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JUSTIFICACIÓN DE LA MOVILIDAD

Lugar: España, Granada-Barcelona

- 1. PRESENTACION DE TRABAJO EN EVENTO CIENTIFICO.** EVENTO: XXXVII Congreso de la Sociedad Española de Ciencias Fisiológicas (SECF), a realizarse en la ciudad de Granada, España los días 24, 25 y 26 de septiembre de 2014
- 2. ESTANCIA DE INVESTIGACION EN EL MARCO DE LOS CONVENIOS DE MOVILIDAD ACADEMICA ENTRE LA UNIVERSITAT INTERNACIONAL DE CATALUNYA-USTA:** Fecha: 30 de septiembre al 3 de octubre de 2014
- 3. ESTANCIA DE INVESTIGACION EN EL MARCO DE LOS CONVENIOS DE MOVILIDAD ACADEMICA ENTRE LA UNIVERSIDAD DE GRANADA-USTA:** Fecha: 23 al 28 de septiembre de 2014

INDICADORES:

(3) RESUMENES PUBLICADOS EN REVISTA INDEXADA «ACTA PHYSIOLOGICA», Impact Factor: 4.382. ISI Journal Citation Reports © Ranking: 2012: 10/80 (Physiology) (pag. 2-4)

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(5) SOMETIMIENTOS A EVENTO INTERNACIONAL (WORD CONGRESS OF PHYSICAL THERAPY) RESULTADO DEL TRABAJO EN RED CON LA UNIVERSIDAD DE CATALUNYA EN EL MARCO DEL PROYECTO DE PRACTICA BASADA EN EVIDENCIA ENTRE FISIOTERAPEUTAS DE COLOMBIA-ESPAÑA (pag. 9-13)

(2) ARTICULOS SOMETIDOS Y ACEPTADOS EN REVISTA CUARTIL 1, RESULTADO DEL TRABAJO EN RED CON LA UNIVERSIDAD DE GRANADA ENTRE ACTIVIDAD FISICA Y CANCER (pag. 14-15)

(2) RESUMENES ACEPTADOS EN REVISTA CUARTIL 1, PRESENTADOS EN EL CONGRESO MUNDIAL DE CANCER (MELBOURNE-AUTRALIA), RESULTADO DEL TRABAJO EN RED CON LA UNIVERSIDAD DE GRANADA EJE DE PROFUNDIZACION «ACTIVIDAD FISICA Y CANCER» CON PARTICIPACION DE DOS DOCENTES DEL GRUPO GICAEDS Y OCHO SEMILLEROS DE INVESTIGACION DE LA LINEA DE ACTIVIDAD FISICA Y SALUD. (pag. 16-17)

(1) CERTIFICADO DE SOPORTE COMO CO-DIRECTOR DE TESIS DOCTORAL ENTRE ESTUDIANTE DE UNIVERSIDAD DE GRANADA Y DIRECTOR DE GICAEDS (pag. 18)

(1) CERTIFICADO DE SOPORTE COMO ASESOR INTERNACIONAL DE TESIS DOCTORAL ENTRE ESTUDIANTE DE UNIVERSIDAD INTERNACIONAL DE CATALUNYA Y DIRECTOR DE GICAEDS (pag. 19)

(1) CONVENIO SUSCRITO Y FIRMADO ENTRE LA USTA Y EL INEFC DE BARCELONA (pag. 20)

(1) CONVENIO «ESPECIAL-ESPECIFICO» SUSCRITO Y FIRMADO ENTRE EL DIRECTOR DE GRUPO GICAEDS USTA Y EL DIRECTOR DE GRUPO ASPECTOS SOCIALES Y TRANSCULTURALES DEL PROCESO SALUD-ENFERMEDAD DE LA UNIVERSIDAD DE GRANADA-ESPAÑA PARA FORMACION DE ESTUDIANTES DE DOCTORADO, MOVILIDAD BILATERAL Y GESTION DEL CONOCIMEINTO (COOPERACION Y COHESION) (pag. 21)

PLAN DE REPLICABILIDAD, TRASFERENCIA O DIFUSIÓN POSTERIOR A LA MOVILIDAD: Los productos de la gestión entre redes y formación de recurso humano se presentaron el marco del II ENCUENTRO GRUPOS Y SEMILLEROS INVESTIGACIÓN, celebrado el 27 de Septiembre en la USTA. No se presentan evidencias pues la UI no ha enviado los certificados de participación. (pag. 22)

ABSTRACTS (ORALS)

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electrophysiology we tested the compounds SKA-111 and SKA-121 on KCa3.1 expressed in primary porcine coronary artery endothelial cells (PCAEC). We performed isometric myography on PCA rings to study SKAs effects in endothelium-dependent EDH-regulation of arterial tone. By cardiovascular telemetry on mice we monitored systemic effects. Results: Whole-cell patch-clamp experiments showed that SKA-111 and SKA-121 potentiated KCa3.1-currents. Current-clamp measurements in PCAEC clusters showed that SKA-121 strongly potentiated 5-HT and bradykinin(BK)-induced membrane hyperpolarization by ≈ 20 mV. Responses were fully reversed by the KCa2/3 blockers. Myography in the presence of L-NNA and indomethacin showed that SKA-111 and SKA-121 had no effect on either spontaneous tone or 5-HT-induced contractions. SKA-111- or SKA-121 potentiated EDH-dependent relaxation to BK. The KCa3.1-blocker, TRAM-34, blocked the SKA-111- and SKA-121-potentiated responses. I.p. injections of 100mg/kg SKA-121 reduced blood pressure by ≈ 20 mmHg over ≈ 2 hrs in mice. Conclusions: Our study suggested that positive-gating modulation of KCa3.1 channels was capable to selectively potentiate BK-induced EDH-type relaxation in PCA and to reduce blood pressure in mice. Positive-gating modulators of KCa3.1/KCa2 have potential utility for pharmacological manipulation of arterial blood flow in the coronary circulation and blood pressure.

