weekly sessions of 45-60 minutes). For the analysis of the data, measures of central tendency, mean, median, and standard deviation were applied. Statistical analysis was performed with non- evidence parametric using the Mann-Whitney U test and the Wilcoxon test, having a p-value of significance. **Results:** Results of 31 OA women of the IG and 28 of the CG, age of 71.6 (± 4.47) and 69.58 (± 3.60) years respectively (p = 0.162) are presented. The baseline MS was 16.36kg (± 3.24) for IG and 14.73kg (± 4.18) for CG (p = 0.220), in the midterm evaluation the IG recorded 17.66 (± 3.53) and CG 14.98 (± 2.0) (p = 0.035). The SPPB delta showed that the IG obtained +0.36 pts in "Balance test" (p = 0.03), -0.86 seconds for "VM in 3m" (p = 0.000), -5.04 sec for " Get up from the chair "(p = 0.000), -2.38 seconds for" TUGT "(p = 0.000). and +, 186 m / s in "VM in 6m" (p = 0.000) while the CG reported +0.14 seconds in "VM in 3m" (p = 0.004), +0.29 seconds in "Get up from chair "(p = 0.003), +0.205 for" TUGT "(p = 0.016) and -0.04 m / second in the" VM in 6m "test (p = 0.000). The risk of falls registered a 50% increase in CG and a 127% decrease in IG. **Conclusions:** Multicomponent physical exercise programs delay functional impairment and prevent disability and dependency in OA women. **Relevance:** The Vivifrail multi-component program, represents an alternative to improve the functional physical capacity of OA women with dynapenia, improving their quality of life.

Keywords: Multicomponent, Dynapenia, Functional capacity.

Abstract code: 133

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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Effects of the Fallproof program on the balance of the elderly of a geriatric foundation

AUTHOR'S

Mónica Delgado Molina
Jonathan Muñoz Luna
Vanessa Bernal Latorre
Luisa Maria Guztines Rosero
Diana Morillo Rodriguez

Universidad Mariana Pasto Colombia - Colombia.

CORRESPONDING

cdelgado@umariana.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):45

Background: Frenkel technique versus Fallproof technique in the syndrome of falls of the elderly over 65 to 75 years of the nursing home in the city of Puyo. Assessment of balance and gait in older adults who participate and not in a physical exercise program, January 2014. Effectiveness of balance training in the prevention of falls in the elderly belonging to the Golden Years group of Canton Ambato. **Aims:** To determine the effects of the Fallproof program on the balance of older adults of a Geriatric Foundation, period 2019. **Methods:** A study was conducted with a quantitative approach, type of descriptive study, with a longitudinal design of a prospective cohort. The population consisted of 38 institutionalized older adults in the Geriatric Foundation. Eleven older adults were selected who met the inclusion and exclusion criteria, aged 60 to 70 years. With the prior informed consent of the legal representative of the Foundation, sociodemographic characterization evaluation was carried out, then the pre-evaluation was applied, the exercise program was executed, and finally, the post-evaluation was carried out with balance assessment scales (TB, EAF), which allowed to determine the risk of falls in older adults. **Results:** In the evaluation of the balance with the EAF, the items that showed greater statistical significance after the application of the exercise were: stretch forward to catch an object at shoulder height, walk with tandem feet, monopedestation, a long jump of two feet—finding a statistically significant association between the application of the Fallproof program and changes in balance. **Conclusions:** Through the execution of the Fallproof program, comparative results were obtained before and after its application, where it was evident that an adequate implementation during the corresponding period and combined with an exercise program that is systematized and that includes The work of dual tasks improves the conditions of equilibrium in institutionalized older adults, thus reducing the number of falls, due to physiological adaptations acquired by the application of the program. **Relevance:** It was shown that adequate implementation of the Fallproof program during the corresponding period and combined with a systematized exercise program improved the equilibrium conditions in the population from the intrinsic adaptations achieved, thus decreasing the number of falls, generating in them greater facility for the development of their basic functional activities.

Keywords: Fallproof, Balance, Senior, Falls.

Abstract code: 25

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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Abdominal perimeter and motor coordination of Peruvian school-children

AUTHOR'S

Saulo Andres Salinas Arias
Jessica Pérez Rivera

Universidad Peruana Unión - Perú.

CORRESPONDING

saulo.salinas@upeu.edu.pe

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Background: The evaluation of the abdominal perimeter (AP) in children and adolescents has been recognized as the best health indicator, its prevalence in Latin America is 25%; Mexico and Chile have the highest prevalence. In Peru, according to the World Health Organization (WHO), 2 out of 10 schoolchildren have an increased risk of AP. Studies show that the higher the AP, the greater the difficulty in motor coordination (MC) and the greater the risk of developing cardiovascular problems. The objective of the present study was to determine the relationship between the AP and the MC of schoolchildren between the ages of 7 and 11 from an area of the Peruvian jungle. **Aims:** Determine the relationship between the AP and the MC of school-children between 7 and 11 years old from an area of the Peruvian jungle. **Methods:** One thousand four hundred and twenty-eight school-children (731 males, 697 women) who belonged to four districts of the low jungle of Peru were evaluated. These school-children were chosen for convenience. To evaluate the AP, the protocol of the International Society for the Advancement of Kinanthopometry was followed and Sanny brand anthropometric tapes were used. For MC the KTK Battery Motor Quotient was used. The intraclass correlation coefficient (0.99) and the technical error of the sample (0.1). Statistical analysis were performed using the statistical package SPSS 22.0. The correlation was analyzed using the Rho Spearman coefficient. **Results:** From the 1428 schoolchildren; 511 presented disturbance in coordination; 618 coordination failure and 299 good coordination. Barranquita and Zapatero had a higher risk of suffering from cardiovascular problems. The relationship found was statistically significant (p=0.000) and vice versa. The correlation coefficient was -0.13, that is, it has a low correlation. **Conclusions:** The greater the abdominal perimeter, the less the motor coordination, and the women presented greater coordination failure. **Relevance:** The project opened a little studied field in Peru on public health issues such as the AP and the MC.

Keywords: Abdominal perimeter, Motor coordination, School-children.

Abstract code: 107

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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Exercise prescription in people with chronic renal failure

AUTHOR'S

Wilder Andres Villamil Parra

Universidad Nacional de Colombia - Colombia.

CORRESPONDING

wavillamilp@unal.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):47

Background: Renal problems have become one of the non-communicable alterations with the greatest impact on society, affecting any person regardless of ethnicity, gender, age, or socioeconomic status. Like diabetes, high blood pressure and obesity, kidney problems are silent, progressive and fatal, mostly associated with unhealthy behaviors. Nowadays, this phenomenon vertically increases in terms of morbidity and mortality, with an increasing impact on 10% of the world population. It is known that between 50 and 60% of deaths in these patients are due to worsening of cardiovascular changes due to an increase in vascular injury factors (AHT, arteriovenous fistulas, ventricular hypertrophy, dyslipidemias, obesity, hypercalcemia and sedentary lifestyle). **Aims:** Establish trends for the prescription of physical exercise in adult patients with chronic renal failure. Determine the multisystemic effects of physical exercise in people with kidney disease. **Methods:** A systematic search was carried out on the platforms Pubmed, Embase, PEDro and Scielo. Randomized controlled clinical trials on physical exercise in intensive care were selected. For the final matrix, quality, risk of bias, heterogeneity of the studies were evaluated by two evaluators. **Results:** Two hundred and thirty-five studies were identified, from which 23 articles were selected to form the quantitative analysis matrix. Two main trends were found as an intervention framework; the first under the prescription of individualized physical exercise according to physical performance tests, and the second through intramural or hospital exercise programs according to the person's health condition. **Conclusions:** Although there is scientific evidence of the benefits of physical exercise in people with chronic kidney disease, physical exercise programs are diverse. Physical exercise programs should include training of the cardiovascular capacity, muscle performance, joint mobility and coordination properties in general. Every program should focus on educating the patient through training, intervention plans at home, and motivational strategies with self-report. A session for patient education on the role of physical exercise should be allocated. **Relevance:** According to the Latin American Society of Nephrology and Hypertension, there is a considerable increase in morbidity and mortality rates of chronic kidney disease; associated with unhealthy lifestyles. Therefore, it is necessary to establish interventions that reduce the incidence and prevalence of metabolic and cardiac comorbidities in this type of people.

Keywords: Kidney disease, physical exercise, physical activity, physiotherapy

Abstract code: 92

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

RBAFS Revista Brasileira de Atividade Física & Saúde
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Differences on body composition and biochemical parameters between practitioners and non-practitioners of soccer

AUTHOR'S

Eliane Aparecida de Castro
Lígia Ribeiro Moscardini
Sílvia Ávalos Hallak
David Ulloa
Paola Barboza
Daniel Santos

Universidad Católica de la Santísima Concepción - Chile.

CORRESPONDING

eaparecida@ucsc.cl

Rev Bras Ativ Fis Saude 26(suppl 3):48

Background: The benefits of physical exercise, used as a tool to maintain a high health status, are highly documented in the literature. However, amateur soccer players often present characteristics and current problems of sedentary lifestyle, such as excessive levels of adiposity and an increase in cardiovascular risk factors. **Aims:** The objective of this study was to compare body composition and biochemical parameters between practitioners and non-practitioners of soccer. **Methods:** Thirty-eight health men were divided into two groups: soccer practitioners (n=26; 22.1±4.5 years) and non-soccer practitioners (n=12; 22.5±3.8 years). Body weight and height were measured and body mass index (BMI) was calculated. Body fat percentage was obtained by Falkner formula composed of the triceps, subscapular, suprailiac and abdominal skinfolds. Total cholesterol (TC), high-density lipoprotein (HDL), low-density lipoprotein (LDL), very-low-density lipoprotein (VLDL), fasting glucose and C-reactive protein were measured by standard procedures. For mean comparison T-test and Mann Whitney test were employed according data distribution. Significance level adopted was p=.05. **Results:** Significant differences were observed between soccer practitioners and non-soccer practitioners, respectively, for fat percentage (14.3±4.8% vs 21.2±7.5%; p=.005) and fasting glucose (82.9±6.9mg/dL vs 89.8±8.7mg/dL; p=.005). No differences were observed for any other variable between two groups (p>.05; soccer practitioners and non-soccer practitioners, respectively: body weight = 72.8±9.6kg vs 75.4±18.2kg; height = 1.8±.06m vs 1.8±.06m; BMI = 22.7±2.9kg/m2 vs 24.1±4.6kg/m2; TC = 150.4±32.8mg/dL vs 157.5±35.4mg/dL; HDL = 46.6±8.8mg/dL vs 51.7±9.6mg/dL; LDL = 88.6±28.8mg/dL vs 88.2±26.9mg/dL; VLDL = 15.2±6.8mg/dL vs 17.6±11.3mg/dL; triglycerides = 76.1±34mg/dL vs 88.2±56.6mg/dL and C-reactive protein = 1.6±1.9mg/dL vs 7.2±21.7mg/dL). **Conclusions:** Soccer practitioners presented a more favorable body composition and fasting glucose profile than their non-practicing counterparts, although fasting glucose was normal levels for both groups. **Relevance:** Amateur soccer practice could help maintain adequate levels of body fat in healthy Latin American young adults. The influence of this sport on biochemical parameters should be evaluated in older populations, where the impact of age on these variables is greater.

Keywords: Fat percentage, Fasting glucose, Cholesterol, Players, Football.

Abstract code: 159

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

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TV time versus sedentary behavior associated with overweight and obesity in Mexican adults

AUTHOR'S

Diego Orlando Calderon Tabaoda
Cesar Hernandez Alcaraz
Wendy Daniella Rodríguez García Simón
Barquera Cervera

Universidad Autónoma de Guerrero - México.

