

- [1] Rossato M, Lima JL, Oliveira SN, Moraes MA, Bezerra ED, Amorim M., . . . Lopes KA. Composição corporal de pessoas com deficiências avaliadas pela técnica de pletismografia. *Revista Portuguesa de Ciências do Desporto*. 2014; 49-56.
- [2] Heyward VH, Stolarczyk L. Applied body composition assessment (1st Ed). Champaign, Illinois: Human Kinetics; 1996.
- [3] Ehrampoush E, Arastehc P, Homayounfara R, Cheraghpour M, Alipour M, Naghizadeh M, . . . Razaze J. New anthropometric indices or old ones: Which is the better predictor of body fat? *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*. 2016; 11(4): 257-263. doi: <https://doi.org/10.1016/j.dsx.2016.08.027>
- [4] Declaração de Helsinquia. Princípios Éticos para a Investigação Médica em Seres Humanos. Associação Médica Mundial. Fortaleza, Brasil; 2013.
- [5] Hinkle DE, Wiersma W, Jurs SG. Applied statistics for the behavioral sciences (5 ed.). Boston: Houghton Mifflin; 2003.

O19

Cognitive Stimulation for Successful Aging - perceptions of Social Educators

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BACKGROUND: The phenomenon of demographic aging is one of the major contemporary world challenges, with Portugal being one of the most aged countries in the Europe^[1]. Several efforts have been made to ensure that this increase in life span can effectively be translated into quality of life^[1], as well as in improvements in the care and attention to the more dependent elderly^[2]. The development of cognitive stimulation intervention has been associated to the promotion of successful aging^[3,4] as well as to the protection against earlier dementia and cognitive decline^[5]. The Social Educator, through a socio-educational intervention, may be part of the professional answer to this challenge. **OBJECTIVES:** This study aims to evaluate the perceptions of Social Educators (n = 4), who have been involved in the development of a cognitive stimulation program, about the benefits of this intervention to the persons who participated in the program at the domains of Interest, Humor, Initiative, Satisfaction and Communication, assessed through an observation scale (1-5), about each of participant in each session. **METHODS:** The program comprised 14 sessions, repeated over 3 cycles. Two groups of elderly people with cognitive impairment or mild dementia, living in a nursing home, were organized. The first with 7 participants was developed 2 times a week and the other with 5 participants was developed 3 times a week. **RESULTS:** The results show that the perception of the Social Educators is considerably positive, with the mean values of all the dimensions considered in the assessment above 3.5. The dimension with highest values was Interest (mean of 4.74 and 4.41 in the 2x and 3x/week groups, respectively) and the lowest was Communication (mean of 4.52 in the 2x group) and Initiative (3.77 in the 3x group). The comparison between cycles allowed to realize that the perception of the considered dimensions is more favorable in the 2nd and 3rd cycles of application of the program, which happened for both groups. Comparing the two groups, there were better results for all dimensions in the group where the program was developed twice a week. **CONCLUSION:** In summary, the results point to a very positive perception of Social Educators about the benefits of the program. The dimensions evaluated are important indicators of successful aging, so the very positive assessment presented here may indicate the contribution of such programs to a higher quality of life in advanced age.

Keywords: *Cognitive Stimulation, Successful Aging, Social Education*

References:

- [1] Organização Mundial de Saúde, OMS. Active Ageing. Geneva: OMS; 2002.
- [2] Osório A, Pinto F (Coord.). As pessoas idosas: contexto social e intervenção educativa. Lisboa: Instituto Piaget; 2007.
- [3] Azevedo MJ, Teles R. Revitalize a sua mente. In Ribeiro O, Paúl C, editores. Manual de Envelhecimento Activo. Lisboa: LIDEL; 2011. p. 77-112.
- [4] Apóstolo J, Martins A, Graça M, Rodrigues SL. O Efeito da Estimulação Cognitiva no Estado Cognitivo de Idosos em Contexto Comunitário. *Actas de Gerontologia*. 2013; 1: 1-12.
- [5] Caldas A. A Doença de Alzheimer e outras Demências em Portugal. Lisboa: LIDEL; 2005.

