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III Jornadas Lusófonas da Nutrição

III Lusófona's Nutrition Meeting

3-4 March, 2020

Auditório Agostinho da Silva (ULHT)

Lisbon, Portugal

Welcome Message

On behalf of the Organization Committee for the **III Jornadas Lusófonas da Nutrição**, we are pleased to invite you to the this event, that will be held in Lisbon (Portugal), on **March 3-4** (Universidade Lusófona de Humanidades e Tecnologias; Auditório Agostinho da Silva).

The **III Jornadas Lusófonas da Nutrição** is an academic event that aims to analyze several emerging themes in the area of nutrition sciences, highlighting the importance of nutritionists in their most distinct areas of activity, with special attention on the role of nutritionists in the social network.

This event has the participation of several specialists in clinical nutrition, public health, and other specialties, so the presence of nutritionists, researchers, doctors, nurses, pharmacists, food engineers, and other health professionals and the agri-food industry is of particular interest.

Organization Committee

Cíntia Pêgo

Emília Alves

João Gregório

Nelson Tavares

Núcleo de estudantes da licenciatura em ciências da nutrição

Scientific Committee

Bruno Sousa

Filipe Teixeira

Patrícia Rijo

Institutional sponsorship

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Scientific detailed program

March 3rd

09:00h: <u>Opening ceremony</u>
Prof. Dr. Luis Monteiro Rodrigues, Director of the Health Sciences School
Prof. Dr. Nelson Tavares, Director of the Nutrition and Dietetics degree
Prof. Dr. Lino Mendes, Ordem dos Nutricionistas

09:30h: <u>Clinical Nutrition I</u>
Last evidence in oncology applied nutrition - Profª. Drª. Paula Ravasco, Hospital Universitário de Santa Maria; Universidade de Lisboa; CIIS Universidade Católica Portuguesa
The role of Dietitians on cancer - Drª. Inês Carretero, Mama Help

Oral communications:
Food intake and IGF-1 modulation in Breast Cancer: A case study – **Laurinda Simões**
In vitro anticancer activity of phenolic bioactive compounds studied in a human renal cancer cell model – **Rita Caparica**
The dietary compound erucin impacts renal cancer cells viability and motility - **Íris Guerreiro**
Ketogenic diet vs VLCKD: myths and facts – **Joana Lima** (Sponsored by Kalibra-Prk group)

11:00h: Coffee break

11:30h: <u>Nutrition tomorrow</u>
Projeto Mun-si/CEIDSS - Drª Joana Baleia, Mun-si/CEIDSS

Oral communications:
Characterization of Chromium Binding in Lalmin Mineral Enriched Yeast - **Lauri Valk** (Sponsored by *Lallemand*)
Impact Of University Environment On Food Choices Of Displaced Students – **Rita Bárbara**
Influence of Instagram and Digital Influencers on College Student Feeding – **Tatiana Fontes**

13:00h: Lunch

14:00h: <u>Nutrition today</u>
Nutritional education through social network - Drª. Mafalda Almeida, Loveat
Professional promotion through social networks - Drª Bárbara Oliveira, barbaranutricao.pt
Online nutritional appointments - Drª. Lilian Barros, Santa Melancia

15:30h: Coffee break

16:00h: <u>Clinical Nutrition II</u>
Sports supplementation - Prof. Dr. Vítor Hugo Teixeira, FCNAUP
Weight loss supplementation - Drª. Filipa Cortez Faria, Farmodiética
Disease supplementation - Drª Raquel Rodrigues, Nestlé Health Science

17:30h: <u>Awards delivery and closing ceremony</u>

March 4th

09:00h – 12:00h: "Energy regulation and strategies for weight control in the athlete" (ADVANCED WORKSHOP)
Prof. Dr. Ricardo Silvestre, Centro de Alto Rendimento do Jamor
Dr. Bruno Pereira, Centro de Alto Rendimento do Jamor

Oral communications abstracts

OC 1: Food intake and IGF-1 modulation in Breast Cancer: A case study

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Breast cancer is the most common type of cancer in women worldwide and is therefore a field of research that has gained particular relevance. Research involving food intake and IGF-1 modulation in breast cancer is scarce. Here we present a case study of a woman with HER2-positive breast cancer that after chemotherapy and radio therapy used Whole Food Plant Based Dietary pattern for 232 days. Blood markers including IGF-1, Glycemia, LDL-Cholesterol, HDL-Cholesterol, Total Cholesterol, Haemoglobin, and also Body Mass Index were assessed at baseline and after 210 days. The woman baseline IGF-1 was 21 nmol/L and decreased to 16.3 nmol/L after 210 days. Glycemia was 80 mg/dL and increased to 85 mg/dL, LDL-Cholesterol was 82 mg/dL and decreased to 81 mg/dL, LDL-Cholesterol was 73 mg/dL and increased to 80 mg/dL, Total Cholesterol was 155 mg/dL and increased to 161 mg/dL, Haemoglobin was 12.8 g/dL and increased to 13 g/dL and BMI was 21.7 kg/m^2 decreased to 20.6 kg/m^2 after 210 days. A decrease of 22.4 percent in IGF-1 and an increase of 6.3 percent in Glycemia were noted. Additional research is necessary to confirm these promising results on IGF-1 and to clearly whether Whole Food Plant Based Diet dietary pattern might be clinically useful.