CORRESPONDING

diego_orlando_11@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):49

Background: Watching television is the most reported sedentary behavior in developed and developing countries. In Mexico, 70% of the population is overweight and obese. Previous studies conducted in the Mexican population have reported associations between watching television and obesity. **Aims:** Characterize time in front of television by categories of body mass index and presence of abdominal obesity in adults from three municipalities of Morelos. **Methods:** Data from 1,870 adults recruited in a diabetes screening study and complications in three municipalities of the state of Morelos were analyzed. Height, weight and waist circumference were measured to calculate BMI (WHO) and the presence of abdominal obesity (IDF). The average daily time in front of television was asked in the 7 days prior to the survey. The response options were "Nothing" to "More than 9 hours per day." The variable was categorized using 2 hours as the cutoff point. The proportions of people who watched television for more than two hours were estimated, by category of BMI and by the presence of abdominal obesity, through raw and adjusted multi-nominal logistic regression models. **Results:** Of the adults analyzed, 50.5% watched television more than two hours during the week or on the weekends. Only 19.8% have a normal weight and 11.8 have no abdominal obesity. The percentage of adults who watch television more than two hours any day of the week is higher in people who are overweight and obese compared to those who have a normal weight, with a statistically significant tendency. No abdominal obesity differences were observed. **Conclusions:** Watching two hours or more of television a day is associated with the presence of overweight and obesity, but not with abdominal obesity. **Relevance:** This study provides evidence from the Mexican population about the association between sedentary behaviors and overweight and obesity. At the moment, the evidence regarding this association is scarce in Latin America.

Keywords: Sedentary, Obesity, Mexican population.

Abstract code: 171

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Obesity and non-communicable chronic diseases

RBAFS Revista Brasileira de Atividade Física & Saúde
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BMI physical activity and handgrip strength in new students of the Bachelor of Nutrition

AUTHOR'S

Mariana Echeverria Cruz
Amairany Guadalupe Cimé Canto
Misael Samuel Gómez Paredes
Delia Juliana Sansores España
Rosa Isela Nava Camacho
Rubén Andrés Gutiérrez González
Ramsés Rosado Solís

Universidad Modelo - México.

CORRESPONDING

marianaecheverria.cruz@hotmail.com

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Background: The change from high school to university may represent changes in the student's lifestyles due to the academic burden involved. This could have an impact on the increase in body mass index (BMI) and a decrease in physical activity levels (PA) and the impact on your health status. In the same vein, grip strength (GS) is an early predictor of cardiometabolic risk. Grip strength will be determined by the type of physical activity that is performed. **Aims:** To evaluate the BMI, PA and GS in first-year students of the degree in Nutrition of the Model University of Merida, Yucatan. **Methods:** The study was observational, cross-sectional, prospective, descriptive, which included a non- probabilistic sample for the convenience of students enrolled in the first semester of the Bachelor of Nutrition in the period August-December 2019, without diagnosed chronic disease, pathologies that will affect your limbs, amputations, non-pregnant women and that you will sign your informed consent. Weight, height, and BMI were calculated, GS was evaluated with a Takei 5401 dynamometer, and physical activity was determined using the International Physical Activity Questionnaire (IPAQ). BMI classified according to the WHO and the prehensile force, according to Bustos-Viviescas (2018). Descriptive statistics and Pearson's correlation were performed to analyze the data using SPSS version 20 software. **Results:** 35 subjects were included, 65.7% were women. The mean age was 19.3 ± 1.4 years, height 1.60 ± 0.11 meters, GS 27.9 ± 11.2 kg and the median PA minutes were 600 in the last 7 days. 51.4% had normal BMI, 5.1% underweight and 42.9% were overweight. Regarding the PA, 5.7% was low, 14.3% moderate and 80% high. 45.7% had poor or poor GS, 20% regular and 34.4% was good, very good or excellent. Correlation was found between GS and weight ($r = 0.792$, $p < 0.001$), height ($r = 0.744$, $p < 0.001$), BMI ($r = 0.557$, $p = 0.001$), minutes of PA per week ($r = 0.441$, $p = 0.008$) and age of the participants ($r = 0.391$, $p = 0.020$). **Conclusions:** Although 80% of the students reported high physical activity, 45.7% had deficiency or poor GS, and 42.9% were overweight. **Relevance:** In addition to the importance of physical activity in the BMI, it is important to evaluate the GS as a predictor of cardiovascular risk.

Keywords: BMI, physical activity, grip strength.

Abstract code: 50

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Reliability and validity of the SIT-Q-7d questionnaire in Spanish for adults

AUTHOR'S

Ana Angélica García García
Susana Andrade
Angélica Ochoa Avilés
Diana Morillo Argudo

Universidad de Cuenca - Ecuador.

CORRESPONDING

ana.garciag@ucuenca.edu.ec

Rev Bras Ativ Fis Saude 26(suppl 3):51

Background: Reliable and valid measures of sedentary behavior are crucial in scientific research to determine possible health risks and establish effective interventions. **Aims:** To evaluate the reliability and validity of a self-reported questionnaire to determine the total sedentary time and in specific domains, in Spanish-speaking adults, based on the SIT-Q-7d (Last 7-d Sedentary Behavior Questionnaire). **Methods:** A validation study was carried out in 130 adults (66 nurses of a hospital and 64 administrative employees of a university) in Cuenca-Ecuador. The SIT-Q-7d questionnaire translated into Spanish and submitted for review by experts before its application was applied. To assess the reliability, the questionnaire was administered twice to 66 nurses, with a difference of between three to six weeks between the first and second measurements. The test-retest reliability of the different items of the questionnaire was analyzed using the intraclass correlation coefficient (ICC). To assess the validity of the criteria, administrative employees (n = 64) used Actigraph wGT3X-BT triaxial accelerometers seven days before the application of the questionnaire. The agreement between the validation criterion and the questionnaire was evaluated with the Spearman correlation coefficient. **Results:** The reliability of the test-retest for the total self-reported sedentary time was moderate (ICC = 0.56, 95% CI: 0.25-0.74). The ICC for specific domains meals, transportation, occupational, in front of the screen (watching TV or using the computer in a non-occupational way), and other activities (reading, in housework, listening to music) varied between 0.32 and 0.77. The domains with greater reliability were sedentary reading time (ICC: 0.77, 95% CI: 0.62-0.86) and occupational sedentary time (ICC: 0.70, 95% CI: 0.50-0.82). The sleeping time presented good reliability (ICC: 0.70, 95% CI: 0.49- 0.82). Spearman's correlation between total self-reported sedentary time and that measured by accelerometer was moderate (rho = 0.31, p = 0.04). **Conclusions:** The sedentary behavior self-report questionnaire shows acceptable reliability and validity. This questionnaire is useful for obtaining information on the context of sedentary behavior in Spanish-speaking adults, and especially if you want to deepen the occupational environment. **Relevance:** Numerous questionnaires are available for measuring sedentary behaviors. However, most of them have not been translated into Spanish or adapted to Latin American reality. In addition, the SIT-Q-7d questionnaire is currently being widely used in epidemiological investigations. However, few studies have analyzed its validity of criteria.

Keywords: Sedentary, Questionnaire, Accelerometer, Validity, Reliability.

Abstract code: 33

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Validity and reproducibility of long IPAQ and MTPAQ in a subsample of teachers

AUTHOR'S

Catalina Medina Garcia
Adriana Monge
Edgar Denova Martin Lajous
Ruy López
Simón Barquera
Isabelle Romieu

Instituto Nacional de Salud Pública - México.

CORRESPONDING

catalina.medina@insp.mx

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Background: Because physical activity is a strong risk factor for NCDs and mortality, this factor is measured in most health surveys by means of a questionnaire. So it is important to know its reproducibility and validity. **Aims:** The objectives were to determine the reproducibility and validity of the Physical Activity Questionnaire of Mexican Teachers (MTPAQ) and the International Physical Activity Questionnaire long version (IPAQ-vl) in a sub-sample of Mexican teachers of the Cohort of Mexican teachers (MTC). **Methods:** In total 99 teachers from two states were interviewed and visited the assessment center. Anthropometric and physical activity measurements were collected. Physical activity levels were obtained from accelerometers (2 measurements - month 6 and 34), IPAQ-vl (5 measurements - months 1, 3, 6, 9 and 12) and the MTPAQ (2 measurements - months 1 and 36) during 36 months. The accelerometers were used for 7 consecutive days, the IPAQ-vl asks about the levels of moderate-vigorous physical activity (MVPA) of the last week divided into 4 domains and the MTPAQ asks about the levels of MVPA in free time, work and sitting time in the last 12 months. MVPA minutes / week were estimated for each instrument. Variables that did not have a normal distribution were logarithmically transformed. Pearson correlations were made to determine the relationship between the instruments. Finally, an attenuation adjustment of the validation correlations was made using the Willet method, et al. **Results:** The correlation between the two accelerometer measurements was modest for MVPA minutes / week (r = 0.64). A modest correlation was observed between the MVPA / week minutes of the MTPAQ and the IPAQ-vl (range: r = 0.36 to r = 0.64). The minutes of MVPA/ week of the average of the MTPAQ and of the average of the IPAQ-vl had a low correlation when compared with the average of the minutes of MVPA / week of the accelerometers (r = 0.21 and r = 0.27, respectively). However, this correlation was greater when using the attenuation setting (r = 0.32 and r = 0.41, respectively). **Conclusions:** The MTPAQ and the IPAQ-vl are reliable and invalid instruments compared to accelerometers. **Relevance:** In Latin American countries, questionnaires are the most used instruments for measuring physical activity. This is because objective methods, such as accelerometers, are usually very expensive and not very accessible. Therefore, it is important to know the reproducibility and validity of these instruments in our populations.

Keywords: Validity, Reproducibility, Women, Questionnaires,Mexico.

Abstract code: 161

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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The online ACT24 computerized physical activity recall instrument s and potential for a Spanish language version

AUTHOR'S

David Berrigan
Pedro Saint Maurice
Charles E. Matthews

US National Cancer Institute - Estados Unidos;

CORRESPONDING

berrigad@nih.gov

Rev Bras Ativ Fis Saude 26(suppl 3):53

Background: There is renewed interest in 24-hour time use and online physical activity (PA) recalls in health research. Twentyfour hour recalls can give more accurate estimates of time spent in complex and intermittent behaviors than questionnaires while also providing rich contextual detail. These features support a recent interest in the entire 24-hour day including sleep, sedentary, light and moderate + PA. **Aims:** The goal of this presentation is to introduce a newly updated online English language Activities Completed over Time in 24 Hours (ACT24) smartphone/computer enabled previous day recall and discuss translating and adapting this instrument for use across Latin America. **Methods:** We describe the updated version of the ACT24 instrument, a past validation study in ~800 older US adults. We also report results from the NORC AmeriSpeak Panel, a nationally representative sample of US adults, where ~2,500 participants completed the recall twice during the fall of 2019. To complete the recall respondents selected from 175 activities organized into 14 major categories such as 'Leisure, relaxation, social activities', 'Shopping, errands and appointments' and 'Occupation, working for pay'. Additional questions addressed demographic traits, sleep characteristics height and weight. **Results:** Validation studies of ACT24 indicate high validity in estimation of total energy expenditure compared to estimates based on doubly labeled water and accurate estimates of the amount of time spent sitting and in diverse active behaviors. Early results from this 2019 Panel study include valid responses containing 5 or more activities reported in 22+hours from ~75% of respondents and 15- 20 minutes completion times per recall. We plan a series of analyses addressing sedentary time, MVPA, energy expenditure and walking. An overview of these results will be ready to present at the conference. **Conclusions:** Previous-day recalls are a valuable complement to device based and standardized survey questions for measuring the amount and type of physical activity. They are particularly useful for assessing the social and environmental context of PA. Single recalls can produce valid estimates of group level PA and multiple recalls per person can produce valid estimates of within and between person variation in PA. Such tools could be very useful in countries with growing smartphone usage and a diverse and changing mix of occupational, household, transportation and leisure time physical activity that can be difficult to capture with other approaches. **Relevance:** The proposed presentation illustrates advances in physical activity measurement tools that could be adapted for use in the Americas.

Keywords: Time use, 24 hours, Adaptation.

Abstract code: 47

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Adaptation and reliability of the SOPLAY tool in scholars of a city of Ecuadorean Andes

AUTHOR'S

Angélica María Ochoa Avilés
Ana Angélica García García
Rosa Adriana Pintado Vallejo
Mercedes Cárdenas Contreras
Samuel Escandón Dután
María Augusta Hermida Palacios

Universidad de Cuenca - Ecuador.

