

specific, in order to understand which outcomes for cardiovascular diseases (CVD) could be translated from animal to human studies.

Introduction: CVD stand as a great cause of morbi-mortality worldwide and polyphenol-rich diets have been associated with improved cardiovascular risk profiles. Although rodent models have been a resourceful means of understanding the CVD mechanisms and possible outcomes of the use of polyphenols in that context, most experimental models do not fully reproduce human CVD.

Methods: Database searching was carried out on PubMed and Google Scholar using specific keywords concerning CVD, retrieving close to 300 publications. After excluding irrelevant results, proteome data was organized in Excel® spreadsheets and the Cytoscape platform, ClueGo + CluePedia and Venny 2.1.0 were used to explore the biological processes influenced by flavonoids in the approached CVD.

Results: This study was mainly focused in the species *Rattus norvegicus* and *Homo sapiens* and in flavonoids, a polyphenol subgroup. Only about 5% of the BP influenced by flavonoids were common to both species and they were mostly related to the maintenance of blood pressure and the fatty acid metabolic process. Nevertheless, these effects were accomplished through different proteins/pathways and different subgroups of flavonoids.

Conclusion: Our research highlights the need for a careful translation of the flavonoids' effects observed in rat models to clinical trials, since different proteins and subgroups of flavonoids mediated the observed actions. Though this type of studies can provide insights to help choosing the most adequate polyphenols as preventive approaches or therapies for human CVD, further investigation should be performed to clarify the described effects. Besides, pharmacokinetic aspects of the flavonoids' action should also be considered when planning clinical trials.

Acknowledgements: This work was supported by Portuguese Foundation for Science and Technology grants PEST-OE/SAU/UI0038/2014; UID/BIM/04293/2013, UID/IC/00051/2013 (financed by Fundo Europeu do Desenvolvimento Regional through COMPETE 2020 – Programa Operacional Competitividade e Internacionalização) and The European Foundation for Alcohol Research (ERAB) (EA 14 23).

<http://dx.doi.org/10.1016/j.pbj.2017.07.127>

PS167

Affinity of *Listeria sp.* proteins to cAMP and role in virulence

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Aim: The aim of this study was thus to identify Lm proteins capable to bind cAMP.

Introduction: Infectious diseases are still a major cause of death worldwide. To infect a host and survive the environment, bacteria have to sense their surrounding and adjust their behaviour. In this adaptation process, cAMP (cyclic adenosine monophosphate) is known to be an important player in pathogens such as *Pseudomonas spp.*, *Vibrio spp.* or *Mycobacterium spp.* The small molecule

cAMP is a cyclic nucleotide that relays information from receptors to one or more effector proteins within a bacterial cell, functioning as a second messenger. To mediate a response, cAMP allosterically interacts with cAMP-binding proteins. Understanding how this happens is fundamental to predict how bacteria will adapt/act to/in a given context.

Methods: We recently showed that the human foodborne pathogen *Listeria monocytogenes* (Lm) produces cAMP. The aim of this study was thus to identify Lm proteins capable to bind cAMP. To do this, four candidate proteins selected by bioinformatics analyses were expressed, purified and studied biochemically. Three approaches were used: cAMP affinity chromatography; competitive cAMP affinity chromatography; and isothermal titration calorimetry (ITC).

Results: Among the four tested proteins, CbpA displayed cAMP-binding ability on the three approaches used.

Conclusion: Hence, our preliminary results showed that CbpA binds to cAMP. It is now mandatory to understand the relation between cAMP and CbpA, to determine the function of the protein itself and in complex with cAMP, and to understand the importance of this signalling system for virulence.

<http://dx.doi.org/10.1016/j.pbj.2017.07.128>

Public Health & Medical Informatics Poster Session
Saturday, September 16th, 10h00

PS044

Assessment of ECG interpretation skills among Polish medical students, nursing, emergency medicine and English Division medical students



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Aim: The aim of the study was to evaluate ECG interpretation skills among study population, and analyze factors determining their score.

Introduction: The electrocardiogram examination is one of the most frequently performed diagnostic test. Correct interpretation of the ECG, particularly in life-threatening scenarios (LTS) may influence the decisions on appropriate actions and consequently have an impact on the lives and health of patients. It is important for medical, nursing and emergency medicine students to acquire this skill.

Methods: ECG interpretation skills were assessed by self-prepared questionnaire including questions about demographic data and 20 ECG problems with 17 cases. In 6 cases there were LTS. Three questions evaluated basic knowledge about rhythm, heart rate and axis. The survey was conducted via Internet. Study population consist of 551 medical, nursing and emergency medicine students.

