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
globally and polyphenol-rich diets have been associated with
improved cardiovascular risk profiles. Although rodent models
have been a resourceful means of understanding the CVD mech-
isms 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
Cyntoscape 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 sub-
group. Only about 5% of the BP influenced by flavonoids were
common to both species and they were mostly related to the main-
tenance 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 investi-
gation should be performed to clarify the described effects. Besides,
pharmacokinetic aspects of the flavonoids’ action should also be
considered when planning clinical trials.

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**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, bacte-
ria 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 Pseu-
domonas 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 allosteri-
cally 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 bioinformat-
ics analyses were expressed, purified and studied biochemically.
Three approaches were used: cAMP affinity chromatography; com-
petitive 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.

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**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 pop-
ulation 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 stu-
dents (22% and 37% respectively; p < 0.001 in both). English division
students scored almost similarly (49%; p = 0.27). Polish medical stu-
dents 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