CORRESPONDING

angelica.ochoa@ucuenca.edu.ec

Rev Bras Ativ Fis Saude 26(suppl 3):54

Background: A healthy active lifestyle should start early in life. In recent years, physical inactivity among children has raised worldwide, as a result, chronic noncommunicable diseases kill 41 million people each year, equivalent to 71% of all deaths globally. Schools are key settings to promote physical activity as children spend large periods in there; understanding whether the school built- environment encourages or limits physical activity is crucial. **Aims:** To evaluate the reliability of a digital tool adaptation for directly observing physical activity and associated environmental characteristics in specific free play settings in Andean-Ecuadorian schools going boys and girls. **Methods:** The study was performed in two urban schools located in Cuenca-Ecuador in 2018. The international tool System for Observation of Play and Leisure Activities in Young People (SOPLAY) was applied. In a total 54 different areas of the schools were observed, throughout two different techniques: manual and digital. Two independent observers applied both techniques simultaneously in the selected target areas. SOPLAY structure was cross-cultural validated using the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN). The inter-rater consistency for each data collection method was tested by kappa coefficients and intraclass correlation coefficients (ICC). The results of both methods were compared. **Results:** For the digital version, interobserver agreements of kappa coefficients for the five contextual variables (accessibility, usability, presence of supervision, presence of organized activity, and provision of equipment) ranged from 96.4% to 100%, while for the manual version was from 96,7% to 99,7%. Also, for total energy expenditure, intraclass correlations met acceptable criteria in both methods (Digital: 0,99, 95%CI: 0,99-0,99; Manual: 0,98, 95%CI: 0,98-0,99). Similar results were found for the energy expenditure of girls and boys, separately. **Conclusions:** Both methods had a very good inter-rater reliability, but the digital version showed better results. Therefore, it could be an alternative to replace the paper use and save resources in data collection and analysis. **Relevance:** A reliable methodology was obtained for the city of Cuenca (Ecuador), which could guarantee scientifically valid conclusions not only for this city but also for others with similar characteristics, in Ecuador and Latin America.

Keywords: SOPLAY tool, Adaptation, Children, Physical activity.

Abstract code: 141

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Comparison between Practice, Intensity and Preference of Physical Activity between Genders in three schools in Sabana Centro 2018-2019

AUTHOR'S

Karold Tatiana Chacón Garnica
María José España Pineda

Universidad de la Sabana - Colombia.

CORRESPONDING

karold.chacon@unisabana.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):55

Background: According to the National Survey of Nutritional Situation (ENSIN) of Colombia, there is a difference of 13.4% between compliance with the recommendations of physical activity in children between 13 and 17 years being higher in men (18.7%) than in women (7.6%) (2). These data is worrisome because gender equality obligations must be avoided and thus prevent the development of chronic diseases in schoolchildren (4). **Aims:** Compare parameters of physical activity performed between children from three schools in Sabana Centro, 2018-2019. Measure healthy living habits using a tool for measuring the healthy lifestyle habits in schoolchildren Strategy (HM-HVS-ESC), between fourth and sixth grades of 3 schools in Sabana Centro, 2018-2019. Analyze the practice, intensity, and preference of Physical Activity patterns by gender in three schools of Sabana Centro, 2018-2019. **Methods:** This is a descriptive comparative cross-sectional study, where a tool for measuring the healthy lifestyle habits in schoolchildren strategy (HM-HVS-ESC), validated in Colombia by Carvajal et al. In 2018, 537 boys and girls from fourth, fifth and sixth grades of 3 schools in the Sabana Centro region in Colombia. Taking into account the practice, intensity and preference of Physical Activity, making a comparison between the genders. **Results:** There was a gender distribution where 55% were men and 45% women. 92% of girls and 90% of boys do some type of Physical Activity, especially in ages between 8 to 12 years. The type of Physical Activity, between 8 and 9 years old is associated with the daily routine and from 9 to 12 years old, competitive activity is encouraged in both men and women **Conclusions:** This comparison allows us to affirm that there are no differences between the practice of physical activity between the boys and girls participating in the study. Although, it is evident that the boys practice sports and competition activities, and the girls practice sports, artistic and associated activities routine. **Relevance:** To analyze the similarities and / or differences of physical activity parameters in schoolchildren of three Colombian schools, in order to guarantee a level of equitable well-being in the present and future of schoolchildren.

Keywords: Physical Activity, Gender, School.

Abstract code: 132

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Prevalence of risky health behaviors among college women in the City of Brasilia, Brazil

AUTHOR'S

Luciana monteiro Zaranza
Mayara Parente Vinnie Souza Soares
Leonardo Contiero Chagas
Milenne Spinola da Silva
Divina Marcia Oliveira Soares
Esther Silva Oliveira
Juliana Toledo Oliveira
Suelene Andrade da Silva Montalvão
Andrea Ramírez Varela

Centro Universitário do Distrito Federal - Brasil.

CORRESPONDING

lucianazaranza@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):56

Background: Chronic non-communicable diseases have become the main cause of death and disability for women in almost all countries of the world, including in low and middle income countries, like Brazil, where women have high mortality rates for cardiovascular disease, ischemic heart disease and stroke. Thus, health promotion actions in all regions of the world will contribute to a better quality of life. **Aims:** To analyze the prevalence of risk behaviors among university women; and to determine the association between physical activity and other healthy lifestyles. **Methods:** Cross-sectional study of a representative sample of 1,500 university women from the Midwest region of Brazil. The study used a self-administered questionnaire on health-related lifestyle behaviors during the year 2017. All questions were sourced from the Risk and Protection Factors for Chronic Diseases (VIGITEL) survey. Logistic regression and multiple correspondence analyses were run. **Results:** Among this sample of women, most were aged between 20 and 29 years (n = 965 / 64.3%), almost half not reach the recommendation of 150 minutes or more of moderate physical activity per week (n = 727 / 48.4%), most used alcohol (n = 986 / 65.7%), and about a third were overweight (n = 508 / 33.8%). Physically active participants consumed more fruits (p <0.01), salad (p <0.01) and vegetables (p <0.01), while physically inactive participants consumed more soft drinks (p = 0.05), meat with visible fat (p = 0.04) and milk with fat (0.04). Physically inactive women also had a higher prevalence of diabetes mellitus (p <0.01), high cholesterol (p <0.01) and dyslipidemia (p = 0.04). **Conclusions:** Female college students in Brasilia had a high prevalence of risk behaviors and chronic diseases, which could be partially prevented if the recommendation of physical activity was met. There is a need to implement public health policies to promote the practice of healthy lifestyles and reduce non-communicable disease risk favors among young college students in Brazil. **Relevance:** Knowledge about health behaviors in university environments can increase literacy among students about the importance of carrying out more physical activity, thus reducing adverse health effects among this population.

Keywords: epidemiology, college students, health promotion, physical activity.

Abstract code: 106

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Physical activity sleep diet and screen time among adolescents in Mexico City

AUTHOR'S

Gabriela Argumedo Garcia
Fiona Gillison
Thomas Curran
Martyn Standage

University of Bath – UK.

CORRESPONDING

gabriela.argumedo@bath.edu

Rev Bras Ativ Fis Saude 26(suppl 3):57

Background: A healthy diet, adequate levels of sleep and physical activity and limited screen time contribute to the adolescents´ health. In Mexico there is evidence that a high proportion of adolescents lead obesity-risk based lifestyles. **Aims:** The purpose of this study is to present the partial results of large cross-sectional study including: (a) to describe physical activity, diet, screen time and sleep behaviours among 13-15-year-old adolescents in Mexico City, and (2) identify the proportion meeting guidelines recommendations for health. **Methods:** A sample of 172 adolescents attending to five secondary schools in Mexico City participated in the study. Participants completed an online survey to measure screen time and diet and wore an accelerometer (ActiGraph GT3X and GT3X+) for seven days to monitor sleep and physical activity. Descriptive statistics were calculated. **Results:** Valid accelerometer data were obtained from 131 participants. Accelerometer data showed M=46.33 minutes per day spent in moderate to vigorous physical activity (MVPA) and M=8.1 hours of uninterrupted sleep time per night. Participants reported M=6.7 hours per day of screen time and a frequent consumption of energy-dense and sugar-dense food products (juice M= 4.54 portions per week, soda M= 3.97, crisps, M=3.00, sweets M= 3.72, fried food M=2.62). Similarly, a frequent consumption of low-energy and low-sugar food items was reported (green vegetables M=4.50, orange vegetables M=5.03, vegetables M=5.70, fruits=6.08, meat alternatives M=4.75). A large proportion of participants did not accumulate 60 minutes of MVPA per day (77.2%) and exceeded two hours of screen time per day (99.1%). The 37.8% of participants slept less than 8 hours per night and only 3.7 slept 10 or more hours per night. **Conclusions:** Lifestyle behaviours need to be improved among Mexican adolescents. **Relevance:** Given the high prevalence of obesity among children and adolescents living the Latin American region, it is essential to study weight-related health behaviours in order to find strategies to address these behaviours. The results of this study add to the literature in the assessment of movement behaviours using data from accelerometers among adolescents living in a Latin American country.

Keywords: Physical activity, Screen time, Sleep, Diet.

Abstract code: 136

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Measurement and surveillance

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Sex differences in the association between sitting time and dietary patterns Mexico City Survey 2015

AUTHOR'S

Cecilia Isabel Oviedo Solís
César Hernández Alcaraz
Néstor Alonso Sánchez Ortiz
Nancy López Olmedo
Alejandra Jáuregui
Catalina Medina
Simón Barquera

Centro de Investigación en Nutrición y Salud
Instituto Nacional de Salud Pública - México.

CORRESPONDING

cioviedo@outlook.com

Rev Bras Ativ Fis Saude 26(suppl 3):58

Background: Sedentary behaviors, such as sitting time, may comprise the health of populations by replacing time to spent in physical activity and also is associated with poor dietary behaviors, such as snacking. This may contribute to having an unhealthy dietary pattern, and this association may differ between men and women. **Aims:** To evaluate the association of sitting time with dietary patterns and if this association is different between adult men and women living in Mexico City. **Methods:** We used data from a city-wide representative survey conducted between May and June 2015 in Mexico City. Self-reported information on minutes/day of sitting time was collected using the short version of the International Physical Activity Questionnaire short version (IPAQ). Dietary information was collected using a food-frequency questionnaire and patterns were constructed by cluster analysis. The association between tertiles sitting minutes/day and dietary patterns was assessed with multivariable multinomial logistic models. Interactions terms of sitting time and sex were tested. **Results:** Prudent, fast food and basic dietary patterns were identified, with higher consumption of fast food pattern and lower of prudent (38.4% vs. 26.0%). Fast food and basic patterns had a higher contribution to the total energy of high energy-dense foods (i.e., sweetened cereals, maize-based food, maize-tortillas, legumes). The prudent pattern was characterized by the highest contribution of healthy foods (i.e., unsweetened dairy, oilseeds, vegetables). Although no association was observed with the whole sample, men and women in the highest tertile of sitting time had lower (RRR=0.17) and higher (RRR=5.87) relative probability of having a basic pattern rather than prudent pattern, respectively. **Conclusions:** Sedentary behaviors, such as sitting time, differentially contribute to having unhealthy dietary patterns in men and women living in urban contexts, such as Mexico City. **Relevance:** No previous work on these associations in the Mexican population. Both, sedentary behaviors and unhealthy diets are probably contributing to the epidemic of obesity and chronic diseases in Latin American cities such as Mexico City.

Keywords: Sitting time, Dietary patterns, Sex.

Abstract code: 78

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Relationship between indicators of Physical Activity and academic performance in schoolchildren from 49 countries, Ecological Study

AUTHOR'S

William Xavier Rivera Villa

Universidad de Cuenca - Ecuador.