OC 2: In vitro anticancer activity of phenolic bioactive compounds studied in a human renal cancer cell model

Rita Caparica[1,2], Ana Júlio[1,2], André Rolim Baby[3], Tânia Santos de Almeida1,[4,#] and João Guilherme Costa[1,#]

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Several studies have highlighted the therapeutic properties of different bioactive compounds from natural sources. Among them, phenolic compounds emerge with a very interesting pharmacological potential to prevent and treat some human diseases, including cancer. Rutin and the phenolic acids, ferulic, caffeic and p-coumaric acids, are widely found in nature and are commonly present in the human diet, namely in plants (eg. buckwheat, bamboo shoots) and fruits (eg. oranges, apples). Interestingly, the impact of these bioactive compounds on renal cancer is not completely established.
Thus, the aim of this study was to evaluate the impact of the four studied phenolic compounds in the viability of 786-O human renal cancer cells, using the MTT and the CV assays. The MTT results revealed that, while ferulic,

caffeic and p-coumaric acids did not significantly influence the cell viability, rutin decreased the cell viability of the human renal cancer cells in a concentration-dependent manner. Additionally, the CV assay also showed that the ferulic, caffeic and p-coumaric acids (up to 250 μM) did not influence the viability of the 786-O cells. At higher concentrations (500 and 1000 μM), although ferulic acid did not significantly affect the cell viability of 786-O cells, caffeic and p-coumaric acids decreased the cell viability of human renal cancer cells.
In conclusion, our results showed that rutin was the most promising compound, as observed by the cytotoxic effect against 786-O renal cancer cells. This demonstrates the potential anticancer effect of this natural compound, that deserves to be further explored.

Acknowledgments: The authors would like to thank to Fundação para a Ciência e a Tecnologia, Portugal (UID/DTP/04567/2019). Rita Caparica and Ana Júlio would like to acknowledge ALIES for the grant PADDIC 2018-2019.

OC 4: Ketogenic diet vs VLCKD: myths and facts

Joana Lima[1]

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According to the WHO, worldwide obesity has almost tripled since 1975. In 2016, there were more than 1,900 million adults over the age of 18, overweight or obese in the world.
Many strategies have been proposed to combat the advancement of obesity in the world, from diets low fat and relatively high levels of carbohydrates, through drug-based therapies to bariatric surgery. Thus, the emergence of other effective and safe nutritional approaches for the effective fight against obesity is important.
Myths like the ketogenic diet is dangerous; rapid weight loss is associated with poorer long-term weight outcomes; there is irritability, bad mood and frequent headache in the ketosis state; our brain does not function well without carbohydrates or that we are subject to nutritional deficiencies after performing a ketogenic diet have already been clarified by science.
Much has been said about the ketogenic diet for weight loss in recent times, there are those who support it and those who are against it. So, is this a valid nutritional strategy? What harms and benefits will it bring with itself?, but what is a Ketogenic Diet?
Its definition is based on a diet with low carbohydrate content (50g / day or 10% of the TEV), high fat content (> 60% of the TEV) and normalized intake of protein, with or without energy limit. Therefore, it is necessary to introduce another concept of ketogenic diet: very low caloric Ketogenic diet (VLCKD), in which TEV is between 450 to 800Kcal / day, with a reduction in the intake of carbohydrates and fats and an adequate intake of protein. Both induce a metabolic condition called "physiological ketosis", thus distinguishing it from ketoacidosis, but the two approaches differ greatly from the fat content of the diet.
The possibility of a high intake of saturated fat and an endless number of calories per day makes the ketogenic diet doubtful in terms of safety and efficacy when compared to VLCKD.
The Kalibra Method is a VLCKD that guarantees an effective, safe and quality weight loss, reduces body fat and preserves lean mass as much as possible. It is a method divided into different stages: weight loss, transition and maintenance and always applied under the supervision of a nutrition professional. It appears as a nutritional.