Results: The overall score among Polish medical students is 46% which is higher than nursing and emergency medicine students (22% and 37% respectively; $p < 0.001$ in both). English division students scored almost similarly (49%; $p = 0.27$). Polish medical students scored better in LTS than the nursing students (37% vs 23%; $p < 0.001$). Among Polish medical students: Students in year “4–6” scored higher than those from year “1–3” (overall score: 51% vs. 31%; $p < 0.001$, LTS: 41% vs 25%; $p < 0.001$). In addition, members



of cardiology scientific groups scored higher than the rest (57% vs 43%; $p < 0.001$).

Conclusion: There is low level of ECG interpretation among medical students and quality of ECG training should be improved. Various factors influences ECG interpretation knowledge among students.

<http://dx.doi.org/10.1016/j.pbj.2017.07.129>

PS126

Assessment of safe injection practice among nurses in Port Said General Hospital



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Aim: Improving safe injection practice in Port-Said General Hospital.

Introduction: A safe injection is one that, “does not harm the recipient, does not expose the provider to any avoidable risk and does not result in waste that is dangerous for the community”. In developing countries, about 16 billion injections are administered each year.

Methods: Through-out March 2015, a cross-sectional, descriptive study was conducted to assess safe injection practice among 150 nurses in Port-Said General Hospital. Data collected by observational CDC Checklist and another checklist for unit evaluation.

Results: Regarding needle disposal 77% of nurses got rid of the needle in safety box, 1% threw it in the pin while 22% threw it in a barrel. Regarding hand washing 41% of nurses washed their hands before preparing medication, while 23% of nurses washed their hands before touching patients and 51% of them washed their hands after touching patients. 57% of nurses wore gloves while 43% didn't. We found 52% of nurses didn't have HBV vaccine. We found also 77% of nurses were trained on safe injection while 23% weren't trained.

Regarding observation, 73% of medication areas were cleaned while 27% weren't. 83% of nurses used single dose vials, ampoules or bottles of intravenous solution for only one patient while 17% didn't. Regarding to hospital unites, only 44% of unites had written policies or procedures for safe injection.

Conclusion: Our evaluation results are good regarding clean medication area, needles for one patient, new needles and syringes, using single dose Vial and using medical connectors for one patient, while are poor regarding disinfecting rubber septum of vial, dating multi dose vials for 28 when opened and keeping multi dose vial in a centralized medication area and not to enter it in the immediate patient area, these poor results may be due to some untrained nurses.

<http://dx.doi.org/10.1016/j.pbj.2017.07.130>

PS199

Frequency of analgesic drugs use and patients' awareness of their possible interactions with antiplatelet therapy in coronary heart disease



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Aim: The aim of the study was to assess the prevalence and frequency of analgesic drug use in patients with coronary heart disease, as well as to assess patients knowledge about possible interactions of these drugs with conventional cardiac therapy.

Introduction: Nonsteroidal antiinflammatory drugs (NSAIDs) are commonly used in the management of pain in a variety of conditions. Available data clearly indicate that the NSAIDs use is associated with a number of adverse effects especially in patients with cardiovascular disease.

Methods: The study group consists 93 patients hospitalized in the tertiary cardiology center (mean age 67 ± 11 years, 30% females). Thirty nine subjects were hospitalized with diagnosis of acute coronary syndrome and 54 underwent elective coronary intervention. Self-prepared questionnaire was used to collect data.

Results: In the examined group 56 patients (60%) declared the use of analgesic drugs with regular use (defined as at least 3 times per week) reported by 25 subjects (27%). The most frequently used analgesics were NSAIDs ($n = 37$), paracetamol ($n = 36$), less commonly patients reported the use of tramadol ($n = 6$) or metamizol ($n = 9$). The majority of patients using analgesic are not aware about possible interactions with antiplatelet therapy (the answer “yes” for the question about knowledge of possible interactions of analgesic with cardiac treatment gave only 21% of responders, while majority answered “do not know” (72%)). Only 20% of patients admitted that they received the information about analgesics from their doctor. Majority of patients do not consult the use of analgesics with the physician (72%).

Conclusion: The regular use of NSAIDs/analgesic by 27% of hospitalized patients with coronary heart disease is a significant concern. Patients with coronary heart disease should be provided with detailed information and recommendation about safe analgesic therapy and alternatives for NSAIDs.

Acknowledgements: The authors thank Prof. Danuta Czarnecka, head of the 1st Department of Cardiology, Interventional Electrophysiology and Hypertension Collegium Medicum Jagiellonian University and Agnieszka Olszaneczka Ph.D. for substantive supervision over the study.

<http://dx.doi.org/10.1016/j.pbj.2017.07.131>

PS094

A new route for Medical Education: Rethinking Anatomy's learning strategies



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