CORRESPONDING

william.rivera@ucuenca.edu.ec

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Background: The relationship between Physical Activity (PA) and cognitive development has been established in studies with population samples. However, the magnitude of this relationship has not considered other influential factors at the country level. **Aims:** Evaluate the relationship between academic performance and physical fitness, school, general PA, active play, and organized sports at the country level through an ecological study. **Methods:** Data was obtained through the report of the Active Healthy Kids Global Alliance (AHKGA), which is an initiative that helps the monitoring and surveillance of PA, specifically the variables of Physical Fitness, school, general PA, active play, organized sport, and PA. As for the grades on academic performance, these were obtained from the PISA tests, which is a comparative study evaluating the results of educational systems. Linear regression models and scatter plots were applied to assess the relationship between academic performance with AHKGA indicators. **Results:** Information from 49 countries, mostly developed countries, was included. The academic performance indicator showed a direct relationship with the school variable ($\beta = 141.19$), meaning that, if the indicators of the application of Public Policies in PA improve, the scores on the PISA tests will also improve. On the other hand, for the variables general PA, physical fitness, active play, organized sport apparently no linear relationship with academic performance was found. **Conclusions:** It is evident that at the country level, academic performance is defined by any policy, organizational factors (e.g, infrastructure, responsibility for policy implementation) or student factors (e.g, PA options based on age , gender or ethnicity) in the school environment that can influence PA opportunities and the participation of children and youth. **Relevance:** This study helps to understand the relationship between different variables within PA with academic performance. This is one of the few studies in Latin America, that additional to being an innovative topic, can serve as a basis for prospective studies on the various variables that can improve academic performance in Latin American children.

Keywords: Academic performance, Physical Activity, Relationship.

Abstract code: 127

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Meanings around physical activity in school children, 8 to 12 years old

AUTHOR'S

Luisa Fernanda Moscoso Loaiza

Fundación Universitaria Sanitas - Colombia - Colombia.

CORRESPONDING

lfmoscosol@unal.edu.co

Rev Bras Ativ Fis Saude 26(suppl 3):60

Background: Physical activity in children takes place in a variety of contexts, such as sports clubs, activities organized by adults, and informal play. This leads to the determinants of physical activity being different for each context. In Colombia, compliance with physical activity recommendations in children between 5 and 12 years of age is low. On average, only 31.1% practice some type of physical activity, the proportion of performance in male children (35.8%) being greater than female (26%). The determinants of the process of adoption of healthy behaviors in children have been studied based on the perceptions of the parents, omitting the perception of the children. **Aims:** Recognize the meanings expressed by school children from 8 to 12 years of age, in relation to the experience of adopting healthy physical activity behaviors. **Methods:** Qualitative study using Visual Grounded Theory, under the methodology of Corbin and Strauss, where data resulting from in-depth interviews and visual data from drawings were analyzed. A sample of 66 children from 3 schools in Bogotá-Colombia participated. **Results:** The category titled "moving I take care of myself because I am happy and I share with others", brings together the positive aspects that children identify after the practice of physical activity where the two-way relationship established between movement and health, in which the movement occurs as a result of having an optimal state of health, since through this the body is strengthened, specifically the muscles, bones and heart. At the mental level, the movement helps concentration, generating relaxation by distracting and freeing the mind from worries, because it generates positive feelings and emotions, such as happiness, joy and taste and enjoyment for the activity carried out. **Conclusions:** The establishment of healthy behaviors in school children between 8 and 12 years of age, in relation to physical activity, is a process that takes place thanks to the child's social interaction with their environment. **Relevance:** This research offers tools for the practice of school nursing, which nurses should strengthen by participating not only in solving the daily problems associated with children's health, but also in the promotion of physical activity.

Keywords: Child, Child Health, Behavior, Physical Activity, Nursing.

Abstract code: 150

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Socio-cultural influences on physical activity and sedentary behavior of school age children. Analysis of a case in the border

AUTHOR'S

César Corvos Hidalgo
Milca Sosa
Héctor Azpiroz
Carlos Ferreira
Juan Viñas
Átila Trapé
Javier Sayavera

Universidad de la República - Uruguai.

CORRESPONDING

upel.fisiologia@yahoo.com

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Background: Currently, some determinants from the micro-environment could be related with youth physical activity levels. Few studies have analyzed the socio-cultural determinants that influence physical activity levels among youth (Jaeschke et al., 2017). It is important to highlight the singularity of border cities like Rivera (Uruguay) y Santana do Livramento (Brasil) which share the same space but with different norms and cultures. Considering that levels of physical activity during leisure among adults from both countries are similar (Chrochemore et al., 2014; Brazo-Sayavera et al., 2018), would physical activity levels and sedentary behavior of youth determined by the country of residence during the first years of life?, highlighting that youth physical activity levels may decrease the prevalence of chronic diseases during adulthood (Fernandes y Zanesco, 2010). Few studies exploring sedentary behavior among school age children from Uruguay exist, posing a challenge for the country in the production of knowledge. **Aims:** To analyze the time engaged in physical activity and sedentary behavior among school age children according to country of birth. **Methods:** A total of 69 school age children aged 6 to 10 years were selected from a private institution in Rivera (Uruguay), which country of birth was Brasil or Uruguay. We used the SAYCARE questionnaire to report the amount in minutes of physical activity and sedentary behavior. Daily minutes in physical activity and sedentary behavior were analyzed using the Mann-Whitney test. **Results:** In total, 30% of participants were born in Brazil. No differences between the time engaged daily physical activity were observed between country of birth (89,01 ± 75,29 vs 101,13 ± 61,02 minutes; Brazil and Uruguay respectively). However, significant differences between the daily time engaged in sedentary behavior were observed (95,95 ± 41,27 vs 69,46 ± 38,21 minutes; Brazil and Uruguay respectively). **Conclusions:** In this study, school age children born in Brazil presented lower daily time in physical activity and significantly lower time in sedentary behavior compared to school age children born in Uruguay. **Relevance:** These findings add new information to this theme in the region and may be relevant for those Latin American zones with open borders.

Keywords: Early Years, Determinants, Health.

Abstract code: 71

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Community initiative, with a gender focus, on Physical Activity in students of a Telesecundaria of the state of Puebla, Mexico

AUTHOR'S

Blanca Hernández Cruz
Margarita Márquez Serrano
Edtna Jauregui Ulloa
Santiago Henao Morán
Alejandra Jiménez Aguilar

Instituto Nacional de Salud Pública - México.

CORRESPONDING

ftblan@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):62

Background: Physical Activity (PA) is attributed with countless health benefits. However, the majority of the population worldwide, does not meet the minimum recommendations of PA for their age, and it is during adolescence when PA practice tends to decrease, affecting more women than men. In Mexico, the same pattern is followed, finding that the majority of the student population between 10-14 years, does not comply with the recommendation of 60 daily minutes of PA. **Aims:** Design, implement and evaluate an initiative to promote physical activity, with a gender focus, on students of a telesecundaria in the state of Puebla. **Methods:** Quasi-experimental study, mixed approach and pre-post initiative evaluation in the same group. The initiative was designed using the Intervention Mapping (IM) methodology and based on the Cognitive Social Theory. Knowledge, self-efficacy, expectation of results, gender determinant in PA and PA conducted during the last week in the student population were evaluated. **Results:** The results show that students have low physical fitness, while most students fall under the good physical fitness area. In the case of self-efficacy, a statistically significant difference was found ($P < 0.05$). The expectation of results and the weekly PA questionnaire for adolescents (PAQ-A) showed a tendency to increase after the initiative. However, it was not statistically significant. In relation to the gender determinant, the group that initially participated considered that AF should be chosen according to gender and that men should practice it more, while in the end they considered that it should be chosen according to taste and that it is important that both genders perform it . **Conclusions:** It is clear that the school is an ideal place to promote PA in the adolescent population and that the IM methodology allows an initiative adapted to the needs of the population. Also, it is possible to state that the gender and place of residence determinants should be considered for future programs or interventions that promote PA. **Relevance:** This study shows the importance of conducting mixed studies in promoting PA and designing initiatives using solid tools such as IM, which allow the initiative to be adapted according to the needs of the population. In addition, it shows that the gender approach is essential when developing initiatives and that their number in rural communities should be increased.

Keywords: Physical activity, Intervention Mapping, Self-efficacy, Gender, Rural Community.

Abstract code: 124

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Barriers and structural opportunities for quality physical education in primary and secondary schools in Mexico

AUTHOR'S

Armando G. Olvera
Selene Pacheco Miranda
Emanuel Orozco Núñez
Alejandra Jáuregui de la Mota

Escuela de Salud Pública de México-Instituto Nacional de Salud Pública - México.

CORRESPONDING

cinys40@insp.mx

Rev Bras Ativ Fis Saude 26(suppl 3):63

Background: The physical education class (PEc) is the ideal time to promote physical activity (PA) among children and adolescents during school hours. Despite the benefits of PA to health, academic performance and the prevention and control of chronic noncommunicable diseases, about 80% of children and 35% of adolescents in Mexico are physically inactive. **Aims:** Identify barriers and structural opportunities for quality physical education in primary and secondary schools of the National Education System in Mexico. **Methods:** We conducted a qualitative study using semi-structured interviews and focus groups with decision-makers from the Ministry of Education and Health and the National Council of Physical Culture and Sports (CONADE); and local actors involved in the design and implementation of the PEc in three states of Mexico. We perform content analysis with the ATLAS.ti software. **Results:** The following structural barriers and opportunities for PE were identified. Barriers: At the national level, CONADE's actions focus on sports development and are not articulated with the PEc, school managers often prioritize other activities and/or subjects over the PEc. In the southeast region, the predominance of speakers of indigenous language and customs and customs in the. Opportunities: The Ministry of Health has the experience to promote PA in the school environment, CONADE has materials and equipment for physical activation, school management heads the leadership of the School Technical Councils and can influence the objectives of the routes of improvement in schools. **Conclusions:** The barriers identified denote a complex picture of physical education in Mexico. However, the opportunities that exist can be maximized with advocacy strategies and social communication campaigns to position the benefits of PE among girls, boys and adolescents. **Relevance:** To our knowledge, it is the first study to characterize the structural barriers and opportunities for PE at the national level in Latin America. The results can lead to an identification of opportunities to strengthen PE in the region.

Keywords: Physical education, Physical activity, Basic education.

Abstract code: 52

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Children and adolescents / barriers and facilitators

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Barriers and facilitators of physical activity in young children living in poverty in Mexico

AUTHOR'S

Ana Lilia Lozada Tequeanes

Instituto Nacional de Salud Pública - México.

CORRESPONDING

cinys20@insp.mx

Rev Bras Ativ Fis Saude 26(suppl 3):64

Background: The first 5 years of life define the physical and mental development in adult life. However, in Mexico there is no information on physical activity (AF) in preschool children. **Aims:** To explore the barriers and facilitators for the practice of PA and sedentary behaviors in young children (0 to 5 years of age) living in poverty conditions in Mexico. **Methods:** Semi-structured interviews with mothers or primary caregivers of children. **Results:** The majority of respondents referred to PA as something healthy. The lack of time to interact with the child to promote PA and ignorance of recommendations and benefits on childhood PA (individual level) was reported. Lack of guides to promote AF in their children and differences between physically active activities between boys and girls (sociocultural level). At the environmental level, the lack of accessible, free, and safe spaces for children's AF was documented. Finally, sedentary behaviors related to personality characteristics of the child and the use of technologies (such as cell phones and tablets) are perceived as part of your child's training in the future. **Conclusions:** Efforts are required at different levels, to modify children's physical activity, and highlight the importance of promoting AF from an early age. **Relevance:** Knowing and understanding the socio-cultural context of the practice of physical activity of young children living in poverty in Mexico contributes to the design and improvement of interventions focused on promoting the practice of activity in that population.

Keywords: Physical activity, Preschool, Qualitative, Poverty, Mexico.

Abstract code: 154

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Barriers and facilitators in adults

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Psychological discomfort and physical activity in women

AUTHOR'S

Melissa Isabel Sigala Chavarría
Luis Eduardo Aguirre Rodríguez
Manuel Salvador Gonzalez Fernandez

Centro universitario de la costa - México

CORRESPONDING

melissa_sigala@hotmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):65

Background: Physical activity is the way to obtain higher levels of body image satisfaction and self-esteem, as well as a greater responsibility for the body itself; in active as in non-active, there is body dissatisfaction. They have numerous somatic, anxious and depressive symptoms. **Aims:** Estimate the value of physical activity in women as a protective factor of psychological distress. **Methods:** The present study is quantitative, descriptive and cross-sectional, applied in a population of adult women. **Results:** Six percent of female participants reported a low BMI, 46% reported a normal BMI, 25% were overweight and 6% accumulated had obesity. The physical activity scores showed that 40% of females were active and 35% moderately active. Seventy-two percent of women considered not doing enough sports physical activity. Within the classifications of psychological distress evaluated by the Kessler scale it was found that the lowest percentage (11%) presented low discomfort, 29% reported moderate perception and 35% reported the highes value. In the classification of high degree of discomfort, the very high level of discomfort presented a lower percentage in relation to the previous degree (25%). **Conclusions:** Three quarters of the studied group were categorized as physically active and moderately active, leaving a part of the population categorized inactive, this coincides greatly with Franco-Arévalo, De la Cruz-Sánchez, & Feu, (2017) who in their study found that three quarters of the women they observed constantly practiced physical activity. From a theoretical sense, physical activity acts as a protective factor against psychological distress, for this study it was intended to observe both variables, although the descriptive results indicate that, despite the existence of high level of physical activity, psychological distress persists, which allows us to assume that the positive relationship between these two exists. **Relevance:** Women perform physical activity to overcome personal challenges, body image issues, health goals and socialization. Significant changes in levels of anxiety and depression are also evident, after exposing them to images that provide stereotypes of feminine beauty, therefore, there is a red focus for the psychological discomfort obtained in women who perform physical activity either intense or moderate without feeling satisfied with the amount of physical activity they perform.