OC 5: Characterization of Chromium Binding in Lalmin Mineral Enriched Yeast

Lauri Valk[1], Jacinthe Côté[1], Myriam Tourancheau[2], and Nadine Renard[3]

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Chromium deficiency in humans results in symptoms comparable to those associated with diabetes. A systematic review and meta-analysis suggests favorable effects of chromium supplementation on glycaemic control in patients with diabetes. Chromium supplementation may also improve triglycerides and HDL-C levels. More specifically, the effect of chromium-enriched yeast on blood glucose and insulin variables, blood lipids, and markers of oxidative stress has been described in animal and human subjects.
Yeast Saccharomyces cerevisiae can be fermented with the addition of salts containing chromic chloride (Cr 3+ ions) resulting in its incorporation into yeast cells components. When evaluating the efficacy of this process, one needs to determine the overall percentage of chromium bound to yeast in the finished product. Since salts, minerals, as well as various inorganic, organic and biological molecules can form crystals— X-ray crystallography was used to evaluate the types of chemical bonds formed between yeast and chromium. X-ray crystallography is a tool used for identifying the atomic and molecular structure of a crystal, in which the crystalline atoms cause a beam of incident X-rays to diffract into many specific directions. X-ray analyses by crystallography were performed on Lalmin Cr2000, a chromium mineral enriched yeast, to determine the presence of residual chromium salts (chromium chloride, CrCl 3).Generally when crystalline substances are present at 2% or more of the molecular mass, they will be detected by X-ray analyses. The results of the X-ray analysis of Lalmin Cr 2000 showed no diffraction peaks above the amorphous contribution from normal, unenriched yeast. These results suggest that, in the produced chromium enriched yeast 100% of the chromium was incorporated into the yeast molecular structures.
In order to further characterize the chromium in Lalmin Cr2000 yeast, it's location in the yeast cell and how it is organically bound, an enzymatic fractionation technique was applied. By selectively liberating the mineral from the different yeast cell components, it was possible to characterize the mineral distribution in the yeast cell. Hydrolyses using amylase, protase, pronase, beta-glucanase and deoxyribonuclease were performed on Lalmin Cr2000 yeast. The different yeast cell fractions, isolated by centrifugation, were recovered and subjected to ICP-MS to determine their chromium concentrations. The results showed that the majority of the chromium incorporated into Lalmin Cr2000 was associated with the yeast intracellular proteins (55%), the cells wall components (24%) and the yeast DNA (10%). These results also confirmed that the majority of the chromium incorporated into Lalmin Cr2000 was organically bound.

OC 6: Impact Of University Environment On Food Choices Of Displaced Students

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Currently, there is a change in eating patterns, especially in the younger generations, who are leaving the traditional Mediterranean diet, which is associated with numerous benefits such as better quality of life and longevity, and adopting a typical Western diet, poor in fruit and vegetables and high in fast food and sugary drinks. University students are a vulnerable group as they are exposed to various influences, and displaced students seem to be more predisposed to develop unfavourable eating habits. The aim of this study was to assess the adherence to the Mediterranean diet of Portuguese university students from the Lisbon region and to find out whether, upon entering

the university, students changed the frequency of eating certain foods and meals, comparing displaced and non-displaced students. For this purpose, self-administered questionnaires were applied thru an online platform to 102 students, with an average age of 21 years. The study population has an average body mass index (BMI) classified as normal and an average adherence to the Mediterranean diet. Most students are non-smokers and about half of the population drinks coffee, of which the displaced are the largest consumers. Finally, it was found that displaced students changed their frequency of consumption of fish and fast food after entering university, showing less frequency of fish consumption and equal or higher frequency of consumption of fast food.

OC 7: Influence of Instagram and Digital Influencers on College Student Feeding

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Internet use is increasing year by year, as have investigations of this addiction in young people. Instagram has become one of the most used social networks by young people around the world. A closer look at this social network showed that the hashtag "Food" is one of the 25 most used. For this reason, the present study aims to verify the influence that Instagram and digital influencers have on the feeding of college students. Was analyzed the information of 150 participants, aged between 18 and 35 years old, residing in Portugal, by participating in the study "Influence of Instagram and Digital Influencers on College Student Feeding", a quantitative cross-sectional survey. Data were obtained by completing an online questionnaire,in the Google search engine, where variables regarding general population characteristics (age, gender, course, place of residence, etc.) and variables related to Instagram (frequency of use, dislocation to establishments, aspects that raise most interest, among others) and digital influencers (credibility, notoriety of establishments, adherence to food tips / advice and adherence to diets / dietary regimes, obtaining the desired results, among others) were evaluated. After the analysis, with the aid of the SPSS software, it was found that 43.3% of the participants said they had already followed food tips / advice. Of which 52.3% stated that they did not verify the scientific credibility of these same tips, with a statistically significant difference (P value = 0.001) in both questions, when comparing courses in health and sports with courses in other áreas. On the other hand, 40% of the population says they have already adhered to diets advertised by digital influencers, not having statistically significant differences between courses. Being that, 65,3% of the sample, affirms not having obtained the desired results. In conclusion, Instagram and digital influencers may have a direct inflence on the dietary choices of college students, especially in non-health and sports related areas.

