

**Correspondence:** Ana F. Vinha (acvinha@ufp.edu.pt) – REQUIMTE/LAQV, Departamento de Ciências Químicas, Faculdade de Farmácia, Universidade do Porto, 4050-313 Porto, Portugal  
BMC Health Services Research 2016, **16(Suppl 3):O227**

Edible flowers are commonly used in human nutrition and their consumption has increased in the last years. In Europe, the most common application of flower petals in human nutrition is in the preparation of hot beverages (tisane or infusion), providing wellness due to the medicinal properties already recognized. Thus, it is paramount to know their nutritional composition as well as other functional and beneficial properties often related to their bioactive compounds and antioxidant properties.

Rose (*Rosa canina* L.), marigold (*Calendula officinalis* L.) and camellia (*Camellia* L.) were compared for their contents in total phenolics, flavonoids and carotenoids. Moreover, their antioxidant capacity was assessed.

In what concerns bioactive compounds and antioxidant activity (DPPH), promising levels were obtained, showing significant differences among samples ( $p < 0.001$ ). *C. officinalis* presented the highest levels of total phenolics and carotenoids contents (35.4 mg GAE/g, 15.6 mg/g, respectively). Herein, the best results for flavonoids content were obtained in rose petals (~95 mg ECE/g) potentially indicating the presence of high percentage of glycosylated polyphenolics which are readily soluble in water. Since the antioxidant activity is often correlated with the contents in total bioactive compounds the correlation coefficients among bioactive compounds and antioxidant activity were also studied.

The antioxidant activity was found to be positively and significantly highly correlated with total phenolics ( $r_s = 0.917$ ,  $p = 0.001$ ) and carotenoids ( $r_s = 0.900$ ,  $p = 0.001$ ). These findings might have practical applications regarding the enhancement of edible flowers, either for prompt consumption as well as to develop food supplements or pharmaceuticals related products.

#### Keywords

Rose (*Rosa canina* L.), Marigold (*Calendula officinalis* L.), Camellia (*Camellia* L.), bioactive compounds, antioxidant activity (DPPH), health promotion

#### O228

##### The influence of leisure activities on the health and welfare of older people living in nursing homes

M<sup>a</sup> Manuela Machado<sup>1</sup>, Margarida Vieira<sup>2</sup>

<sup>1</sup>Escola Superior de Enfermagem, Universidade do Minho, Braga, 4710-057 Braga, Portugal; <sup>2</sup>Universidade Católica Portuguesa – Porto, 4202-401 Porto, Portugal

**Correspondence:** M<sup>a</sup> Manuela Machado (mmachado@ese.uminho.pt) – Escola Superior de Enfermagem, Universidade do Minho, Braga, 4710-057 Braga, Portugal

BMC Health Services Research 2016, **16(Suppl 3):O228**

#### Background

Leisure activities, often left in the background throughout life, play an important role for older persons. They are activities that they like to accomplish, according to individual preferences that make it easier to maintain an active life, on a physical, mental and social level, improving their health. Objectives: I) Identify the leisure habits of older people living in nursing homes; II) Describe the nursing homes' offer of leisure activities; III) Identify relationships between leisure activities and the seniors' health condition.

#### Methods

A cross-sectional descriptive correlational study, in 12 nursing homes in the north of Portugal with a sample of 1,131 seniors. We performed a descriptive and inferential statistical data analysis using SPSS/PC for Windows, version 22.

#### Results

Participants were mostly female, widows, with an average age of 84 years. The most common leisure activity is watching TV. Impaired sight and illiteracy are the most frequent causes of elderly people's

non-adherence to leisure activities. Leisure activities: card/board games, crafts and reading are associated with better cognitive performance; sightseeing and reading are associated with greater independence in self-care; watching television is associated with greater compromise of bodily processes and greater dependence on self-care; performing manual work is associated with less depression; walking is associated with a lower compromise of bodily processes and lower risk of falling.

#### Conclusions

Leisure habits are important in maintaining the health of older people living in nursing homes.

#### Keywords

Elderly, Leisure habits, Nursing homes, Health status

#### O229

##### Risk of falling, fear of falling and functionality in community-dwelling older adults

Beatriz Fernandes, Teresa Tomás, Diogo Quirino

Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 1549-020 Lisboa, Portugal

**Correspondence:** Beatriz Fernandes (beatriz.fernandes@estes.ipl.pt) – Escola Superior de Tecnologia da Saúde de Lisboa, Instituto Politécnico de Lisboa, 1549-020 Lisboa, Portugal

BMC Health Services Research 2016, **16(Suppl 3):O229**

#### Background

Ageing among Portuguese population is leading to an increase in the proportion of elderly people. Age-related changes are responsible for high levels of disability, balance problems and high risk of falls. Physiotherapy can identify elderly in risk of falling and provide strategies to prevent falls in this population contributing to maintain functionality. The purpose of this study was to characterise the risk of falling in a sample of community-dwelling older adults and investigate the associations between functionality and balance. Objective: To identify the risk of falling in community-dwelling older adults and its relations with fear of falling and functional capacity.

#### Methods

Cross-sectional study. Sixty-one (61) subjects participated in the study, 40 (65.6 %) females and 21 (34.4 %) males, aged  $74 \pm 7.5$  years. Outcome measures were balance assessed with Berg Balance Scale (BBS); fear of falling with Falls Efficacy Scale (FES); functionality with Composite Physical Function (CPF).

#### Results

The results of our study showed that for BBS the median was 54, for FES was 96 and for CPF was 20 points. The risk of falling for this sample was 11 %. Positive associations were found between BBS and FES ( $R = 0.589$ ;  $p = 0.00$ ), CPF and BBS ( $R = 0.723$ ;  $p = 0.00$ ) and CPF and FES ( $R = 0.613$ ;  $p = 0.00$ ).

#### Conclusions

Risk of falling is present among the participants in our study. The positive associations between balance, confidence and functionality indicate that balance and confidence in performing activities of daily living are important for having high levels of function, suggesting that physiotherapy focused on balance training can contribute to enhance independence.

#### Keywords

Ageing, balance, risk of falling, function, physiotherapy

#### O230

##### Musculoskeletal pain and postural habits in children and teenage students

Gustavo Desouzart<sup>1</sup>, Rui Matos<sup>2</sup>, Magali Bordini<sup>1</sup>, Pedro Mouroço<sup>3</sup>

<sup>1</sup>School of Health Sciences, Polytechnic Institute of Leiria, 2411-901 Leiria, Portugal; <sup>2</sup>Life Quality Research Centre, Polytechnic Institute of Santarém, 2001-904 Santarém, Portugal & Polytechnic Institute of Leiria, 2411-901 Leiria, Portugal; <sup>3</sup>Centre for Rapid and Sustainable Product Development, Polytechnic Institute of Leiria, 2430-028 – Marinha Grande, Portugal