Keywords: Disorder, Body, Woman.

Abstract code: 102

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Exploring the Role of Social Support in Peruvian Women's Physical Activity Levels

AUTHOR'S

Kathleen Trejo Tello
Miranda Badolato
Elizabeth High
Lauren Nelson

College of Charleston, Department of Health and Human Performance - Estados Unidos.

CORRESPONDING

mcinvaleke@cofc.edu

Rev Bras Ativ Fis Saude 26(suppl 3):66

Background: The global obesity epidemic is disproportionately affecting LMICs, including those within Latin America. Shifting demographics have resulted in decreased physical activity and increased prevalence in excess weight in the Peruvian population. Women of childbearing age in the urban and coastal regions are considered the highest risk group for obesity in Peru, with 55.7% being overweight or obese. Social networks can be used as a reliable and valuable source of health information and health care in low to middle-income nations and may provide an effective intervention point for positively influencing health-related behaviors such as physical activity. **Aims:** This study sought to examine the relationship between social support for exercise and Peruvian women's physical activity in order to determine the potential to utilize women's social networks as a strategy to promote physical activity. **Methods:** This cross-sectional survey study was part of a larger study examining the influence of social networks on Peruvian adults' chronic disease risks. Community health workers conducted in- home interviews with 573 women in three rural communities in the northern-coastal region of Peru. Sallis's Spanish version social support for exercise scales were used to assess family and friend's social support for exercise. Physical activity was self-reported using the IPAQ_short form survey. BMI and body fat were assessed using a Tanita BF350 BIA. **Results:** Of the 573 women who participated in the study, 41.9% were overweight, 39.4% were obese and 37.0% were physically inactive. Friend support for exercise scores were higher than family support (M=0.77, SD=0.83). Spearman's correlations indicated that social support from friends was positively associated with increased physical activity amongst the women, $r_s(571) = 0.371$, $p<0.05$. Family support was not associated with women's physical activity amongst all women, however amongst obese participants, family rewards social support, $r_s(224) = 0.285$, $p<0.05$ was positively associated with physical activity. **Conclusions:** Contrary to previous findings in Hispanic populations, amongst Peruvian women, friendship networks significantly and positively influenced a health behavior (physical activity) while family relationships did not. Findings suggest that involving social influences outside of the immediate family may be crucial to designing an effective social network based physical activity program. **Relevance:** Interventions utilizing women's friendship networks may be effective in promoting physical activity and preventing related chronic diseases in Peruvian women. These low-cost, potentially high impact interventions may be well suited for resource-limited communities.

Keywords: Physical Activity, Social Support, Latin America.

Abstract code: 173

Abstract
Topic: Barriers and facilitators in adults

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Inclusion with nature as a potential factor to promote physical activity and reduce sedentary behavior

AUTHOR'S

María José Molina Cando
Samuel Escandon Dutan
Ana García García
Mario Alvarez
Franklin Ramón
Susana Andrade
Angélica Ochoa Avilés

Universidad de Cuenca - Ecuador.

CORRESPONDING

maria.molinac24@ucuenca.edu.ec

Rev Bras Ativ Fis Saude 26(suppl 3):67

Background: Inclusion with nature has been related to health and well-being. Despite being a megadiverse continent, there are no studies in Latin America that have evaluated the relationship between physical activity (PA) and sedentary behavior (SB) with inclusion with nature. **Aims:** To evaluate the association between AF and CS with inclusion with nature in Ecuadorian school children. **Methods:** A cross-sectional study was conducted in schoolchildren aged 9 to 12 who attended 20 schools in Cuenca-Ecuador between October 2018 and March 2019. The levels of PA (IPAQ-C), the SB (excluding activities in school hours, iHealt), life satisfaction (5-25 scale), inclusion with nature (1-7 scale), weight, height, age, sex and type of school (public/private). The relationship between inclusion with nature with PA (dichotomized by its median) and the SB was evaluated by means of logistic and linear regression models adjusted for age, sex, type of school, life satisfaction and Z scores of the index of body mass (BMI). **Results:** 1,028 children participated (52% were women, 51% attended public schools and 35% were overweight or obese) with a mean age of 10.4 ± 1.2 years. The children obtained a moderate AF score (2.7 ± 0.5) and spent an average of 293 ± 158 min/day on sedentary activities, of which 212 ± 139 min/day included screen activities. The level of satisfaction with life and inclusion with the nature of the Cuenca students was 18.6 ± 4.5 and 4.4 ± 18, respectively. Both PA and SB were strongly associated with inclusion with nature. For each unit of increase in the inclusion scale with nature, the screen time decreases by 6.7 minutes (95% CI: -11.62 - 1.79 p <0.01) and the probability of performing higher levels of AF increases by 26% (OR: 1.26; C95%: 1.15 - 1.38; p <0.001). **Conclusions:** The results suggest that the connection with nature plays an important and independent role at the level of PA and SB. **Relevance:** This is the first study on the subject in schoolchildren residing in Latin America; It can serve as a basis for prospective studies and design strategies that promote connection with nature with multiple benefits for both children's health and the environment.

Keywords: Physical activity, Sedentary, Nature, Children, Ecuador.

Abstract code: 20

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Urban settings and built environment

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Walkable environment and physical activity in neighborhoods of low/médium and high socioeconomic status in Chile

AUTHOR'S

Jaime Leppe
Bárbara Munizaga

Universidad Del Desarrollo - Chile.

CORRESPONDING

jleppe@udd.cl

Rev Bras Ativ Fis Saude 26(suppl 3):68

Background: The built environment is described as an important structural component in the promotion of physical activity in the population, therefore, a walkable environment can influence the level of physical activity of the population. **Aims:** To determine the correlation between the perception of the environment and the level of physical activity in neighborhoods of low, medium, and high socioeconomic levels (NSE) of Santiago de Chile. **Methods:** A subsample of the environmental and physical activity study carried out in 2014 (n = 1231) was followed up four years later. Measuring instruments were used following the model of IPEN-Latin America studies. NEWS-A was used to measure the walking environment and GPAQ (transfer and leisure-time domain) for physical activity. This sample is analyzed as a cross-sectional study. **Results:** 296 people from three neighborhoods in Santiago de Chile, high-NSE (n = 66), medium-NSE (n = 100) and low-NSE (n = 130) participated. The average age was 48 years±14, 60% were women and the average BMI was 27±4.3 kg / m 2. The NEWS-A score was P 50 = 273 RIQ = 240-345, according to neighborhood NEWS-A P 50 = 248 (low- NSE), P 50 = 275 (medium-NSE) and P 50 = 296 (high-NSE), statistically significant differences (p <0.01). The physical activity in the transfer domain was P 50 = 100 RIQ = 0-300 minutes / week and in the free-time domain it was P 50 = 0 RIQ = 0-180 minutes / week. According to neighborhood, the time in minutes / week in the transfer domain was P 50 = 100 (low-NSE), P 50 = 90 (medium-NSE) P 50 = 105 (high-NSE) without statistically significant differences (p = 0.91). Physical activity in the time-free domain was P 50 = 0 (low-NSE), P 50 = 0 (medium-NSE) P 50 = 80 (high-NSE) minutes / week, statistically significant difference for high-NSE (p = 0.017). There is no correlation between environment and physical activity time in the transfer or free time dimension, disaggregated by neighborhood, sex or age (p <0.05). **Conclusions:** The perception of the environment is greater according to the NSE of the neighborhood. The time of transfer and free time does not correlate with the perception of the environment, although the time of physical activity of free time is greater in the commune of high NSE. The physical activity times in the transfer and leisure-time domains are low to obtain health benefits according to WHO criteria. **Relevance:** Evaluate the consistency of the evidence with other regions of the world due to the particular characteristics of the urban, political, cultural and social design of our region.

Keywords: Environment, Physical activity, Walking environments.

Abstract code: 22

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

RBAFS Revista Brasileira de Atividade Física & Saúde
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Active travel among Brazilian school-age children and its associated factors

AUTHOR'S

Alysson Diego Araujo Figueiredo
Claro Luiz Antunes Rangel Junior
Ana Tamires Jardim
Mayara de Oliveira Carvalhal
Claudia Vanisse de Brito Costa
Nathália Gabrielly Araújo Mendes
Ana Paula do Nascimento Monteiro
Robson de Lemos Segundo Prazeres
Monica de Almeida Rangel

FAMENE - Brasil.

CORRESPONDING

alysson.f.araujo@gmail.com

Rev Bras Ativ Fis Saude 26(suppl 3):69

Background: Low levels of physical activity and high rates of overweight and obesity in school-age children are risk factors for the development of chronic non-communicable diseases in adulthood. In view of this, active travel can be considered as a strategy to improve the level of physical activity and health conditions in this population. **Aims:** To assess whether there is an association between the type of school, age and sex of school-age children, and active travel. **Methods:** This is a cross- sectional study. Data are from the National School Health Survey (PENSE-2012). A sample of 109,104 school-age children of both sexes from all the Brazilian capitals was drawn. A Binary Logistic regression model was used examining associations, assuming a significance level of p <0.05 (5%) and a 95% confidence interval. Potential associated factors studied included sex, type of school (public or private) and age. **Results:** Being less than 12 years old was associated with a higher odds of active travel by 2.27 times, while with advancing age, the odds of active travel were lower (OR 1.37; p <0.001 for 17 years). Being male was associated with 1.06 hither odds of active travel as compared to girls. Being a public school student (vs. private school) was associated with a 2.31 higher odds of active travel. **Conclusions:** Sex, age and type of school are associated with active travel behaviors among Brazilian school-age children. **Relevance:** The study highlights the importance of performing physical activity and its benefits for students in public and private schools, as well as the factors that influence its occurrence. This study provides important information for implementing strategies to encourage school-age children to be physically active.

Keywords: Environment, Perception, Physical Activity, Adolescent, School.

Abstract code: 135

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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Time in active and motorized transport among school age children according to perceived security. A pilot project

AUTHOR'S

Bruno Bizzozero Peroni, Sofía Fernández Giménez, Enrique Pintos Toledo, Franco de Souza Marabotto, Javier Brazo Sayavera

Instituto Superior de Educación Física - Universidad de la República - Uruguai.

CORRESPONDING

bbizzozero@isef.edu.uy

Rev Bras Ativ Fis Saude 25(suppl 3):70

Background: The way we transport from one place to another influences physical activity (PA) levels and lifestyles. It is a modifiable behavior and an accessible way of increasing habitual PA levels of youngsters (Delisle Nyström et al., 2019). The Uruguayan PA report card for children and adolescents (Brazo-Sayavera et al., 2018) highlights the need of more information on active transport, especially among school-age children. This would allow the identification and implementation of public policies focused on security and aiming to adapt the environment for active transport. **Aims:** To analyze the time in active and motorized transport among school age children from a private center in Rivera (Uruguay) according to their perception of security from traffic. **Methods:** In this study a total of 66 school age children (47% girls) from a private institution in Rivera (Uruguay) were included. We used the SAYCARE questionnaire to report the time in minutes engaged in transportation. The time used for motorized vehicle transportation and the time used for bicycling or walking for transport were registered. We added walking and bicycling time to create the variable for active transportation. The question "Walking or jogging in the streets surrounding my home is not safe because of the traffic" was used to evaluate the perceived security from traffic. A descriptive analysis of time used according to responses of perceived security from traffic was conducted. **Results:** Time engaged in habitual transportation was higher among those using a motorized vehicle compared to those using active transportation, regardless perceived security perception from traffic ($p<0.01$). Those perceiving a safe neighborhood from traffic spent 3 times more daily minutes using a motorized vehicle than using active transportation. Those perceiving their neighborhood was not safe from traffic engaged in almost 4 times more daily minutes of motorized transportation than active transportation. **Conclusions:** This study presents the results of the first analysis on active and motorized transportation among school age children in Uruguay. Results indicate that the time in motorized transportation was higher compared to the time in active transportation, regardless perceived security from traffic. These results should be confirmed with a bigger representative sample, including other variables related to active transportation. **Relevance:** A context on this issue is established in Uruguay, promoting more research and different intervention strategies.