O48 PLASMA CYTOKINES LEVEL IN METABOLIC SYNDROME PATIENTS WITH AND WITHOUT SUBCLINICAL ORGAN DAMAGE

Sánchez-Vera I, García de Durango C, Pérez E, Vidal-Vanaclocha F, Varona JF.
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Introduction: The Metabolic Syndrome (MetS) increases 2-fold the risk of developing cardiovascular disease (CVD). However, predict the real risk of CVD is currently difficult, due to the absence of specific molecular markers. We analyzed plasma cytokines levels to assess the association with clinical data about subclinical organ damage (SCOD), as a marker of atherosclerosis. Methods: 29 patients with MetS according to NCEP ATP III criteria were included. Seventeen patients showed early signs of SCOD. As a control group we also included 10 individuals. Plasma concentrations of cytokines and the soluble cell adhesion molecules were determined on the Luminex-100 system (Luminex Corporation). SCOD was evaluated by non invasive procedures. Results: Patients with MetS had higher plasma concentrations of adiponectin ($p < 0.05$), GLP-1 ($p < 0.001$), GIP ($p < 0.01$), PAI-1 (0.001) and IL-18 ($p < 0.05$) and less adiponectin levels ($p < 0.05$) than controls. Patients with SCOD showed higher plasma levels of PAI-1 (20.25 ± 16.4 vs 11.7 ± 8.1 ; $p < 0.05$), ICAM-1 (0.22 ± 0.63 vs 0.17 ± 0.04 ; $p < 0.01$) and visfatin (5.77 ± 8.76 vs 1.30 ± 0.93 ; $p < 0.05$) than patients without SCOD. The PAI-1 plasma levels correlated with urine albumin to

creatinine ratio (UACR) ($r = 0.481$ $p = 0.003$) and visfatin correlated with both UACR ($r = 0.833$ $p = 0.003$) and glomerular filtration rate ($r = 0.624$; $p = 0.006$). Discussion: MetS patients had elevated circulating cytokines, reflecting their proinflammatory and prothrombotic status. Those MetS patients with SCOD had additional augmentation of plasmatic PAI-1, visfatin and ICAM-1, supporting the higher cardiovascular risk observed in some patients. Moreover, SCOD may help to identify patients with higher CVD risk.

O49 PRO-INFLAMMATORY CITOKINES LEVELS AND EXERCISE IN BREAST CANCER SURVIVORS: A METAANALYSIS

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Introduction: Systemic inflammation is associated with mortality and other outcomes in cancer research. This metaanalysis aimed to determine the changes on pro-inflammatory cytokines [interleukins (ILs)-2, IL-6, IL-8, and tumoral necrosis factor alpha (TNF- α)] profile and C-reactive protein (CRP) following exercise training in breast cancer survivors. Methods: Systematic review and metaanalysis. The Cochrane Handbook and the PRISMA statement were followed. Two authors (JFME-RRV) searched MEDLINE, Ovid, EMBASE and the Cochrane Central Registers, to retrieve randomized controlled trials published since 1990 until February 2014. Fixed and random effect models were conducted according to the presence of heterogeneity, which was evaluated using the Chi2 ($P < 0.10$) and I2 statistics ($I^2 > 50\%$). STATA 12.0 was used for analysis procedures. Results: A total of 420 records were initially retrieved. After screening, seven studies were included ($n = 395$). Exercise modulated serum levels of IL-2 (MD = -6.0403, 95%CI -11.4083 to -0.6723, $P = 0.02$), IL-8 (MD = 2.1321, 95%CI 0.5949 to 3.6693, $P < 0.0001$) and CRP (MD = 0.3741, 95%CI 0.0401 to 0.708, $P = 0.02$). Non-significant differences were observed for IL-6 (MD = 0.0012, 95%CI -0.1305 to 0.1328, $P = 0.9$) and TNF- α (MD = -0.0699, 95%CI -0.1479 to 0.0082, $P = 0.07$). Discussion: Exercise induced significant changes in the serum levels of some biomarkers of systemic inflammation, such as IL-2, IL-8 and CRP. Slight evidence of reporting bias was observed. Our results demonstrate that exercise training is an effective and safe intervention in modulating the serum levels of some pro-inflammatory cytokines and CRP, related to immunological function.

ABSTRACTS (ORALS)

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(EGCG; 30 mg/kg; i.p.), minocycline (MIN; 50 mg/kg; i.p.) and ibuprofen (IBU, 50 mg/kg; i.p.) treatments on thermal hyperalgesia after spinal cord contusion in mice. Control animals received an equal volume of vehicle. At 7 and 14 days postoperation (dpo) motor recovery was evaluated by the open-field test using the BMS scale, and nociceptive response by the Hargreaves test. At 14 dpo, spinal cords were removed and processed by immunohistochemical techniques for evaluating astrogliosis (GFAP), density of blood vessels (tomato lectin), density of afferent peptidergic (CGRP) and non-peptidergic (lectin IB4) nerve fibers, and interneurons (calbindin-D28k) in the dorsal horn. In addition, using molecular biology techniques also was evaluated the expression of phospho-p38-MAPK, Rho-A and NF-kappaB, markers related to neuropathic pain, in the removed spinal cords. The main findings of the present study showed that EGCG, but not MIN and IBU, alleviates neuropathic pain after spinal cord contusion. In addition, astrogliosis was reduced in mice treated with EGCG and IBU via inhibition of Rho-A and NF-kappaB expression. No changes in afferent nociceptive nerve fibers were seen. This research was supported by grant from RecerCaixa 2010 (Fundació La Caixa – ACUP), and Universitat de Girona (SING 12/17), Spain.

P84 MODULATION OF TRPC6 LOCATION BY STIM1.

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STIM1 (Stromal Interacting Molecule-1) communicates the filling state of the endoplasmic reticulum (ER) to store-operated channels. However, the regulation of TRPC heteromultimerization and location by STIM1 is poorly understood. Using STIM1-defective mouse neuroblastoma x Rat glioma hybrid cells (NG115-401L), we have found that STIM1 regulates the expression of TRPC6 in the plasma membrane and its translocation to the ER. Attenuation of TRPC6 expression in the plasma membrane reduced the association between TRPC6 with TRPC1 and TRPC3. ER-resident TRPC6 increases the passive Ca²⁺ leakage rate and basal cytosolic Ca²⁺ concentration, without altering the amount of calcium stored in the ER, thus suggesting that Ca²⁺ efflux from ER through TRPC6 is compensated by SERCA. Our results suggest that STIM1 plays a relevant role in the cellular location of TRPC6. The functional location of TRPC6 subpopulation in the ER might be involved in Ca²⁺ handling by this Ca²⁺ store, acting as a passive Ca²⁺ leak channel. Supported by MINECO Grant (BFU2010-21043-C02-01), Junta de Extremadura-FEDER (GR10010). LA and NA are supported by MEC fellowship BES-2011-043356 and University of Extremadura-Acción III, respectively.