O20

Antioxidant activity of dietary supplements with green tea marketed in Portugal

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BACKGROUND: Green tea is recognized by its antioxidant potential^[1]. Nowadays, the marketing of dietary supplements claiming protection against free radicals has increased. However, most labels include no data about its antioxidant properties^[2,3]. **OBJECTIVES:** This study aims to evaluate antioxidant activity of six green tea dietary supplements sold in pharmacies and health foods stores in Portugal. **METHODS:** Six commercial dietary supplements containing green tea were evaluated for in vitro antioxidant capacity by different methodologies: antiradical activity against 2,2-diphenyl-1-picrylhydrazyl (DPPH), superoxide and metal chelating activity. EDTA, ascorbic acid and quercetin were used as standards. **RESULTS:** Great variability in antioxidant activity was seen among all dietary supplements, as well as different patterns of antioxidant capacity depending on the method used. Scavenging activities of the Fe²⁺ chelating, DPPH and superoxide radical for all dietary supplements studied were observed in concentration-dependent patterns. For Fe²⁺ chelating activity assay, only sample B (containing only green tea) showed antioxidant results (IC₅₀ = 2681.6 ± 92.0 µg/mL). Sample E (containing only green tea) showed the best IC₅₀ value for DPPH assay (31.6 ± 2.3 µg/mL). In superoxide assay IC₅₀ values range from 44.7 to 265.3 µg/mL. In this study products with only green tea as active ingredient showed the best results, with an IC₅₀ value of 31.6 ± 2.3 µg/mL. In all samples (except for sample C – with green tea, guarana, bitter orange, L-carnitine, cocoa, choline, and chromium), and for superoxide radical scavenging activity, IC₅₀ values were lower than the positive control, ascorbic acid (IC₅₀ = 77.5 ± 10.9 µg/mL), a well-known antioxidant. The variety of results obtained may be related to the composition and concentration of samples studied and the antioxidant mechanisms underlying. **CONCLUSION:** In vitro antioxidant activity of commercial dietary antioxidant supplements varies considerably among products, which is expected given the different botanical origins, different preparation processes, formulations, and concentrations. DS containing green tea with other substances didn't show better results than DS with only green tea extract, which are not in agreement with other studies^[2,4]. However, this synergic effect also depends on the type of substances present in mixture and its concentration. Therefore, results show the need to standardize dietary supplements in terms of its antioxidant capacity to match required doses to the oxidative status of consumers.

Keywords: *antioxidant activity, green tea, dpph, metal chelating activity, superoxide.*

References:

- [1] Xiang LP, Wang A, Ye JH, Zheng XQ, Polito CA, Lu JL, Li QS, Liang YR. Suppressive Effects of Tea Catechins on Breast Cancer. *Nutrients*. 2016; 8(8). doi:10.3390/nu8080458
- [2] Almeida IM, Barreira JC, Oliveira MB, Ferreira IC. Dietary antioxidant supplements: benefits of their combined use. *Food Chem Toxicol*. 2011; 49(12): 3232-3237. doi:10.1016/j.fct.2011.09.012.
- [3] Costa ASG, Nunes MA, Almeida IMC, Carvalho MR, Barroso MF, Alves RC, Oliveira MBPP. Teas, dietary supplements and fruit juices: A comparative study regarding antioxidant activity and bioactive compounds. *LWT - Food Science and Technology*. 2012; 49: 324-328.
- [4] El-Begati HS, Wael ED, Yousef RS. Synergistic Antioxidant Scavenging Activities of Grape Seed and Green Tea Extracts against Oxidative Stress. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*. 2016; 44(2): 367-374

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The effect of emotions and acupuncture on myoelectric abdominal activity