Keywords: Physical activity, Health, Built Environment.

Abstract code: 65

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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Changes in health parameters produced by using the bicycle as transportation in a university community

AUTHOR'S

Alejandro Pliego Rayas, Rubén Celis Rivera

ITESO - México

CORRESPONDING

apliego@iteso.mx

Rev Bras Ativ Fis Saude 25(suppl 3):71

Background: Lack of physical activity has become a public health problem worldwide. Using a bicycle is an alternative form of transportation and can be a tool to increase daily physical activity with the benefits that it can produce. **Aims:** To expose the changes in health parameters produced by the increase in physical activity derived from using the bicycle as transportation. **Methods:** The inclusion criteria were: To be active members of ITESO. Perform less than 1 hour of physical activity/week. Not be professional or amateur cyclists, nor use the bicycle as a means of transport. Not being in treatment to lose weight. No medications to treat high blood pressure, diabetes mellitus or dyslipidemias. Participants underwent the following evaluations: Body weight determination, Height measurement, waist circumference, hip circumference, Waist-hip and waist-height ratios, Measurement of body fat percentage, Heart rate at rest and effort, Pressure Arterial at rest and effort, Bike stress test, Subjective perception of stress, Objective measurement of stress. The bicycle was used as transport for 8 weeks, without a prescription of distance, nor a minimum or maximum time, nor of speed, nor of frequency of use, nor of a certain type of bicycle. **Results:** 10 people participated (3 students, 3 teachers and 4 employees) between 25 and 57 years of age, 2 were women and 8 men. 4 volunteers lost weight, 7 reduced their body fat percentage, 5 decreased waist circumference, 4 improved their waist-to-hip ratio and 5 improved waist-to-height ratio, even though there were no changes in diet in any of them at the express request of the researcher. In 3 there were reductions in resting blood pressure, and in 7 in stress pressure. 5 participants improved their physical capacity. Regarding stress, all presented decreases in objective measurement parameters, as well as in their subjective perception. **Conclusions:** The bicycle as a transport represents a good alternative to increase daily physical activity and its use produces favorable changes in health parameters. **Relevance:** The results of studies such as this one can contribute to the promotion of non-motorized urban mobility in the cities of Latin America, increasing the physical activity of the population and producing improvements in their health.

Keywords: Physical activity, Bicycle, Active transport.

Abstract code: 162

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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Improving Mexican Women's Health and Addressing Complex Health Problems through Cycling and Active Transport Strategies

AUTHOR'S

Lesly Vejar Renteria, Rodney Reynolds

University College London - UK.

CORRESPONDING

lesly_vejar@hotmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):72

Background: Mexico City (CDMX) has complex health challenges that disproportionately affect women. Global health policy makers consider Active Transportation (AT) strategies practical interventions that can successfully address complex health threats, such as air pollution, obesity, diabetes and cardiovascular diseases (CVD). Cycling, the focus of this paper and a form of AT, offers multiple benefits for Mexico's women as well as for the wider population and addresses the aforementioned health challenges. In Mexico and worldwide, several factors inhibit women's participation in cycling. International evidence identifies five cycling uptake barriers: safety and risk perception, accessibility, environment factors, cultural context and personal factors. Few people cycle in CDMX (1.4%) where a distinct gender gap exists among cyclists. Evidence indicates that CDMX women make 22% of the total bicycle trips in the city. However, this statistic obscures CDMX women's attitudes about cycling and the barriers that make them reluctant to incorporate cycling into their daily routines. **Aims:** Describe and analyse gaps in the literature concerning factors and barriers that affect CDMX women's cycling behaviour. Offer evidence-based recommendations for cycling adoption strategies in CDMX. Consider Mexican and Latin-American initiatives that have successfully encouraged cycling as a health strategy. **Methods:** We use 'COM-B' behaviour change theory to describe and analyze factors that limit and promote women's cycling. We identify and adapt international recommendations for cycling uptake to the CDMX context and apply assumptions about CDMX women's travel patterns to analyze AT strategies and cycling. **Results:** Given ambiguous data about CDMX women's cycling behaviours our analysis contrasts international evidence and literature to available CDMX data. We identify specific areas of concern: (1) Mobility and cycling surveys that do not record adequate data about users' personal characteristics. (2) Gender/sex public transport studies that do not include cycling. **Conclusions:** CDMX policy makers should draw on AT strategies and specific behavior change techniques in combination with comparative analysis of international and national cycling data for women to encourage their uptake of cycling. Such interventions matter since AT and women's cycling activities can address a range of acute complex health problems that impact CDMX and disproportionately affect women and their families. **Relevance:** Evidence shows that Mexican and Latin American initiatives have successfully encouraged cycling as a health strategy, but these have not sufficiently included or considered women cyclists and how AT strategies can address multi-dimensional health challenges.

Keywords: Physical activity, Womens health, Active transport.

Abstract code: 39

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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"Ruta Leones" Cycling Roads to promote Physical Activity at the University of Guadalajara and the State of Jalisco

AUTHOR'S

Christian Josué Franco Avalos, Daniel Gómez Aldrete, Edtna Elvira Jáuregui Ulloa, Juan Ricardo López Taylor, Ricardo Alejandro Retano Pelayo, María Georgina Contreras de la Torre

Universidad de Guadalajara - México.

CORRESPONDING

cfranco9691@gmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):73

Background: In the state of Jalisco, strategies have been created and developed to promote active transport to combat physical inactivity. One of these strategies has been the implementation of bike lanes. Having as a reference to the community of the University of Guadalajara, strategic cycleways have been built between modules of the same for its connection. Various interventions have emerged within the university community, such as the Pedaling for your Health program in Unión de Tula, the PROA program at Ing. Matute Remus High School and the Al CUCiénega cycle program, to name a few. **Aims:** General: Promote physical activity through the use of bicycles in the community of the University Network of the University of Guadalajara and the general community of the State of Jalisco. Specific: Promote the use of non-motorized transport (bicycle) as a means of active and ecological transport. Promote the community's link with the environment through outdoor physical activity. **Methods:** It was an intervention study for the promotion of physical activity which consisted in the realization of a series of bicycle rides carried out in 10 municipalities in 4 different regions of the state of Jalisco, some accompanied by health fairs where they were taken Outdoor recreational and sports activities to promote healthy lifestyles. **Results:** The participation of approximately 6900 people from 10 municipalities in 4 different regions of the state of Jalisco, which belonged to the Basic Education System, Higher Middle Education System, Higher Education System and community in general of the state of Jalisco. **Conclusions:** It was observed that a program of bicycle rides seems to demonstrate that massive events of this nature help to promote and carry out physical activity, in addition to promoting the use of bicycles as an active means of transport and linking communities through practice of Physical-Sports Activity. In addition to positioning the community of the University Network as a leading promoter of Physical Activity in the state of Jalisco. **Relevance:** The "Ruta Leones" program provides the tools and foundations for the development of a public policy of active mobility and healthy lifestyles within the state of Jalisco.

Keywords: Physical Activity, Bicycle, Cycling Ride.

Abstract code: 169

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Abstract
Topic: Active Transport

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Analysis of the service in Pereira's active and healthy roads

AUTHOR'S

Hernan Hurtado Ramirez

Ministerio del Deporte - Colombia.

CORRESPONDING

hernan.hh@gmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):74

Background: Colombia has been characterized worldwide as a leader in the development and implementation of programs for the promotion of physical activity with community models that have proven to be cost benefits such as Active and Healthy Roads (Vías activas y saludables; VAS). Due to this, the importance to carry out an evaluation and monitoring of these programs to generate processes of political influence and continuous improvement with validated instruments. **Aims:** To evaluate the compliance of the indicators of the Quality and Healthy Road Seal of VAS Pereira. To implement the indicators of the Quality Bike Seal in the VAS Pereira Active and Healthy Road. To determine the level of compliance with the indicators of the Quality Bike seal and the criteria of good practices in the Pereira's Active and Healthy Road. Describe the results of the evaluation of the Pereira's Active and Healthy Roads. **Methods:** Deductive, a general evaluation model was applied in the VAS of Pereira. **Results:** 19 of 19 quality indicators were met, and a score of 7 was obtained in terms of good practice criteria. A new indicator is implemented, which is the calculation of the area (square meters), which is used to determine the amount of public space enabled for the promotion of physical activity. **Conclusions:** Pereira's VAS, through its offer of services, becomes an intangible asset of the city, which is part of its range of activities for use in leisure time. By performing a calculation of the time in annual average minutes per week, it was identified that the VAS of Pereira contributes an average of 265 minutes per week as an opportunity to perform physical activity , which contributes significantly to comply the WHO physical activity recommendations, which means that people who attend VAS have more minutes to have benefits in health, well-being and quality of life. **Relevance:** The VAS are programs recognized as a promising strategy according to the classification of the Useful Guide of Interventions for Physical Activity in Brazil and Latin America, contributing considerably to the adoption of healthy behaviors, increasing the social capital and the quality of life of the beneficiaries (Sarmiento et al, 2010). According to this, it is important to perform the VAS service evaluation, with procedures based on scientific evidence.

Keywords: Follow-up, Physical activity, Cost-benefit, Active roads.

Abstract code: 73

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Abstract
Topic: Active Transport

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Open streets in Latin-America Health impacts related to physical activity

AUTHOR'S

Daniel Velázquez Cortés, David Rojas Rueda

Instituto Nacional de Salud Publica campus Tlalpan - México.

CORRESPONDING

dvc.velazquez@gmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):75

Background: The prevalence of insufficient physical activity (PA) in Latin-America (Latam) is 39%, the highest region in the world. To improve PA in Latam cities several interventions have been promoted, such as open streets (OS). OS are temporarily car-free streets repurposed for leisure activities and have reached rapidly 77 cities in Latam by 2019. **Aims:** To quantify, through morbidity, mortality and DALYS, the Open-Street impact related to PA among 15 Latam cities. **Methods:** A Quantitative Health Impact Assessment was used to estimate the annual deaths, disease incidence (ischemic heart disease (IHD), ischemic stroke, type 2 diabetes (DM2), colon cancer, breast cancer, and dementia), disability-adjusted life years (DALYs) and economic values (on mortality), related to PA. Health and demographic data from each city and country were collected from official records and scientific publications. OS data was collected through an OS survey from authorities across the Americas Open Street network. Two main scenarios were quantified. Scenario 1: estimating the OS health impacts reported by each city authority. Scenario 2: a hypothetical scenario based on the highest reported proportion of OS users among the cities (13% of the city population, as in Bogota). **Results:** In scenario 1, the estimated benefit was 1,101 annual deaths avoided due to the increment of PA, an annual economic impact of $1,575 million USD, and an annual reduction of 3,070 DALYs. Among morbidity outcomes, dementia had the greatest number of annual cases avoided, 155 (95%CI 65 - 265), followed by IHD with 105 (95%CI 39 -178), DM2 with 49 (95%CI 9 - 82), ischemic stroke with 20 (95%CI 0 - 42), colon cancer with 4 (95%CI 3 - 12) and breast cancer with 2 (95%CI 0.4 - 4). In comparison scenario 2 estimated benefits could rise to 8,293 annual deaths avoided, with an annual economic impact of $12,928 million USD, and an annual reduction of 21,021 DALYs. In terms of PA type, the most benefited were cyclists (1,648 DALYs), followed by pedestrians (359 DALYs). **Conclusions:** OS in Latam can provide important health-economic benefits related to PA. In the cities where OS already exist, increase the number of events, kilometers, and duration could result in a greater number of users, OS related PA, and health benefits. **Relevance:** OS can be used as a health promotion and prevention tool in urban settings. Especially in those areas and countries where physical inactivity has a higher incidence.