P85 MUSCULAR FITNESS AND CARDIOMETABOLIC RISK FACTORS AMONG COLOMBIAN YOUNG ADULTS

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Objective: To determine the influence of muscular fitness (MF) on cardiometabolic risk factors in young adult. **Methods:** A total of 172 men (age 19.7±2.4 years; weight 65.5±10.7 kg, BMI 22.6±2.8 kg·m⁻¹) were invited to participate in the study. They had no indication of cardiometabolic problems, as evaluated by clinical interview. MF was measured by isometric handgrip (dynamometer). The handgrip strength was divided by body mass was used in further analysis. Lower and higher MF values are represented by the first and fourth quartiles, respectively. A lipid-metabolic cardiovascular risk index was derived from the levels of triglycerides, low-density lipoprotein cholesterol (LDL-c), high-density lipoprotein cholesterol (HDL-c), and glucose. Adiposity index were assessed by measuring waist circumference (WC), body adiposity index (BAI), body mass index (BMI) and fat mass (%). **Results and Discussion:** After adjustment for age, BMI and WC, inverse association was observed between fat mass, WC, cholesterol, HDL-c, LDL-c and MF (p<0.05). In addition, subjects with low handgrip strength/kg body mass (Q1), showed high levels of fat mass, WC, cholesterol, HDL-c and LDL-c (p<0.05 linear). Lasted, a linear relationship was also observed between the MF/kg and the lipid-metabolic index (P<0.05). **Conclusions:** In Colombian young adult poorer handgrip strength/kg body mass were associated with worse metabolic risk factors and adiposity index. Increasing muscle strength could be an appropriate strategy to achieve favorable changes in metabolic risk profile.

P86 NITRIC OXIDE EFFECTS ON THE SPECTRAL CHARACTERISTICS OF VENTRICULAR FIBRILLATION IN ISOLATED RABBIT HEART.

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**Same contribution.*

ABSTRACTS (ORALS)

P102 RELATIONSHIP AMONG INSULIN RESISTANCE, INSULIN-LIKE GROWTH FACTORS CONCENTRATIONS AND EXERCISE IN BREAST CANCER: A METAANALYSIS

Meneses-Echavez JF¹, Ramírez-Vélez R¹, González Jiménez E², Schmidt Rio-Valle J², Sánchez Pérez MJ^{3,4}, Molina Montes E^{3,4}.

¹Grupo GICAEDS, Facultad de Cultura Física, Deporte y Recreación, Universidad Santo Tomás, Bogotá, D.C. Colombia; ²Facultad de Enfermería, Universidad de

Introduction: Insulin resistance, Insulin-like growth factor 1 (IGF1), IGF-2 and IGF binding protein-3 (IGFBP3) are associated with breast cancer risk, cell growing, apoptosis and other tumoral mechanisms. This study aimed to determine the relationship among insulin resistance, insulin-like growth factors concentrations and exercise in breast cancer survivors. **Methods:** Electronic searches were applied using MEDLINE, Ovid, EMBASE and Cochrane Central Registers to identify randomized controlled trials published since 1990 until March 2014. A fixed effect model was conducted if there was no evidence of heterogeneity ($I^2 < 50\%$); otherwise a random effect model was selected. For pooled analysis, mean differences (MD) were calculated for differences between groups ($p < 0.05$ with 95% Confidence interval). **Results:** Seven studies ($n=321$) were included. There was high quality and a low risk of bias. Pooled analyses demonstrated that exercise training resulted in significant changes on IGF-I (MD= -12.9, 95%CI -16.73 to -9.14, $P < 0.001$), IGF-II (MD= -43.4, 95%CI -58.5 to -28.3, $P < 0.001$), IGFBP-3 (MD= -0.61, 95%CI -0.69 to -0.53, $P < 0.001$) and waist circumference (MD= -1.133, 95%CI -2.20 to -0.05, $P = 0.03$). Conversely, non-significant differences were found for Insulin Resistance (MD= 0.64, 95%CI -0.006 to 1.296, $P = 0.05$), Insulin (MD= 0.046, 95%CI -0.249 to 0.34, $P = 0.7$) and Glucose (MD= 0.227, 95%CI -0.32 to 0.78, $P = 0.419$). Reporting bias was not observed. **Discussion:** The serum levels of insulin like growth factors (IGF1-IGF2) and IGFBP3 were positively modulated by exercise training in breast cancer survivors, which enhances the physiological basis of exercise in regulating cellular proliferation and other tumoral mechanisms in breast cancer.

P103 ROLE OF L-TYPE CALCIUM AND ORAI1 CHANNELS REGULATION OF VASCULAR SMOOTH MUSCLE TONE

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Introduction: Vascular smooth muscle cells (VSMC) contracts in response to an increase in intracellular Ca^{2+} concentration ($[Ca^{2+}]_i$) owing to Ca^{2+} release from sarcoplasmic reticulum (SR) and Ca^{2+} entry through voltage dependent and independent ion channels. Voltage-

PANISH SOCIETY OF PHYSIOLOGICAL SCIENCES (SECF)

dependent $CaV_{1.2}$ L-type Ca^{2+} channels (LTCC) are considered the main route for calcium entry in VSMC. However, recent studies have determined the relevant role of store-operated Ca^{2+} channels (SOCC) in vascular tone regulation. The aim of this study was to characterize the crosstalk between orai1-dependent SOCC and LTCC and their regulation of vascular tone. **Material and Methods:** We used wild type and aorta smooth muscle-selective conditional $CaV_{1.2}KO$ knockout ($CaV_{1.2}KO$) mice to study rings contractility, intracellular Ca^{2+} mobilization and membrane potential changes in isolated VSMC. **Results:** We found that $CaV_{1.2}$ and Orai1 co-localize uniformly in sub-membrane compartments of freshly isolated VSMC. Serotonin (5-HT) and Thapsigargin, inhibitor of sarco/endoplasmic reticulum calcium ATPase (SERCA), induced aorta vasoconstriction and the increase of $[Ca^{2+}]_i$ in VSMC, which were sensitive to LTCC and SOCC inhibitors indicating the participation of both channels in vessels contraction. Moreover, 5-HT and thapsigargin-induced aorta contraction and $[Ca^{2+}]_i$ elevation were significantly attenuated in $CaV_{1.2}KO$ arterial rings compared to wild type. Interestingly, Orai1 antibody delivery by aorta transfection inhibited significantly 5-HT-induced aorta contraction. Furthermore, store depletion by thapsigargin induced a progressive depolarization that was inhibited by nifedipine. **Conclusions:** Our data suggest a functional interaction between SOCC and LTCC in VSMC, indicating that agonist stimulation of vessel contraction involves Ca^{2+} entry due to a co-activation of SOCC and LTCC.