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BACKGROUND: Many studies showed that somatic skin and muscle afferences are involved in autonomic and neurovegetative control functions^[1,2]. Besides the abdomen has internal organs and gastrointestinal connection, it has neurovegetative and orthophatic functions^[3] and perform important role in emotions. In TCM some diagnose abdominal points link to internal organs, as G1 that corresponds to the Sphinx Oddi area^[4]. Acupuncture has been studied to clarifying the mechanisms in the human body. “Leopard Spot Technique” is an acupuncture techniques with instant symptoms’ relief. **OBJECTIVE:** The main objectives were to compare abdominal myoelectric activity (MEA) and pressure before/after acupuncture in the experimental group, compare abdominal MEA and pressure in the groups and relate abdominal MEA and bearable pressure with applied scales. **METHODS:** This preliminary, prospective and randomized allocated individuals, after G1 palpation, into different groups: C1 - control group (asymptomatic individuals) without acupuncture intervention; C2 - control group (asymptomatic individuals) with acupuncture, and E - experimental group (symptomatic individuals) with acupuncture. Each group was compose by 11 persons. The acupuncture technique used was “Leopard Spot Technique” in the groups C2 and E, at points H3, L6, F41, F26, bilaterally. Healthy volunteers between 18 and 65 years-old were included and excluded gastrointestinal diseases, diabetes, neurological problems, oncological and heart problems, pregnancy and lactation, people with needle phobia. The main parameters assessed were: (i) pain / discomfort by Visual Analogue Scale (VAS); (ii) MEA of the abdominal muscles around G1 by Electromyography; (iii) maximum pressure tolerable at G1 measured by digital algometer. The values were collected before and after the acupuncture. **RESULTS:** The results show that myoelectric activity increased in C1= 11.8% and C2= 42.2%. While in the experimental group (E) it decreased by 7.4%. Pain values in VAS increased in control group with acupuncture (C2) in 17.8%, decreasing in the C1= 50% and E= 81.8%. The maximum tolerated pressure in decreased in C1= -8.5% and C2= -2.1%, contrary E group increased by 2.4% after acupuncture. In the Emotion Assessment Scale, the E group

obtained subscales’ higher values (subscales as anxiety, anger and fear) and more vegetative patterns in tongue’s evaluation. C1 register higher value of “Happiness” subscale. **CONCLUSIONS:** In conclusion, acupuncture is effective to relief pain perception. In spite of the decrease tendency of MEA after acupuncture, the decrease of myoelectric activity and increase in pressure tolerance is inconclusive. Further studies studying acupuncture should be performed with more individuals.

Keywords: *Myoelectric activity, electromyography, acupuncture, emotion*

References:

- [1] Takahashi T. Mechanism of Acupuncture on Neuromodulation in the Gut—A Review. *Neuromodulation: Technology at the Neural Interface*. 2011; 14: 8–12. DOI: 10.1111/j.1525-1403.2010.00295.
- [2] Liu S, Peng S, Hou X, Ke M, Chen JDZ. Transcutaneous electroacupuncture improves dyspeptic symptoms and increases high frequency heart rate variability in patients with functional dyspepsia. *Neurogastroenterol Motil*. 2008; 20: 1204–1211. DOI: 10.1111/j.1365-2982.2008.01164.x
- [3] Yamada T. *Principles of Clinical Gastroenterology*. Blackwell Publishing; 2008. ISBN: 978-1-405-16910-3
- [4] Greten J. *Understanding TCM, The Fundamentals of Chinese Medicine Part I*. Heidelberg School Editions. 6th ed. Heidelberg; 2013. ISBN 978-3-939087-18-2.

O25

Quality of life assessment of citizens with intellectual disability: factorial and hierarchical structure

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BACKGROUND: Quality of life (QOL) is being used for institutions’ reorganization and quality certification process^[1]. QOL is making a major difference in re-thinking tailor-fit programs and intervention designs for people with intellectual disability (ID) aiming to enhance personal outcomes^[2]. Despite its importance, there is still the need to understand the underlying concept of QOL in the field of ID because the analysis of the QOL’ factor structure (multidimensional) or hierarchical nature remains a critical element with few studies about the factor structure validation^[3,4]. **OBJECTIVE:** This study aims to analyze the factor structure of the *Escala Pessoal de Resultados* (EPR), a scale to assess QOL, and examining self-report and report-of-others measures. **METHODS:** The sample comprised 1,264 adults with mild or moderate levels of ID and respective proxies ($n = 333$). Data were examined using SPSS 21.0 and AMOS 21.0. **RESULTS:** Confirmatory factor analysis (CFA) showed a robust first-order model with evidence of suitable psychometric properties of the eight QOL dimensions: personal development, self-determination, interpersonal relations, social inclusion, rights, emotional well-being, physical well-being, and material well-being. Findings also highlighted three higher factors of the QOL concept: independence (personal development, self-determination), social participation (interpersonal relations, social inclusion, rights), and well-being (emotional well-being, physical well-being, material well-being). **CONCLUSIONS:** Although further research is needed, the results reveal that the EPR may be a valid and reliable instrument to measure QOL of adults with ID. The implications of these results are discussed, highlighting the scale as a useful tool for