

interventions that improve the ability of the person to administer medication, with or without the use of devices; by different routes; and to monitor some physiologic parameters related to the medication taken. We believe this will be a first contribution to the representation of the nursing knowledge in this area.

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Keywords

Self-management, Medication regime, Nursing diagnosis, Nursing information systems.

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Antioxidant activity of *Artemisia annua* L

Rita Vieira¹, Cláudia Pinho², Ana I Oliveira^{2,3}, Rita F Oliveira^{2,3}, Agostinho Cruz²

¹Escola Superior de Saúde, Instituto Politécnico do Porto, 4200-072 Porto, Portugal; ²Centro de Investigação em Saúde e Ambiente, Escola Superior de Saúde, Instituto Politécnico do Porto, 4200-072 Porto, Portugal; ³Secção Autónoma de Ciências da Saúde, Universidade de Aveiro, 3810-193 Aveiro, Portugal

Correspondence: Cláudia Pinho (clp@eu.ipp.pt)
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Background

Tea infusions of *Artemisia annua* are known for their prophylactic and therapeutic efficacy against malaria [1]. However, recent studies have revealed that *A. annua* possess a variety of pharmacological activities such as antibacterial, cytotoxic and antioxidant [2, 3].

Objective

This study aims to evaluate antioxidant activity of *A. annua* plant obtained from two different manufactures, prepared using different solvents.

Methods

A. annua leaves (obtained from two manufactures) were extracted with two solvents (water and 70% ethanol), and antioxidant activity of the extracts were screened using superoxide and 1,1-diphenyl-2-picryl hydrazyl (DPPH) radical scavenging, and metal chelating activity.

Results

The extracts tested not only showed ability to bind to iron ions but also demonstrated ability to inhibit free radicals. Results showed that antioxidant activity increased with increasing concentrations of the extracts studied. The IC50 values of *A. annua* aqueous extract (infusion), obtained from manufacture A, for DPPH and superoxide radical scavenging activities, and Fe²⁺ chelating activity, ranged from 29.3 to 176.6 µg/mL. For the hydroalcoholic extract, IC50 values ranged from 28.0 to 262.1 µg/mL (all above standards). The IC50 values of *A. annua* aqueous extract (infusion), obtained from manufacture B, for superoxide and DPPH radical scavenging activities, and Fe²⁺ chelating activity, ranged from 6.9 to 282.0 µg/mL. For the hydroalcoholic extract, IC50 values were 40.4, 46.8 and 50.5 µg/mL for Fe²⁺ chelating activity, superoxide and DPPH radical scavenging activities, respectively. Only the aqueous extract, obtained from manufacture B, showed an IC50 value (6.9 µg/mL), for the superoxide radical scavenging activity, lower than positive control (20.6 µg/mL - ascorbic acid).

Conclusions

This study confirms the differences in antioxidant activities using different solvents, suggesting that the solvent effect should be taken into account in the evaluation of the antioxidant potential of any

sample. However, the origin of the plants including the pre- and post-harvesting practices can be also important for their chemical composition, resulting in different values for the same antioxidant assays and solvents.

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Keywords

Artemisia annua, Antioxidant activity, Solvent extraction, DPPH, Superoxide anion radical, Metal chelating activity.

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Swimming pool users and behaviors: practices and motivations

Daniel A Marinho^{1,2}, Luís Faíl¹, Mário C Marques^{1,2}, António Sousa^{1,2}, Henrique P Neiva^{1,2}

¹Department of Sport Sciences, University of Beira Interior, 6201-001 Covilhã, Portugal; ²Research Center in Sports Sciences, Health Sciences and Human Development, University of Trás-os-Montes and Alto Douro, 5001-801 Vila Real, Portugal

Correspondence: Daniel A Marinho (marinho.d@gmail.com)
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Background

Health and sports professionals have recommended water-based exercises as an alternative to traditional dry-land exercise, leading to an increase in physical exercise performed in an aquatic context. The properties of the aquatic environment, combined with the resistance of the water during all movements, make it beneficial for health-related parameters and physical fitness [1]. However, research is needed to understand the practices of different populations, according to the specificity of some activities. Few is known about people's practices in these particular activities.

Objective

The purpose of this study is to characterize Portuguese practices and motivations to use the swimming pools and to exercise in-water physical activities.

Methods

Subjects from the interior region of Portugal, swimming pool users, completed a questionnaire consisting of 33 questions. Those questions were focused on the characterization of their usual in-water activities, and main motivations.

Results

Until now, 418 swimming pool users answered the questions, ranging from 18 to 79 years old (44.7% females, 55.3% males). Most of them were active and only 67 subjects were retired from work. They used to practice aquatic actives for more than 2 years (60%), and the majority twice-a-week, preferring the evening time to attend the swimming pool. Among the various types of swimming pool use, it was verified that 31% perform water aerobics, 48% swimming classes and 31% free time schedules. More than half of the sample only performed aquatic activities (54%) and aimed to improve health (47%), physical fitness (31%) and 11% to relief stress. Curiously, only 1% wanted to learn how to swim. They classified the physical activities performed in-water in the last few weeks mostly of moderated/vigorous intensity. People who attend to swimming pools are persistent and committed with aquatic exercitation, practicing for more than two years. Although most of them participate in swimming or water aerobics lessons, there is still a considerable number of free-time users and swimming pools must be prepared for this fact. Interestingly, the majority attend to swimming pool to improve health and physical fitness.