P104 ROLE OF TRPM8 CHANNELS IN THE ALTERED SENSITIVITY TO COLD OF CORNEAL PRIMARY SENSORY NEURONS AFTER AXONAL DAMAGE

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Injury of the sensory fibers innervating the cornea is frequently followed by dysesthesias, ocular dryness and changes in thermal sensitivity, among other sensory alterations. The molecular and cellular mechanisms underlying the changes in the transduction capability and encoding of nervous impulses in response to axonal damage of the different neuronal subtypes innervating this tissue, are still poorly understood. In the cornea, both the responses to cold and the ongoing electrical activity of the exquisitely temperature-sensitive cold sensitive neurons (CSNs) are strongly dependent on the functional expression of the cold- and menthol-activated channel



CERTIFICADO DE COMUNICACIÓN

La comunicación titulada

**RELATIONSHIP AMONG INSULIN RESISTANCE,
INSULIN-LIKE GROWTH FACTORS CONCENTRATIONS
AND EXERCISE IN BREAST CANCER: A METAANALYSIS**

*Meneses-Echavez JF, Ramírez-Vélez R, González Jiménez E, Schmidt
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se ha presentado como **comunicación PÓSTER** en
el **XXXVII Congreso de la Sociedad Española de
Ciencias Fisiológicas (SECF)**, celebrado en Granada del
24 al 26 de Septiembre de 2014.

JESÚS F. RODRÍGUEZ HUERTAS
Presidente del Comité Organizador
SECF XXXVII

**EMILIO MARTÍNEZ DE VICTORIA
MUÑOZ**
Presidente del Comité Científico
SECF XXXVII



CERTIFICADO DE COMUNICACIÓN

La comunicación titulada

MUSCULAR FITNESS AND CARDIOMETABOLIC RISK FACTORS AMONG COLOMBIAN YOUNG ADULTS

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Presidente del Comité Científico
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CERTIFICADO DE COMUNICACIÓN

La comunicación titulada

PRO-INFLAMMATORY CITOKYNES LEVELS AND EXERCISE IN BREAST CANCER SURVIVORS: A METAANALYSIS

*Meneses-Echavez J F, Ramírez-Vélez R, González Jiménez E, Schmidt
Río-Valle J, Sánchez Pérez MJ, Molina Montes E.*

se ha presentado como **comunicación ORAL** en el **XXXVII
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CERTIFICADO DE ASISTENCIA

D./Dña.

Robinson Ramírez Vélez

ha asistido al **XXXVII Congreso de la Sociedad Española de Ciencias Fisiológicas (SECF)**, celebrado en Granada del 24 al 26 de Septiembre de 2014.

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Presidente del Comité Organizador SECF XXXVII

Abstract Preview - Step 3/4

- print version -

Primary track/topic: Education: Methods of teaching & learning

2nd track/topic: Professional Issues: Quality and standards

3rd track/topic: Education: General

Abstract title: BARRIERS TO IMPLEMENTATION OF EVIDENCE-BASED PRACTICE (EBP): A SURVEY OF COLOMBIAN AND SPANISH PHYSIOTHERAPISTS

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Background: In countries such as Australia, Spain, United States, Colombia, and United Kingdom, the use, teaching and evaluation of 'evidence-based physical therapy' (EBPT) in clinical practice has been recently included in educational curriculums. As consequence, PT have support the EBPT, proposing a series of initiatives designed to generate, evaluate and disseminate research, and to implement these results in practice. Despite most research has focused on the use of evidence, including a critical review of studies and scientific literature in clinical practice, it is desirable that the use of EBPT becomes a reality. It is important to examine the numerous perceived barriers to using research in clinical settings, despite the paucity of studies in this topic. This is especially true for professions such as physiotherapy that has a small research base and few resources compared with other professions. Typically, barriers are context-dependent; therefore, the implementation of strategies should be tailored according to the context and the specific barriers identified. The most commonly reported barrier among PT is the limited time, which constrains the identification and interpretation of research evidence, as well as the ability to apply research findings in clinical practice.

Purpose: The aim of this study was to describe how a group of Colombian and Spanish physical therapists (PT) perceived barriers to the inclusion of Evidence-Based Practice (EBP).

Methods: The Spanish version of Jette et al. (2003) survey was conducted among 1,587 PT's (67% Colombians) in the ten hospitals participating in the EBPT Colombian and Spain project. Data were analyzed descriptively using SPSS version 22. Data was arranged to see the similarities and distances between barriers through a multiple correspondence analysis.

Results: The results showed that the barriers reported by Spanish PT which have greater something with similarities and distances for EBPT are "insufficient time", "Lack of research skills" and "Understanding of the English in which articles are written". For Colombian PT the most common barriers are "Lack of research skills", "Lack of understanding of statistical analysis", "Inability to apply research findings to individual patients with unique characteristics" and "insufficient time". In a second level of importance the barriers are grouped "Inability to apply research findings to individual patients with unique characteristics", "Lack of understanding of statistical analysis" and "Lack of generalizability of the literature findings to my patient population" to Spanish PT, and "Understanding of the English in which articles are written" and "Lack of information resources" for Colombian PT.

Conclusion(s): The main barriers for both Spanish and Colombian PT are "insufficient time" and "Lack of research skills". Although, in different degrees of importance in the first group of barriers to EBPT.

Implications: This study presents a detailed description of the perceived barriers to EBPT among PT. This sustained research effort presents a unique opportunity to examine trends in the results.

Key-Words: Evidence-Based Practice; Barriers; Physical therapy

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Ethics approval: Universidad Manuela Beltrán and Universitat Internacional de Catalunya, Ethics committee of research, March 2010

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Abstract Preview - Step 3/4

- print version -

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3rd track/topic: Education: General

Abstract title: USING CLINICAL PRACTICE GUIDELINES AMONG COLOMBIAN AND SPANISH PHYSIOTHERAPISTS

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Background: Clinical practice guidelines (CPG) exist largely to help clinicians close that gap. CPG, which are designed to encourage consistent, efficient applications of scientific evidence in the daily practice of clinicians, are often underutilized. The majority of the research on the development, implementation, and use of CPG has focused on physician behavior. Yet PT's play a large role in patient assessment, clinical decision making, and guideline implementation.

Purpose: To determine the level of implementation of the use of clinical practice guidelines (CPG) between Colombian and Spanish physical therapists (PT).

Methods: The Spanish version of Jette et al. (2003) survey was conducted among 1,587 PT's (67% Colombians) in the ten hospitals participating in the EBPT Colombian and Spain project. We have described all items with the absolute and relative frequency. To determine the associations between CPG and the characteristics of the physiotherapists was conducted chi-square test using SPSS version 22.

Results: Colombian PT reported greater accessibility, knowledge and use in daily clinical practice. We found an association between the use, understanding and use of the CPG and age, years since graduation, number of patients seen per day and hours of daily practice, while in Spanish physiotherapists these associations were observed only in the years since graduation, and number of patients seen per day.

Conclusion(s): This study presents details the level of implementation of the use among CPG in Colombian and Spain PT's.

Implications: It's essential that Physiotherapies engage in dialogue with physicians and other advanced practitioners to determine the most appropriate use of guidelines and other research evidence.

