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Phytochemical Screening of aqueous and hydroalcoholic extractive solutions of *Taraxacum hispanicum* leaves

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BACKGROUND: Plants of the genus *Taraxacum* (dandelion) are a source of diverse phytochemicals, and its biological activities can be exploited in different areas of human health. Phytochemical composition of dandelion, in particular *T. officinale*, has been extensively studied over the years[1]. However, to date no studies have been performed regarding *T. hispanicum* phytochemical characterization, which is a common South European specie of *Taraxacum*[2]. **OBJECTIVE:** For that reason, this work aims to determine the phytochemical profile of different extractive solutions of *T. hispanicum*. **METHODS**: Experimental study in which two extractive solutions of dandelion leaves were tested [aqueous and hydroalcoholic (80% V/V)]. Phytochemical screening was performed, according to the literature, for determination of phenolic compounds, polyphenols, flavonoids, tannins, terpenes, diterpenes, triterpenes, alkaloids and saponins. **RESULTS**: Phytochemical screening showed positive results for polyphenols, flavonoids, tannins and diterpenes, in both solutions studied. In contrast, a negative result for triterpenes in both extracts were expected. In the case of phenolic compounds, saponins and alkaloids results were different in both extracts. **CONCLUSIONS**: Ethanol and water were the solvents used in dandelion extraction. The results observed can be explained by the suitability of the aqueous solvents to an extraction of some bioactive compounds with strong polarity; on the other hand, ethanol and mixtures of water/ethanol are suitable to the extraction of compounds with a higher polarity range[3]. Regarding the positive results for polyphenols, flavonoids, tannins and diterpenes, some authors referred the presence of polyphenols (namely flavonoids) in the aerial part of dandelion species[2]. According to literature, phytochemicals present in leaves of *Taraxacum* sp. include terpenes (particularly, sesquiterpene lactones), phenolic compounds and coumarins[4]. For the positive results found to tannins and diterpenes, there are no information related to the existence of these compounds in dandelion. However, because *T. hispanicum* is a specie poorly studied, these may be compounds not characterized to date in the plant. In conclusion, further assays are required (e.g. chromatographic techniques) in order to complement the obtained results.

Keywords: *Dandelion; Taraxacum hispanicum; Phytochemicals; Solvents; Extract*

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Learning organization

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BACKGROUND: The professional and scientific development of the HealthCare professionals in Portugal lacks a supportive framework[1]. The State and organizations address professional motivation and knowledge update as a need for career progression. However, that is insufficient when moving through processes of change – which implies adjustments and requires planning, integration and investment, in a continuous improvement basis[2,3]. **OBJECTIVES**: The aim of this work was to list the mostly needed factors to be developed in order to improve the learning on a HealthCare unit, identified by its professionals. **METHODS**: "Organizational learning" was the defined dependent variable, and approach strategy, participatory politics, information, recordable data, internal transactions, rewards, structure and environment, learning between units, support environment and self-developed opportunities were independent variables. 35 questionnaires were applied to a group of physicians from the same health unit. Each independent variable score was evaluated using the Likert scale model. **RESULTS**: 75% of physicians scored 7 to learning an approach strategy; 85% assigned 7 to participatory policy development; 80% assigned 7 on the information question; 40% scored 6 to control and form of recordable data; 60% scored 8 on internal transactions; 45% assigned 5 on rewards flexibility; 45% scored 9 on structures promotion; 50% assigned 7 on workers barriers as an analyzed environment. Discussion: The results show that physicians have access to information, have initiative and take an active role planning the organization and respecting the authority framework. Other pertinent results show that, despite the participatory capacity, there is organizational lack of support for projects development, as well as lack of investment in physicians learning and in formal procedures development for sharing data and protocols with providing care interest. **CONCLUSIONS**: Organizational learning is essential for the continuous adaptation of the organization to changes. Managers should not understand organization strategy and structure as something rigid and immutable, since it would compromise learning and lead the organization to inertia.

Keywords: *Learning organization, development, HealthCare Professionals, Health unit.*

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