Keywords: Open streets, Physical activity, Latin-America, DALYs.

Abstract code: 168

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Abstract
Topic: Active Transport

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Per-protocol Analysis of BAILAMOS-TM Dance Program on Self-reported and Device- assessed Physical Activity in Older Latinos in USA

AUTHOR'S

David Xavier Marquez, Guilherme M. Balbim, Susan Aguiñaga, Priscilla Vasquez, Isabela G. Marques, Jaqueline Guzman, Deborah Salvo

University of Illinois at Chicago - Estados Unidos.

CORRESPONDING

marquezd@uic.edu

Rev Bras Ativ Fis Saude 25(suppl 3):76

Background: Latinos are the fastest growing ethnic group among older adults in the USA. However, they engage in lower levels of physical activity (PA). **Aims:** Test the impact of the BAILAMOSTM dance program on PA levels in older Latinos. **Methods:** Older Latino adults were randomized into a dance or health education (HE) group. For per-protocol analysis presented here, participants with attendance ≥75% in dance and HE classes, respectively, were included. The final analytic sample was 145 participants (dance = 63, HE = 82). The dance group participated in 4 months of Latin dancing (Merengue, Bachata, Cha Cha Cha, Salsa), two times per week for 1 hour per session. The HE group participated in classes once per week for 2 hours per session for 4 months. Participants completed the CHAMPS PA Questionnaire and wore an ActiGraph™ GT3X+ accelerometer for 7 consecutive days on their non-dominant wrist. Data was included if the participant wore for it at least 10 hours/day over 3 days. Wrist cut-points were proposed by Kamada (2016) (moderate-to-vigorous PA (MVPA) ≥7500 counts per minute). We performed a fixed-intercept mixed model ($p < .05$), adjusting for baseline covariates of age, sex, education, income, and health status. Cohen's d effect size were computed. **Results:** Self-reported MVPA increased significantly ($t(1, 120)=3.2$, $p=0.002$) from baseline (Dance: M=140.81±211.35; HE: M=115.48±182.65) to month-4 (Dance: M=29.11±20.45; HE: M=23.21±18.27), but no group*time interaction was demonstrated $t(1, 121)=1.33$, $p=0.19$, $d=0.22$. Total leisure-time PA (LTPA) increased significantly from baseline (Dance: M=280.50±285.35; HE: M=360.71±361.05) to month-4 (Dance: M=579.72±346.10; HE: M=500.34±483.04), with a significant group*time interaction $t(1, 121)=2.16$, $p=0.03$, $d=0.33$. Accelerometer-assessed MVPA did not increase significantly from baseline (Dance: M=24.43±22.67; HE: M=22.51±17.91) to month-4 (Dance: M=29.11±20.45; HE: M=23.21±18.27) and there was no group*time interaction $t(1, 112)=1.53$, $p=0.13$, $d=0.43$. **Conclusions:** The BAILAMOSTM dance program showed a positive impact on self-reported LTPA in older US Latinos, but this impact was not observed in device-assessed PA (a moderate effect). The extent to which older adults in Latin American countries engage in dance should be explored. **Relevance:** This study was conducted in US older Latinos.

Keywords: Dance, Older adults, Physical activity.

Abstract code: 165

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Abstract
Topic: Active Transport

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Active Nutritionists Initiative Promoters of physical activity and exercise

AUTHOR'S

Edna Judith Nava González

UANL - México

CORRESPONDING

nutriologaparatusalud@gmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):77

Background: There are education and fitness programs that improve health, demonstrating how to model healthy behaviors and strengthen the doctor-patient bond. It is necessary to motivate and optimize the current physical conditions of health professionals, with programs of physical activity and recreation that lead the benefit of increasing their quality of life, playing a role in influencing others. **Aims:** To inspire nutritionists to exercise regularly as a means to improve health, by calling meetings to perform different types of physical activities for 12 sessions a year, with the motivation of being a promoter of physical activity. **Methods:** Field initiative with an open invitation to 10 routines of different exercises and outdoor physical activities: hiking, yoga, pilates, dancing, calisthenics, running, jogging, bodyweight, climbing the hills; Directed by nutritionists for health professionals, family, and patients, in safe, fun and free places. Every first or second Sunday of the month, calls were made to attend the city parks for activation led by expert health professionals. **Results:** Five downtown parks were chosen, accessible to various types of public transport, with pedestrian paths and suitable for bicycles or rollerblades, connected by main avenues, sidewalks, and access routes, with parking and appointment at a meeting point in the morning (8:00 or 9:00 am). The program was attended by 22 nutritionists, 1 medical student, 5 instructors in 10 sessions, achieving the motivation to start and continue physical activity and exercise through social networks and in a closed group on Facebook. Challenges of the participants: schedule, location, transportation, day of the week. **Conclusions:** With the completion of this project, the success of convening nutritionists and health professionals will boost the motivation of being promoters of physical activity and exercise, which will allow more nutritionists to join the project and play an integral role in inspiring others to reflect that exercise is a fun way to stay healthy. The use of various methods to influence and encourage other nutritionists to exercise more will recognize being generators of movement and recreation, leading by example, which could be adapted and replicated in other places. **Relevance:** Development of the program of the invitation of a nutritionist to his colleagues to turn it into a national movement.

Keywords: Exercise, Motivation, Physical Activity.

Abstract code: 46

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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Advantages and limitations of using the FitBit Flex®2 device to promote physical activity in the Mexican university population

AUTHOR'S

Edtna Elvira Jáuregui Ulloa, Cristina Ascanio Sandoval, Sara Ramírez Hernández, Víctor Hugo Montejo Lambarén, Saúl Alejandro Gaytán González, Juan R. López Taylor

Universidad de Guadalajara - México.

CORRESPONDING

edtna.jauregui@hotmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):78

Background: The Mexican population is recognized by relevant physical inactivity rates. Promoting more active lifestyles may be affected by the use of electronic devices to monitor physical activity. There are few local studies that provide data in this regard. **Aims:** Evaluate advantages and limitations of the use of the FitBit Flex®2 device for promoting physical activity in a Mexican university sample. **Methods:** The study is a 12-week minimum contact intervention design to promote physical activity with an intervened vs. non-intervened group. The sample, composed of 58 university students, students and workers (22 men and 36 women; between 18 and 47 years old), voluntarily registered in three campuses of the University of Guadalajara. The FitBit Flex®2 device was carried during the intervention. Weekly messages were sent via WhatsApp, to promote improvements in the components: walking, sitting time, sleeping, moderate physical activity and food. At the beginning and at the end of the intervention, the stages of behavior change in physical activity were evaluated, using a Prochaska- based questionnaire. Finally, advantages and limitations of the use of the device were evaluated through a questionnaire proposed by Tully. The data was analyzed through the McNemar test. **Results:** After using the device, participants improved their preparation for behavioral change, compared to controls, but it was not significant (p = 0.387). 83% of the participants showed great interest in the data obtained, regarding walking, sleeping and physical activity monitoring. 17% preferred to monitor their physical activity data rather than their nutritional information. The difficulties reported were recharging the device (40%) and recording the consumption of beverages and food (67%). **Conclusions:** The immediacy of access to monitored information was an advantage of the device. The limitations were associated with the characteristics of the eating habits record and the battery life. New studies are suggested using devices with characteristics that prevent the limitations found in this study, as well as the enlargement of the sample and the intervention, since the use of an electronic device to promote physical activity for 12 weeks was not enough to generate changes significant behaviors for physical activity. **Relevance:** The use of these devices is an element that can contribute to promoting physical activity in a more accessible and practical way, which can have an impact both at the individual and community level.

Keywords: Minimum contact, FitBit Flex 2, University students, Physical activity.

Abstract code: 170

1er Congreso Latinoamericano de Investigación en Actividad Física y Salud

Abstract
Topic: Active Transport

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Evaluation of conditional physical abilities during the program of sports intervention in university students of Nutrition

AUTHOR'S

Esaú Alfredo Castellanos Yáñez, Mariana Isabel Valdés Moreno, Wendy Rodríguez García

Universidad Nacional Autónoma de México - México.

CORRESPONDING

castellanos_esau@hotmail.com

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Background: Within the strategic curricular framework of the Nutrition career, the promotion of hygiene and health promoting habits related to physical activity, nutrition and transdisciplinarity has been proposed. It has been shown that the incorporation of training programs improves athletic performance; In this sense, the implementation of the percentage-horizontal planning model in university students of the FES Zaragoza is suggested. **Aims:** Evaluate the change in biomotor skills - conditional performance capabilities in university students, after the 6-month sports intervention program. **Methods:** Prospective cohort of university students of the degree in Nutrition (n=31). Field tests were collected to assess the conditional capacities: lower limb resistance strength, agility, horizontal jump power, aerobic resistance and travel speed. The SPSS version 21.0 program was used for the statistical analysis. Comparisons of the groups were made with t-student for related samples or Wilcoxon, as appropriate. A value of $p < 0.05$ was considered to determine statistical significance. **Results:** The findings suggest an improvement in power performance with the jump test (baseline 146 ± 25cm, final 154 ± 3.4cm, $p = <0.001$), travel speed in 30 meters (baseline 6 ± 0.72sec, final 5.8 ± 0.6 sec, $p = 0.028$), number of squats in 60 seconds (baseline 46 ± 8 repetitions, final 53 ± 7 repetitions, $p = <0.001$), agility with the "T" test (baseline 12 ± 1.4 seconds, final 10.5 ± 1.2 seconds, $p = <0.001$) and VO2Max (baseline of 33.6 ± 6.4 ml / kg / min, final 35.1 ± 7.1ml / kg / min, $p = 0.008$). **Conclusions:** The data suggests an improvement in the capacities: travel speed, resistance force, anaerobic power, agility and VO2Max after 1 structured and supervised weekly session, for 6 continuous months. For this reason, the continuity of the program and the increase in the number of sessions that promote healthy lifestyles in the transdisciplinary curricular framework of the degree in Nutrition are proposed. **Relevance:** Promotion of structured and systematized physical-sports activities in university settings as part of the curriculum with comprehensive training by promoting healthy lifestyles and the flow of sports knowledge to nutrition and vice versa.

Keywords: Training, University, Biomotor Skill, Performance.

Abstract code: 166

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Abstract
Topic: Active Transport

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Implementation of a dance program on physical and anthropometric conditions in young people with Down Syndrome Cuenca-Ecuador

AUTHOR'S

Evelyn Jazmín López Pino

Universidad de Cuenca - Ecuador.

CORRESPONDING

jazmin.lopez@ucuenca.edu.ec

Rev Bras Ativ Fis Saude 25(suppl 3):80

Background: It has been shown the importance of investigating obesity and health problems caused by a lack of physical activity, especially in young people with Down Syndrome. **Aims:** To analyze the effects of the implementation of a popular dance program on physical and anthropometric conditions in young people with Down Syndrome in the U.E.E. Agustin Tamariz Cave in Cuenca. **Methods:** An experimental study that evaluated 21 young people, 13 men (41.9%) and 8 women (25.8%) with Down syndrome of 12-18 years. The demonstration method was used for the dance program and for the BMI, wingspan, waist-hip circumference, the method described by the WHO was applied. **Results:** Before the program, women were 66.67% and men 58.34% overweight and obese, then women decreased to 44.44% and men to 50%. Initially, women presented 100% very poor physical condition (very poor PC) and 4.76% poor physical condition (poor PC); males 91.67% of (very poor PC) and 4.76% of (poor PC) according to the long method. By the short method, women reached 88.89% of (poor PC) and 11.11% of (average PC); the men reached 66.67% of (poor PC), 25% of (average PC) and 8.33% of (good PC). Then, by the long method, it decreases to 50.00% (very poor PC), 25.00% of (poor PC) and 25.00% of (average PC); the women kept 100% of (very poor PC). By the short method, men fall to 16.67% (poor PC), 33.33% of (average PC), increasing to 50.00% of (good PC); in women, it was reduced to 66.67% of (poor PC) and increased to 33.33% of (average PC). **Conclusions:** According to the BMI values, more than half of the participants were overweight and obese. It is possible that the assessment of overweight and obesity in people with Down syndrome requires an adjustment in the normal values assigned to the BMI of children. Health, lean-fat weight, body composition, and physical condition can be evaluated and controlled through constant physical activity in young people with Down Syndrome but deep research is required in this area in order to characterize the anthropometric measures of this population in different areas and regions of the country. **Relevance:** Studies show the benefits of daily physical activity, help prevent/reduce overweight/obesity, improving the quality of life and reducing chronic health problems of your condition.