Key-Words: Clinical practice; Physiotherapists; Implementation

Funding acknowledgements: None

Ethics approval: Universidad Manuela Beltrán and Universitat Internacional de Catalunya, Ethics committee of research, March 2010

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Abstract Preview - Step 3/4

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Primary track/topic: Professional practice: Human movement analysis

Abstract title: ESTIMATES OF NORMAL STABILOMETRY RANGES UNDER STATIC CONDITIONS IN HEALTHY INDIVIDUALS AGED 18 TO 65 YEARS OLD

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Background: Normal stabiometric parameters were studied and published by the French Posturology Association in 1985, for a cohort of 100 subjects grouped by sex but not by age. Stabiometry is one of the most widely used methods to determine individuals' stability when standing, by studying their displacement from the centre of pressure. The stabiometric standards used today were established with a sampling frequency of 5 Hz. Greater accuracy in the sampling of data is now achieved as a result of progress in technology and processors.

Purpose: In this study, we performed the point and interval estimate (IC 95%) of normality for the static stabiometric values of postural control, using posturographic stability variables in amplitude, and the maximum and minimum values for both the X and the Y axis.

Methods: The design was a cross-sectional study. We included 177 individuals distributed homogeneously in terms of age and sex ($p < 0.05$), grouped according to age, with 45.2% aged between 18 and 35, 32.2% between 36 and 50, and 22.6% between 51 and 65 years old. Patients presenting musculoskeletal and neurological diseases, and with alterations in the vestibular and visual systems prior to sampling and after any type of surgery were excluded. The sampling was repeated three times over for 51.2 sec using the 40-Hz Satei stabiometry platform, with eyes open (EO) and closed (EC).

Results: The mean amplitude in X with EO for men aged 18 to 35 (18 ± 4.7) was slightly higher than in the other two age groups. Meanwhile, with EC it was higher in the group aged 36 to 50 (20.8 ± 8.7). Differences between the mean amplitude for men and women were also found for EO and EC. In the maximum X observed for both EO and EC, the mean was in the positive part of the centroid. In contrast to the mean for the minimum X. Significant differences ($p = 0.029$) for age and sex were observed compared to the maximum Y with EC, and for the minimum Y with EO and EC ($p = 0.025$ and 0.005 respectively). In all three cases, the youngest age group differed from the rest among both men and women.

Conclusion(s): No differences were found in the maximum and minimum values for men and women if the age group is not taken into consideration.

Implications: These findings will enable physiotherapists to update the normal stability parameters and therefore improve diagnoses by age group and sex. However, due to the biological variability of the variables studied, further study of these stabiometric parameters is required, with consideration of the behaviour curve of the postural strategy during the seconds sampled, using functional data analysis techniques.

Key-words: Postural control; Stabiometry; Balance

Funding acknowledgements: None

Ethics approval: Ethics committee of research. Universitat Internacional de Catalunya. March 2012.

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Abstract Preview - Step 3/4

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Primary track/topic: Education: Qualifying education

2nd track/topic: Education: Continuing professional development

3rd track/topic: Education: General

Abstract title: EVIDENCE-BASED PRACTICE. PSYCHOMETRIC PROPERTIES OF A QUESTIONNAIRE IT'S MEASUREMENT

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Background: The questionnaire developed in the U.S. by Jette et al. is used as a screening tool to estimate the attitudes, beliefs, knowledge and behaviors toward evidence-based practice (EBP). This instrument was adapted and validated in the Spanish language by Guerra et al. but lacking validity studies in the Hispanic population.

Purpose: This research has aimed to estimate the psychometric properties as a way to obtain evidence on the validity of the instruments for these proposed.

Methods: This was an instrument development study with validity and reliability testing. The sample was made up of 1,064 Physiotherapists in Colombia who completed the on-line version of the questionnaire. Its reliability and reproducibility were estimated with Cronbach's alpha procedure, the test-retest with Lin's correlation coefficient and Cohen's kappa index, respectively. An exploratory factor analysis was used to analyze the factorial structure.

Results: The questionnaire has shown global high internal consistency, moderate temporal stability, acceptable reproducibility, and construct validity appropriate. Exploratory factorial analysis identified two factors that account for 37.953% of the variance.

Conclusion(s): The results obtained in this study support the use of this questionnaire for this type of sample from the viewpoint of reliability and factor structure. However, further studies are needed to provide evidence of validity based on the relationship with other variables to determine its usefulness as a questionnaire to evaluate the EBP.

Implications: The psychometric properties questionnaire was determined to have acceptable reproducibility and acceptable consistency for measuring self-reported attitudes, knowledge, behavior, prerequisites, and barriers related to EBP and guidelines among physical therapists in primary care settings.

Key-words: Evidence-based practice; Psychometric properties; Physical therapy

Funding acknowledgements: None

Ethics approval: Ethics committee of research. Universidad Manuela Beltrán. June 2011.

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Abstract Preview - Step 3/4

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Primary track/topic: Professional practice: Human movement analysis

Abstract title: STABILOMETRIC BEHAVIOUR PATTERNS UNDER STATIC CONDITIONS AMONG HEALTHY INDIVIDUALS AGED 18 TO 65 YEARS OLD FROM FUNCTIONAL DATA ANALYSIS

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Background: When assessing postural stability in order to standardize values, use of the mean of the records obtained during the assessment is common. Information regarding the behavioural curve before those values are achieved is consequently lost. Modern computer systems enable more data to be collected and the development of new statistical models, such as functional data analysis (FDA), which allow us to study problems of this nature and complexity. During the FDA process, functional variables are gathered in which the observations vary within a continuum of possible values.

Purpose: In this study, we estimate the common function pattern in healthy subjects between 18 and 65 years old which best fits the functions of the posturographic variables for postural control as measured in a static position over 51.2 seconds using the Satel 40Hz stabilometry platform.

Methods: A cross-sectional study was conducted. We included 177 individuals, who were evenly distributed in terms of age and sex ($p < 0.05$). Patients presenting musculoskeletal and neurological diseases, and with alterations in the vestibular and visual systems prior to sampling and after any type of surgery were excluded. The variables recorded were the mean position of the centre of pressure on the frontal plane (Xm) and the sagittal plane (Ym), and the length (L) and the amplitude of both the frontal plane (AmpX) and the sagittal plane (AmpY).

Results: Analysis of the 2,048 values for each variable and condition resulting from the translation of the points in time from second 0 to second 51.2 in fractions of 0.025 milliseconds was performed using an exploratory FDA and FDA principal components with our own code programmed using R. It was therefore possible to classify the standard curves in three types. For the Xm and Ym positional variables with both EO and EC, the curves were almost linear and parallel to the x-axis (time). However, for L, the behaviour was quasi-linear with a positive gradient with both EO and EC. Finally, there was a third group, including AmpX and AmpY, with both EO and EC, for which the standard exponential function showed a negative trend between second 0 and second 10, and a linear trend for the remaining time. Principal component analysis showed that in the first factor, the explained variability was between 90.25% and 94.99%, while in the second factor, explained variability was at most 6%. This means that the variability is mainly explained by the sampling time and a small percentage of other extrinsic factors and/or random measurement errors.

