

modelling (3D), a new expert panel of end users evaluated the usability of the MD alpha version sustained in Technology Acceptance Model. In the future, we also intend to carry out laboratory tests for safety validation and to perform clinical studies in a hospital environment.

Results

We identified a set of characteristics that the MD should incorporate, namely syringe size, volume of the two chambers, cannon syringe configuration, and plunger configuration. There was an alignment between literature review and the experts panel opinion.

Conclusions

Clinical practice creates daily new challenges to Nursing and it is crucial to create responses that promote better quality of health care. Identifying problems, creating technological partnerships with companies and technological centres allows to innovate through the development and creation of new MDs. The clinical research with MD allows the evaluation of safety, making clinical practice more effective and safe. This is a new challenge placed to the health professionals. It is desirable to display the intellectual capital available to generate innovations for citizens, reverting in gains to the quality of care.

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Keywords

Medical Device, Nursing, Innovation, Syringe.

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Nursing home care: nurses' perspective

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Background

Nursing home care is a trend of the current society, due to the aging of the population and shorter hospitalization times, for economic reasons and also to prevent infections. In addition, it represents a high potential for improving the quality of care by enabling self-care of patients in their life contexts, involving their families and taking advantage of existing social support networks.

Objective

Analyse the scientific production, in the last seven years, concerning domiciliary nursing care, attending to the nurse's perspective.

Methods

The search method used was the integrative literature review. The investigation question was formulated based on the PICO strategy: *What is the nurse's perspective about nursing home care?* The search was conducted between 22 and 26 May, 2017, in the following databases: SciELO, Medline with full text, CINAHL with full text, Academic Search Complete, Complementary Index. We only looked for primary scientific studies, published in the last six years, in English, Portuguese or Spanish. The selected descriptors were: Home care nursing OR Domiciliary Care OR Home visits) AND Self-care AND Nurse. We accessed 1,293 scientific articles. After reading title, abstract and full text we retained 9 studies for analysis.

Results

The mobilization of different nursing competencies is important because of patient's profile and difficulties associated with the contexts where they perform nursing care [1]. Nurses should demonstrate availability, sensitivity, education, creativity and attend to the care needs of the person and family [2]. The care process success depends on the relationship between nurse and patient and/or family [3]. The unpredictability, the lack of in house resources, distance and work overload are some of the difficulties manifested by the nurses [2, 4].

Conclusions

Nurses who provide nursing home care, due to the limited resources they face, will have to carry out a rigorous planning of care, mobilize and inform patients and families about social support networks, as well as to promote self-care.

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Keywords

Patients, Home nursing care.

P107

Knowledge on pharmacogenomics: gaps and needs of educational resources

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Background

Pharmacogenomics is a science that aims to predict the contribution of genes in an individual's response to the administration of a drug, in order to increase the therapeutic effect and minimize any Adverse Drug Reaction (ADR). The professionals must have knowledge on the subject, however the studies point to a lack of information of the future health professionals, about concepts and applications of Pharmacogenomics.

Objective

To compare the study plans of Pharmacy, Pharmaceutical Sciences and Medicine courses at a national level and to find out the existence of topics related to Pharmacogenomics, and to verify the knowledge of the students of the Degree in Pharmacy of Escola Superior de Saúde (ESS) of Porto on the topic "Pharmacogenomics", identifying gaps and needs of educational resources among students of this course.

Methods

A questionnaire-type study was carried out, the first one being applied to the Coordinators of the three courses, at a national level, and another applied to the ESS Pharmacy students about their knowledge about Pharmacogenomics.

Results

The courses have an hourly schedule for Pharmacogenomics between 2.5 hours in Pharmacy and 60 hours in Pharmaceutical Sciences. The students' knowledge of this subject went from 15.91% in the first year, to 95.92% and 97.3% in the 3rd and 4th years, respectively. Between 76% and 86% of the students were not able to identify drugs or drug metabolizing enzymes whose activity is influenced by genetic variations. Comparing the 3 courses it can be stated that the workload in the curricular plans is reduced, being especially evident in the course of Pharmacy. There is a significant increase in knowledge about Pharmacogenomics as the years of undergraduate studies progress, and the difference between the 3rd and 4th year is not significant, since this subject is taught only on the 2nd year.

Conclusions

The knowledge passed on to undergraduate students and future health professionals is reduced, with an insufficient workload, and does not take place uniformly at a national level. In the case of ESS Pharmacy, there was an increase of knowledge as the degree progresses, despite the few contents taught regarding Pharmacogenomics. In the future, it may be useful to create supplementary courses and trainings for students on this subject.

Keywords

Pharmacogenomics, Knowledge, Students, Curricular plan

P108**Influence of the rs776746 CYP 3A5 gene polymorphism on response to immunosuppressant tacrolimus in patients undergoing liver transplantation: a systematic review**

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Background

Hepatic transplantation is a lifesaving therapy that has been increasing over the years in Portugal. Its success is due largely in part to the use of immunosuppressants, like tacrolimus, the first-line immunosuppressant drug for people undergoing liver transplantation. It is a drug with narrow therapeutic window and great inter-individual variability. This variability is explained in part by polymorphisms of the CYP3A5 gene, which encodes the CYP3A5 metabolizing enzyme. The rs776746 polymorphism affects the CYP3A5 gene and gives rise to a non-functional metabolizing enzyme. The CYP3A5 gene is expressed in both the liver and the gut, that is, the metabolism of tacrolimus is affected by the transplanted liver (donor) genotype, as well as by the gut (receptor) genotype. The identification of polymorphisms becomes important especially in the period immediately after transplantation in order to avoid acute rejection of the organ.