Keywords: Physical Activity, Health, Down Syndrome, Overweight, Obesity.

Abstract code: 35

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Abstract
Topic: Public policy

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"Inicio Mis Clases Activamente" process and outcomes of a physically active lesson program

AUTHOR'S

Juliana Kain, Alejandra Ortega, Maria Luisa Garmendia, Paola Marambio, Camila Corvalán, Joanna Rojas, Camila Muñoz, Bárbara Leyton

INTA U de Chile - Chile

CORRESPONDING

jkain@inta.uchile.cl

Rev Bras Ativ Fis Saude 25(suppl 3):81

Background: "Physically-Active Lessons" (PAL) are school-based interventions in which children perform short bouts of physical activity (PA) during regular lessons. They can be incorporated into the curriculum, are generally well accepted by school personnel and teachers and have shown to increase PA and learning. In 2017 we developed and pilot-tested a PAL program called "Inicio mis clases activamente" (IMCA) for Chilean first-graders, in which teachers conduct every day games associated with the curriculum of 7 subjects at the beginning of the first lesson, with the goal of getting children engaged in 15- minute bouts of MVPA. **Aims:** To evaluate the process and outcomes of IMCA. **Methods:** Initially, we designed 240 cards (including one game each) with the collaboration of PE and regular teachers and anthropologists, considering the most popular games and evaluating them with focus groups. They were tested in first-grade students from 16 schools in Santiago. PE and school teachers evaluated the time and feasibility of implementing each game. We determined barriers and facilitators to implementation using semi-structured interviews applied to 14 teachers (out of 16). In 8 schools (n=556 students), we compared school time MVPA (with accelerometers) at baseline and 4 months later (in days with and without IMCA) on the same children, using test of proportions. **Results:** The final set includes 120 cards. IMCA was implemented 50% of the time with an average duration of 14 min (SD: 5). Over 90% of the time, teachers felt competent to conduct the games, children understood the instructions and enjoyed the activity. The main facilitators included: teachers practicing PA, support of principal and school staff, conducting the games inside the classroom. The main barriers were teacher´s workload and the indication to conduct IMCA during the 1st lesson. Comparing MVPA at follow-up (school day with IMCA) with baseline MVPA (with no IMCA), it increased by 1.5 and 1.2 percentage points in boys and girls, respectively. **Conclusions:** The set of cards (games) is well liked by teachers and students and is feasible to implement. Preliminary results suggest these games are effective in increasing MVPA during school time, although longer follow-ups are needed to assess the validity of these findings. **Relevance:** PAL are increasingly being implemented. IMCA can be adapted to be applied in Chilean children attending other grades as well for children from other Latin American countries.

Keywords: Active lessons, Process, Barriers, Facilitators, Outcomes.

Abstract code: 37

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Abstract
Topic: Public policy

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Effects of a fitness program on inactive adults focused on increasing motivation and self- efficacy

AUTHOR'S

Mabel Aguilar Arroyo, Rubén Celis Rivera, Andrea Partida Ochoa, María Del Pilar Salgado Núñez

ITESO - México

CORRESPONDING

mabelaguilar@iteso.mx

Rev Bras Ativ Fis Saude 25(suppl 3):33

Background: The beneficial alliance between physical activity and health has been proven. Despite international efforts, physical inactivity in the world is alarming. Interventions that encourage more active lifestyles in the inactive population are required. **Aims:** To analyze the effects of a program that seeks to favor motivation and self-efficacy for physical activity in inactive adults. **Methods:** A moderate physical conditioning program with group psychological support was created, based on the postulates of the Theory of Self-Determination (TAD) and the Cognitive Social Theory (TSC). It is a pre- experimental study, with an experimental and control group, with an initial and final evaluation. The sample was incidental, not probabilistic, made up of 9 employees of a private University in Guadalajara, Jalisco enrolled in the program. The average age was 41 years (SD + - 1.09). The instruments were: International Physical Activity Questionnaire (IPAQ), Self-efficacy Scale for Physical Activity, and the Exercise Behavior Regulation Questionnaire (BREQ-3). Waist, fat percentage, flexibility and cardiovascular endurance measurements were included with the Rockport test. The analysis of results was performed with the statistical package SPSS version 25, with a comparative analysis between pre and post phases of both groups, using the non-parametric Wilcoxon test, with associated probability criteria of .05 or less and, an inter-analysis. Groups in both phases with the Kolmogorov-Smirnov test presenting the same conditions in the pre-phase. **Results:** There were significant differences in the pre and post phases of the experimental group in intrinsic motivation, integrated regulation and self- efficacy to perform programmed physical exercise. The control group did not present any significant difference in any of the components of self-efficacy or motivation. There were improvements in cardiovascular capacity, flexibility, waist circumference and fat percentage in more than 60% of the participants. **Conclusions:** The election of the TSC worked to mobilize personal and social determinants that increased from self-efficacy to attend the program while the ADT allowed implementing strategies that increased the two motivational components that are closest to self- determined behavior. **Relevance:** The study allowed knowing the most important determinants in inactive people. As well as recognizing the practical application of variables from behavioral change theories, which managed to increase cognitive-behavioral tools in program users, to perform physical activity in more self-determined stages.

Keywords: Inactive adults, Behavioral change, Self-determination, Self-efficacy, Behavioral change.

Abstract code: 40

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Effect of physical exercise as a nursing intervention in older adults with fragility attending a gerontological center

AUTHOR'S

Lupita Henandez Cruz, María Xóchitl Mendoza Guerrero, Roberto Ramirez Torres, Gabriela Maldonado Muñiz, Edith Araceli Cano Estrada

Universidad Autónoma del Estado de Hidalgo - México.

CORRESPONDING

lupita_hc1@hotmail.com

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Background: Fragility represents a current and upcoming problem in public health that requires immediate attention. Studies have shown a prevalence of fragility syndrome of 7% in the Mexican population. In 2019, a study concluded that the physical exercise program is capable of reversing functional limitation and fragility status. **Aims:** To determine the effect of physical exercise as a nursing intervention in older adults with fragility attending a gerontological center. **Methods:** Quantitative, quasi-experimental, prospective and longitudinal study. The FRAIL questionnaire applied to the population of 25 older adults from the "Hope to live" gerontological center in the urban area of Tetepango Hidalgo was used as a data collection instrument. Anthropometric measurements were made (arm, calf and waist circumference) determining muscle mass, in addition to using the timed get Up and Go test to quantify the walking time in seconds. **Results:** The prevalence of frailty was 80% in older adults before the intervention. The most frequent fragility criteria, according to the FRAIL questionnaire, were: tiredness, inability to climb stairs, and difficulty walking. From this result, the nursing intervention was implemented focused on physical exercise. After the intervention, the prevalence is 4% for fragile patients and 64% for pre-fragile patients. 16% of older adults presented a decrease in their muscle mass according to the measurement corresponding to calf circumference. These measurements have a strong correlation with the arm circumference ($p < 0.01$). There was a significant difference in the measured walking time ($p < 0.001$). **Conclusions:** Physical exercise is the best form of intervention in older adults with frailty and also contributes to the improvement of muscular strength, stability, and aerobic endurance of older adults. However, it is necessary to extend the intervention period to maintain the benefits offered by the exercise program. On the contrary, older adults often have slow gait movements. **Relevance:** The benefits of physical exercise for older adults are relevant to avoid, reduce or reverse physical, psychological and social problems that accompany the aging process, as well as being a healthy habit to protect the well-being of the elderly and thereby avoid the sedentary lifestyle in the Mexican population of older adults. Increasing strength and muscle mass is a realistic strategy to maintain the functional status and independence of older adults.

Keywords: Physical exercise, Elderly, Fragility.

Abstract code: 45

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Physical activity promotion and public policies for combating inequalities

AUTHOR'S

Inacio Crochemore Mohnsam da Silva, Alan Knuth, Gregore Mielke Mathias Loch

Universidade Federal de Pelotas - Brasil.

CORRESPONDING

inacio_cms@yahoo.com.br

Rev Bras Ativ Fis Saude 25(suppl 3):84

Background: Although there is evidence of the health benefits of different broad physical activity constructs, further discussion is still needed to understand which types of of practices should be prioritized for action for promoting physical activity within context of low- and middle-income countries (LMICs). **Aims:** This work reflects on some of the current forms of promoting physical activity in LMICs, and proposes further visibility to body practices and leisure physical activities and their inequalities. **Methods:** This is a theoretical essay. The current scenario of increasing inequalities in the region is outlined and discussed in the light of two theories: The Inverse Equity Hypothesis, and the Inverse Care Law. Further, the ethical and practical reasons for addressing these inequalities are presented, highlighting the relevance of public policies within this context. **Results:** The Inverse Equity Hypothesis seeks to understand how inequalities tend to be established in health indicators, starting from an expected increase in inequalities when health innovations arise that initially (and mostly) reach the most privileged, both socially and economically. The Inverse Care Law highlights that the availability of adequate health care tends to vary inversely with the population's needs. When applying these theories to the theme of physical activity promotion, and whilst aiming not to further increase disparities in access to opportunities for physical activity practice, this essay argues in favor of the expansion of public policies in the current context. **Conclusions:** It should become a priority to properly understand current public policies and their link with SUS, along with the linkages with and principles of action of other related sectors (such as city infrastructure and sports and leisure). This perspective will help in advancing actions to promote physical activity practices that are adequately socially contextualized, and that are targeted to those who need them the most. **Relevance:** This theoretical essay calls for us to reflect on the current ways in which we are promoting physical activity, which are often socially de-contextualized, and to in turn, support public policies aimed at improving access to opportunities for physical activity practice for those who have the most need.

Keywords: Equity, Theoretical essay, Health promotion.

Abstract code: 44

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Physical activity promotion in Colombia. A country level commitment, a model for Latin America.

AUTHOR'S

Nubia Yaneth Ruiz Gomez

: Ministerio del Deporte - Colombia.

CORRESPONDING

ruizgomeznubiaya@gmail.com

Rev Bras Ativ Fis Saude 25(suppl 3):85

Background: The growing burden of diseases caused by increases in physical inactivity levels worldwide is generating negative consequences affecting the quality of life and welfare of people. Countries like Colombia, and according to data from the 2015 National Survey of Nutritional Status in Colombia, in total 51.3% of Colombian adults meet global physical activity (PA) recommendations, which are to engage in at least 150 minutes of moderate to vigorous PA per week or 75 minutes of vigorous PA during the same period. **Aims:** To strengthen and foster the creation of programs aiming to promote the regular engagement in PA and healthy habits and lifestyles (HHL). This is to improve de welfare and health of the Colombian population, supporting strategies generated by sports institutions at the municipality and department level that improve the access of the population to an offer with coverage and quality **Methods:** Deductive, descriptive. **Results:** A total of 1,400,000 persons reached in 2019. An investment of approximately 2,2 millions of dollars. Implementation of the HHL program in 292 municipalities and 31 departments in Colombia. **Conclusions:** The Colombian government has implemented the National Program for HHL for 11 years, with more than 16 million beneficiaries in this period. Evidence-based strategies are: regular and non-regular PA groups (community PA sessions), counseling for organizations and institutions, home counseling, massive events, active and health roads (Ciclovías), actions to promote HHL and as a cross-sectional strategy, intersectoral work. The prevalence of leisure time physical activity among the Colombian population has increased from 19.9% to 23.5%. In Colombia a network model is used through the alignment of national and local efforts. Alliances with the academy at the national and international level have been generated in order to produce valuable information for decision making in the implementation of strategies aimed at promoting HHL in Colombia through the National System for Training. We seek to build capacity among leaders, who may escalate the HHL program. **Relevance:** Presenting a public policy model for the Latin American region and, thus, sharing good practices for physical activity promotion

Keywords: Physical activity, scalability, HHL promotion, public policy.

Abstract code: 85

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