Conclusion(s): We can therefore conclude that there is a standard pattern of behaviour in postural stability strategies in healthy individuals.

Implications: This type of technique applied to physiotherapy provides a more accurate diagnosis, as it can determine how individuals behave during the sampling time and not compared to their mean values, which are often not representative of what actually happens to them.

Key-words: Postural control; Stabilometry; Balance

Funding acknowledgements: None

Ethics approval: Ethics committee of research, Universitat Internacional de Catalunya, March 2012.

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Review Article

Effects of Supervised Multimodal Exercise Interventions on Cancer-Related Fatigue: Systematic Review and Meta-Analysis of Randomized Controlled Trials

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Objective. Cancer-related fatigue (CRF) is the most common and devastating problem in cancer patients even after successful treatment. This study aimed to determine the effects of supervised multimodal exercise interventions on cancer-related fatigue through a systematic review and meta-analysis. **Design.** A systematic review was conducted to determine the effectiveness of multimodal exercise interventions on CRF. Databases of PubMed, CENTRAL, EMBASE, and OVID were searched between January and March 2014 to retrieve randomized controlled trials. Risk of bias was evaluated using the PEDro scale. **Results.** Nine studies ($n = 772$) were included in both systematic review and meta-analysis. Multimodal interventions including aerobic exercise, resistance training, and stretching improved CRF symptoms ($SMD = -0.23$; 95% CI: -0.37 to -0.09 ; $P = 0.001$). These effects were also significant in patients undergoing chemotherapy ($P < 0.0001$). Nonsignificant differences were found for resistance training interventions ($P = 0.30$). Slight evidence of publication bias was observed ($P = 0.04$). The studies had a low risk of bias (PEDro scale mean score of 6.4 (standard deviation (SD) ± 1.0)). **Conclusion.** Supervised multimodal exercise interventions including aerobic, resistance, and stretching exercises are effective in controlling CRF. These findings suggest that these exercise protocols should be included as a crucial part of the rehabilitation programs for cancer survivors and patients during anticancer treatments.

1. Introduction

The number of people diagnosed with cancer worldwide has been estimated to be as high as 10 million [1]. The respective numbers with regard to cancer survivors may reach approximately 25 million [1]. In Colombia, the National Cancer Institute (NCI) declared that malignant tumors present the third cause of mortality, increasing the mortality burden during the last sixty decades from 6% to 15% in 2002 [2, 3]. Cancer-related fatigue (CRF) is a common problem in cancer patients. Approximately, 80% to 100% of cancer patients report suffering from CRF [4]. Furthermore, it has been shown that patients continue to experience fatigue symptoms for months or years after successful treatment [4]. Several concepts of CRF have been published in the

biomedical literature. The National Comprehensive Cancer Network (NCCN) [5] defined CRF as “a distressing, persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.” Besides, CRF has a severe impact on daily activities, social relationships, reintegration, and overall quality of life [6]. Some evidence has postulated that CRF may be considered as a predictor of survival for these patients [7].

Recent systematic reviews have shown that supervised exercise has the power to combat many of the side effects of cancer treatment and, thus, can be of significant benefit to patients in the short and long term [8–11]. A recent Cochrane



Research

Supervised exercise reduces cancer-related fatigue: a systematic review

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KEYWORDS

Physical exercise
Cancer
Fatigue

Question: Does supervised physical activity reduce cancer-related fatigue? **Design:** Systematic review with meta-analysis of randomised trials. **Participants:** People diagnosed with any type of cancer, without restriction to a particular stage of diagnosis or treatment. **Intervention:** Supervised physical activity interventions (eg, aerobic, resistance and stretching exercise), defined as any planned or structured body movement causing an increase in energy expenditure, designed to maintain or enhance health-related outcomes, and performed with systematic frequency, intensity and duration. **Outcome measures:** The primary outcome measure was fatigue. Secondary outcomes were physical and functional wellbeing assessed using the Functional Assessment of Cancer Therapy Fatigue Scale, European Organization for Research and Treatment of Cancer Quality of Life Questionnaire, Piper Fatigue Scale, Schwartz Cancer Fatigue Scale and the Multidimensional Fatigue Inventory. **Methodological quality,** including risk of bias of the studies, was evaluated using the PEDro Scale. **Results:** Eleven studies involving 1530 participants were included in the review. The assessment of quality showed a mean score of 6.5 (SD 1.1), indicating a low overall risk of bias. The pooled effect on fatigue, calculated as a standardised mean difference (SMD) using a random-effects model, was -1.69 (95% CI -2.99 to -0.39). Beneficial reductions in fatigue were also found with combined aerobic and resistance training with supervision (SMD = -0.41 , 95% CI -0.70 to -0.13) and with combined aerobic, resistance and stretching training with supervision (SMD = -0.67 , 95% CI -1.17 to -0.17). **Conclusion:** Supervised physical activity interventions reduce cancer-related fatigue. These findings suggest that combined aerobic and resistance exercise regimens with or without stretching should be included as part of rehabilitation programs for people who have been diagnosed with cancer. **Registration:** PROSPERO CRD42013005803. [Meneses-Echávez JF, González-Jiménez E, Ramírez-Vélez R (2014) Supervised exercise reduces cancer-related fatigue: a systematic review. *Journal of Physiotherapy* XX: XX–XX]

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Introduction

The number of people diagnosed worldwide with cancer has been estimated to be as high as 10 million, with another 25 million having survived cancer.¹ In Colombia, the National Cancer Institute reported that malignant tumours are the third biggest cause of mortality, increasing their mortality burden from 6% to 15% in the six decades before 2002.² This increase in cancer diagnoses is an important public health problem, with the number of new cases diagnosed in 2020 expected to be approximately 1.7 million.³

Cancer-related fatigue is a common problem for people with cancer. Approximately 80 to 100% of people with cancer report that they experience cancer-related fatigue.⁴ Furthermore, many people continue to experience fatigue for months or years after successful treatment.⁴ Several concepts of cancer-related fatigue have been published in the biomedical literature. Stone and colleagues found that 75% of participants with various solid tumours (among whom 48 out of 95 had metastatic disease) had a significantly increased cancer-related fatigue score compared with a matched control population.⁴ The Colombian National Cancer Institute² and the National Comprehensive Cancer Network⁵ define cancer-related fatigue as ‘a distressing, persistent, subjective sense of physical, emotional and/or cognitive tiredness or

exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning’. Cancer-related fatigue also has a severe impact on daily activities, social relationships, reintegration and overall quality of life.⁶ Some evidence suggests that cancer-related fatigue may be a predictor of survival for people with cancer.⁷

Physical activity has been proposed as an effective non-pharmacologic intervention to promote psychological wellbeing during and following cancer treatment.⁸ A growing body of evidence indicates that physical activity improves muscle strength and body composition in people with cancer.^{9,10} Recent systematic reviews examining the effect of physical activity on psychological and functional outcomes have tended to study particular types of cancer instead of all cancer types, with lung and breast cancer being the most widely studied.^{11–13} A recent Cochrane systematic review¹⁴ about exercise and cancer-related fatigue concluded that aerobic exercise reduces cancer-related fatigue and encouraged further research of other exercise modalities; however, this review only included data published before March 2011 and did not examine supervised physical activity interventions in isolation from unsupervised interventions.