Objective

The objective of this work was to review the influence of rs776746 polymorphism of the CYP3A5 gene on pharmacokinetics of tacrolimus.

Methods

A systematic review was conducted through the Pubmed database search, from 2000 to 2017. Articles that meet the study query and the inclusion and exclusion criteria were included for review.

Results

We selected 23 articles that discuss the influence of the rs776746 polymorphism on the pharmacokinetics of tacrolimus. The evidence suggests that individuals with the CYP3A5*3 (non-expressing) allele have a decreased metabolism of tacrolimus and, consequently, lower blood concentrations of the drug compared to individuals carrying the CYP3A5*1 (expressing) allele. The receptor genotype plays a more important role in the first days after transplantation and the donor genotype becomes more important later when the transplanted organ begins to function properly.

Conclusions

This review concluded that regarding hepatic transplantation it is important to identify both the polymorphisms affecting the metabolism of tacrolimus in the donor and recipient genotypes for a more effective dose adjustment, especially in the critical period immediately after transplantation.

Keywords

Transplant, Liver, Polymorphism, rs776746, Tacrolimus, CYP3A5.

P109**The FITWORK European Project - good practices to develop physical activity programs at work**Maria Campos, Alain Massart, Carlos Gonçalves, Luís Rama, Ana Teixeira
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Background

Workplace physical demands have widely changed in the last century. Nowadays, most of the jobs in the European Union (EU) have a low overall energy demand. In this context, the FITWORK project aims to develop good practices to support ergonomics and health by implementing physical activity programs, addressed to reduce specific ergonomic risks at the workplace. This 2-year project (2017-

2018) is co-funded by the Erasmus+ Programme of the European Union and coordinated by Instituto de Biomecânica de Valencia (IBV) Spain. The partners are the University of Coimbra (UC); Romtens Foundation, Romania; Eindhoven University of Technology (TU/e); the European Network for Workplace Health Promotion (ENWHP) and KOMAG, Poland (<http://fitwork.eu/>).

Objective

Therefore, the general objective of the project is to promote physical activity at work, awareness of workers and health and safety professionals on the significance of health-enhancing physical activity attending to job demands. To meet this objective, FITWORK will identify good practices in occupational risk prevention through physical activities, including motivational aspects, and best practices for implementing workplace health promotion programs (WHPP).

Methods

The workout programs are being implemented in two different organizations, with experimental group and control group, during six months at the Institute of Mining Technology KOMAG, Poland and INNEX S.R.L, Italy, with the following aims: I) to identify and evaluate the worksites and the professional risks within each organization; II) to adapt the WHP Programme to every worksite: identify the most appropriate exercises to carry out in each worksite and when the workers have to perform them; III) to monitor and collect data using specific instruments and report periodically about the development of the programme; IV) to give recommendations related to good practice and aspects for improving the implementation of the program.

Results

The primary purposes of the analysis of the results are to validate the effect of the designed physical activity programs and to elaborate good practices guidelines in developing and implementing WHP Programs.

Conclusions

There is evidence that behaviour changes are ignited by a complex cocktail of perceived benefits other than health alone, but a lack of evidence still exists on the effectiveness of health promotion activities on productivity, absenteeism or wellbeing. Hence, the desired impact of this European Project is to raise awareness and to engage stakeholders and target groups, sharing solutions and know-how with professional audiences.

Keywords

FITWORK, Job demands, Workplace, Physical activity programs, Erasmus+ Programme.

P110**Adventitious respiratory sounds to monitor lung function in pulmonary rehabilitation**Cristina Jácome^{1,2}, Joana Cruz^{2,3,4}, Alda Marques^{2,5}¹Center for Health Technology and Information Systems Research, Faculty of Medicine, University of Porto, 4200-450 Porto, Portugal;²Respiratory Research and Rehabilitation Laboratory, School of Health Sciences, University of Aveiro, 3810-193 Aveiro, Portugal; ³Center for Innovative Care and Health Technology, Polytechnic Institute of Leiria, 2411-901 Leiria, Portugal; ⁴School of Health Sciences, Polytechnic Institute of Leiria, 2411-901 Leiria, Portugal; ⁵Institute of Biomedicine, University of Aveiro, 3810-193 Aveiro, Portugal**Correspondence:** Cristina Jácome (cristinajacome@ua.pt)

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Background

Peak expiratory flow (PEF) has been traditionally used to monitor lung function in patients with chronic obstructive pulmonary disease (COPD) before pulmonary rehabilitation (PR) sessions. However, PEF mainly reflects changes in large airways and it is known that COPD primarily targets small airways. Adventitious respiratory sounds (ARS - crackles and/or wheezes), are related to changes within lung morphology and are significantly more frequent in patients with acute exacerbations of COPD. Thus, ARS may be also useful for the routine monitoring of lung function during PR programs.

Objective

This study explored the convergent validity of ARS and PEF in patients with COPD.