Supervision plays an important role in the effects of exercise interventions in chronically ill people.^{15,16} This value of supervision

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ABSTRACTS

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AWARENESS ABOUT BREAST-SELF EXAMINATION AND BEHAVIORAL-RELATED RISK FACTORS FOR BREAST CANCER AMONG YOUNG COLOMBIAN WOMEN: A CROSS-SECTIONAL ANALYSIS

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Background: Breast cancer is a growing public health problem worldwide. Breast-self examination (BSE) is an inexpensive strategy proposed to improve early detection and related to some reductions in mortality. Besides, behavioral risk factors are of special interest for cancer control and the overall burden of disease.

Aim: To establish associations between the practice of breast-self examination, the knowledge about breast cancer risk and behavioral-related risk factors for breast cancer among young Colombian women

Methods: A cross-sectional study was carried out involving data from 642 young Colombian women. Data for BSE were collected using validated tools and the Behavioral Risk Factors Surveillance System (BRFSS).

Results: Women were a mean age of 30.7 ± 11.8 years old. Fifty-seven percent of the women knew how to carry out BSE, although only 26.3% perform it monthly. Further, a sedentary lifestyle was found in 53.3% of women and similar prevalences were observed for other behavioral variables. BSE was associated with age ($p = 0.02$), socioeconomic status ($p < 0.001$), knowledge about risk factors ($p < 0.001$) and unhealthy lifestyles ($p < 0.001$).

Conclusions: There exists a low level of knowledge and practice of BSE among young Colombian women. This population is in a high-risk of breast cancer because of the critical prevalences of some behaviors related to unhealthy lifestyles found in this study. Further health-promotion strategies are warranted.

ABSTRACTS

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EXERCISE TRAINING AND INFLAMMATORY BLOOD BIOMARKERS IN BREAST CANCER PATIENTS: A METAANALYSIS OF RANDOMIZED-CONTROLLED TRIALS

Jose F Meneses-Echavez¹, Robinson Ramírez-Vélez¹, Emilio
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Background: It has been widely known that inflammatory biomarkers play a crucial role in tumorigenesis, angiogenesis and metastasis. Exercise training has been proposed as a safe and effective non-pharmacological strategy in modulating inflammatory status among breast cancer patients; however this evidence remains unclear.

Aim: To determine the effects of exercise training in the blood parameters of Inflammatory biomarkers in Breast cancer patients through a metaanalysis of randomized-controlled trials.

Methods: PRISMA statement and the Cochrane Handbook were followed. Electronic searches were implemented in MEDLINE, CENTRAL, EMBASE, Scopus and DARE database to retrieve trials published between 1980-March 2014 providing effects of exercise interventions on pro-inflammatory biomarkers, such as interleukin (IL) -2, IL-6, IL-8, tumoral necrosis factor alpha (TNF- α) and C-reactive protein (CRP) in Breast cancer survivors. We conducted an Inverse of variance (IV) fixed-effects model in absence of heterogeneity ($I^2 < 50\%$); otherwise a random-effects model was selected. Standardized-Mean Differences (SMD) were calculated to estimate differences between groups ($p < 0.05$ with 95% Confidence interval). Heterogeneity was measured with the Chi² test ($p < 0.10$) and I^2 statistics.

Results: A total of 15 studies were included ($n = 1447$; mean age = 51.6 years old). Exercise interventions resulted in positive effects for CRP (MD = 0.37, 95%CI, 0.04 to 0.71; $p = 0.03$; $I^2 = 15\%$), IL-2 (MD = -6.04, 95%CI, -11.41 to -0.67; $p = 0.03$; $I^2 = 0\%$), IL-10 (-22.90, 95%CI, -41.27 to -4.53; $p = 0.001$, $I^2 = 0\%$) and waist circumference as indicator of body composition (MD = -1.12, 95%CI, -2.06 to -0.18; $p = 0.02$; $I^2 = 45\%$). Non-significant differences were observed for IL-6 and TNF- α . There was no evidence of publication bias.

Conclusions: These findings suggest that exercise improves the pro-inflammatory profile in breast cancer patients and consequently the immunological responses and the carcinogenic processes related to tumoral environment. Differences found for IL-10 provide novel evidence for the role of exercise as an effective anti-inflammatory intervention in Breast cancer patients.

Barcelona 03 de octubre de 2014

Por la presente se acredita la colaboración del Dr Robinson Ramírez Vélez en el marco del proyecto de tesis "Efectos de un programa de ejercicio físico en niños supervivientes de leucemia aguda linfoblástica" de la doctoranda MANCHOLA GONZÁLEZ, Jahn Dubery, en la que se va a realizar conjuntamente una revisión sistemática sobre la prescripción de ejercicio físico en niños diagnosticados de leucemia. Esta tesis se realiza dentro del programa de doctorado en Fisioterapia y dentro de la línea de investigación de Fisioterapia aplicada a la actividad física y el deporte y prescripción de ejercicio físico para la salud del Departamento de Fisioterapia. La tesis esta codirigida por los doctores Dr Ricard Serra Grima y la Dra Caritat Bagur Calafat. Todo ello se realiza en el marco de colaboración definido por el convenio establecido entre la Universidad de Santo Tomás (Colombia) y la Universitat Internacional de Catalunya (España).



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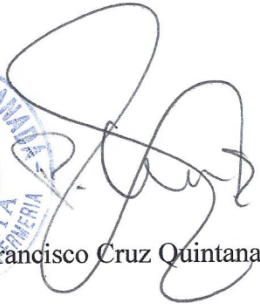
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Francisco Cruz Quintana, Director del Grupo de Investigación CTS-436 "Aspectos Psicosociales y Transculturales de la Salud y la Enfermedad" certifica que:

El Dr. Robinson Ramírez Velez perteneciente al grupo de investigación GICAEDS, adscrito a la división de Ciencias de la Salud, de la Universidad Santo Tomas, Bogota-Colombia colabora como Asesor Internacional en el estudio de la Tesis Doctoral elaborado a partir de los datos de la ENSIN por la alumna Carmen Flores Navarro Pérez, titulado *"Análisis y estudio de la población materno infantil colombiana durante el embarazo y la primera infancia"*. Dicho proyecto de Tesis se encuentra matriculado en el Programa Oficial de Doctorado en Investigación Multidisciplinar e Innovación en Procesos de Discapacidad, Dependencia y Fin de Vida (D34/56/1) de la Universidad de Granada (España).



Fdo.: Dr. Francisco Cruz Quintana

Granada, 15 de Septiembre de 2014



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ACUERDO DE COLABORACIÓN ENTRE EL INSTITUT NACIONAL D'EDUCACIÓ FÍSICA DE CATALUNYA Y LA UNIVERSIDAD SANTO TOMÁS, DE BOGOTÁ

En la ciudad de Barcelona (España), a 22 de septiembre de dos mil catorce

REUNIDOS

De una parte, el Sr. Agustí Boixeda i de Miquel, director del Institut Nacional d'Educació Física de Catalunya (en adelante, INEFC), en virtud del nombramiento hecho por el Decreto 41/2012, de 17 de abril (*Diari Oficial de la Generalitat de Catalunya* nº 6111, de 19 de abril).

Y, de otra parte, el Padre. Carlos Mario Alzate Montes O.P, mayor de edad, domiciliado en la ciudad de Bogotá, identificado con la cédula de ciudadanía número 70.125.110 expedida en la ciudad de Medellín quien actúa en su calidad de Rector General y Representante Legal de la Universidad Santo tomas, Institución de Educación Superior, sin ánimo de lucro, domiciliada en Bogotá D.C. en la carrera 9 No 51-11, reconocida mediante Resolución 3645 del 06 de agosto de 1965 expedida por el Ministerio de Justicia, con NIT 860.012.357-6.

INTERVIENEN

El primero, en nombre y representación del INEFC, en virtud de las facultades que le confiere el art. 9.2 c) de la Ley de Catalunya 11/1984, de 5 de marzo, de creación del Organismo Autónomo Institut Nacional d'Educació Física de Catalunya, con domicilio en Barcelona (España), av. de l'Estadi, 12-22., Anella Olímpica de Montjuïc (CP 08038).

El segundo, en nombre y representación de la Universidad Santo Tomás, de Bogotá, en virtud del acuerdo de COLABORACIÓN ENTRE EL INSTITUT NACIONAL D'EDUCACIÓ FÍSICA DE CATALUNYA Y LA UNIVERSIDAD SANTO TOMÁS, DE BOGOTÁ, de fecha 22 de septiembre de 2014 con domicilio actual en la carrera 9 No 51-11, ciudad de Bogotá.

MANIFIESTAN

- I. Que el INEFC es un organismo autónomo de la Generalitat de Catalunya que tiene, entre sus funciones, la de la formación de docentes para obtener los títulos académicos en educación física y deportes que establezca la legislación vigente, la especialización y el perfeccionamiento de los titulados en educación física y deportes, la investigación científica en el campo de la educación física y del deporte y la divulgación de sus trabajos, la organización de los cursos, planes de estudio y métodos pedagógicos que sea preciso aplicar, la gestión y el mantenimiento de sus recursos e instalaciones, y el establecimiento de convenios con otros organismos para fines científicos.
- II. La Universidad Santo Tomás, de Bogotá, tiene como misión impartir una sólida formación ética y humanística que, unida a la investigación y a una exigente enseñanza del conocimiento, permite formar integralmente personas que actúen en beneficio de la sociedad con gran sentido de responsabilidad.



CONVENIO DE COLABORACIÓN ENTRE EL GRUPO DE INVESTIGACIÓN EN “CIENCIAS APLICADAS A LA ACTIVIDAD FÍSICA, EL DEPORTE Y LA SALUD (GICAEDS)”, DE LA UNIVERSIDAD DE SANTO TOMÁS Y EL GRUPO DE INVESTIGACIÓN CTS-436 "ASPECTOS PSICOSOCIALES Y TRANSCULTURALES DE LA SALUD Y LA ENFERMEDAD" DE LA UNIVERSIDAD DE GRANADA.

En Granada, a 6 de octubre 2014

REUNIDOS

De una parte, el Sr. D. Robinson Ramírez Vélez en nombre y representación como director del GRUPO DE INVESTIGACIÓN EN “CIENCIAS APLICADAS A LA ACTIVIDAD FÍSICA, EL DEPORTE Y LA SALUD (GICAEDS)” adscrito a la DIVISIÓN DE CIENCIAS DE LA SALUD de la FACULTAD DE CULTURA FÍSICA, DEPORTE Y RECREACIÓN (Colombia), que es director según consta en el Reconocimiento y Medición de Grupos de Investigación, Desarrollo Tecnológico y/o Innovación y para el Reconocimiento de Investigadores del Sistema Nacional de Ciencia, Tecnología e Innovación – 2014, CODIGO COLCIENCIAS COL0082859.

Y de otra, el Sr. D. Francisco Cruz Quintana, Profesor Titular de la Universidad de Granada en nombre y representación del grupo de investigación "Aspectos

Agenda - Ponencias

Área Ciencias de la Salud

Aula Magistral DA 401

9:20 a 9:40 a.m.

Cambios en la composición corporal, glucosa capilar y la funcionalidad durante un entrenamiento de fuerza explosiva en mujeres adultas mayores

Grupo de investigación en Ciencias Aplicadas a la Actividad Física, el Deporte y la Salud GICAEDS, Bogotá.

10:40 a 11:00 a.m.

Receso refrigerio

11:00 a 11:20 a.m.

Variaciones de amplitud de acomodación en escolares de 9 a 11 años en la ciudad de Bucaramanga y su área metropolitana

10:20 a 10:40 a.m.

Consumo de bebidas azucaradas, niveles de adiposidad y marcadores de riesgo cardiovascular en universitarios de Bogotá, Colombia

Grupo de investigación en Ciencias Aplicadas a la Actividad Física, el Deporte y la Salud GICAEDS, Bogotá.

Grupo GIDIN, Tunja.

12:00 a 12:20 m.

Rehabilitación de la locomoción por medio de un sistema neuro difuso aplicado en una plataforma de rehabilitación
Grupo GIDIN, Tunja.

Agenda – Pósters

Pasillo auditorios Mayor, Menor y Aulas Magistrales

4. An exploratory study of perceived barriers to physical activity among university students.

Grupo de investigación en Ciencias Aplicadas a la Actividad Física, el Deporte y la Salud GICAEDS, Bogotá.

5. Reference values for handgrip strength in among healthy young adults. Grupo de investigación en Ciencias Aplicadas a la Actividad Física, el Deporte y la Salud GICAEDS, Bogotá.