Posters abstracts

P1: Body shape concerns in Portuguese university students

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Many current models of beauty in developed countries represent extreme thinness in women and a muscular body in men. The body image perception will condition the search for ideal beauty through different behaviors and can be transformed into eating disorders. The university students, with the changes typical of youth and university transition, are a vulnerable group. The purpose of this analysis was to evaluate the concerns about body shape in university students from the Universidade Lusófona de Humanidades e Tecnologias. The study included 163 students, of whom 100 were women, with a mean age of 21.71 (SD=3.80) years. 81% of men presented no body shape concerns, 17.50% showed mild, 1.60% moderate and 0% intense preoccupation. In comparison, 59% of women presented no level of body shape concerns, 27% showed a mild, 10% moderate, and 4% intense body shape preoccupation. The odds ratio of presenting concerns about body shape were significantly related to being of female gender. There were more cases of preoccupation about body shape in women, regardless of age, academic course, or adherence to the Mediterranean diet.

P2: Development of a novel and sustainable food product: lupine-based vegetable "cheese"

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Global food production comprises climate stability and the resilience of the entire ecosystem, being the largest contributor to environmental degradation and transgression of the planet's boundaries [1].
Animal-based proteins, such as dairy products, eggs, fish and meat, are the foundation of Western diets and an integral part of global food production [2]. However, dairy products and meat (mainly red) are also amongst the types of food that require large amounts of water for their production, emitting more greenhouse gases [1,2]. Substantial changes and improvements in food production practices are required, like drastically reduce food waste and develop plant-based nutrition standards [1,3]. Sustainable food sources that could potentially feed the world's growing population include plant-based proteins [1,2].
Lupin is a legume that has been grown over thousands of years, all over the world and in a variety of soil conditions. It can fix nitrogen and absorb phosphates directly from the soil and it does not require nitrogen fertilizers, which makes it a sustainable crop. In addition, lupin has one of the highest levels of protein amongst legumes and is considered to have an excellent amino acid profile, whilst also containing a high fibre content [4]. Such characteristics allow its usage in a variety of food applications, including the replacement of milk proteins in gelled mixed systems [5].
The present study aims to develop a healthy and sustainable vegetable "cheese" with lupin, adapted to the general

population. A formulation based on almond drink and cashew, using agar as gelling agent, was used to test two formulations with lupin beans and compare with the control. The nutritional value of the vegetable "cheeses" was determined using Cronometer© software. Sensory analysis assays using an untrained panel of 25 people, with ages between 18 and 52, were carried out. The parameters evaluated were colour, texture, taste, aroma, overall impression and buying intention, using a 5-level scale.
Vegetable "cheeses" with lupin have lower energy and saturated fat contents compared to control, and were considered by the tasters as the most appealing in taste, flavour, texture and colour. This study suggests that lupin enhance the nutritional and sensory properties of vegetable gelled systems and could become widely consumed in the next future.

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P3: Dietary habits and adherence to the Mediterranean Diet of rotational shift work nurses

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The aim of this study was to evaluate dietary habits and Mediterranean Diet (MD) adherence in relation to work-related factors of a group of 30 rotational shift work nurses, aged between 22 and 51 years, randomly recruited from a private hospital in Lisbon. A questionnaire was created to collect information on major shift work domains, general eating habits along with questions based on a validated 14-item questionnaire to assess MD adherence. The 53,6% of the participants revealed moderate adherence to MD and no significant differences were found in MD adherence score according to work-related variables. Participants working more hours per week and having less days off per week showed better dietary behavior, and less experienced nurses reported some lower quality snacks consumption. Nutritional intervention strategies for this population are required to improve dietary habits and prevent adverse health outcomes associated with shift work.

P4: Nutrition knowledge, Mediterranean diet, and age associated with eating behavior: a cross-sectional study of Portuguese university students.

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Student life during the university period is characterized by many changes in eating behaviors and dietary pattern, due to the adaptation of a new environment, study stress, lack of proper time management and busy class schedules. These unhealthy actions may be detrimental to cognitive processing and influence academic performance, which is related to professional success.
Cross-sectional information about eating behavior was assessed using the Dutch Eating Behavior Questionnaire (DEBQ), in 169 students aged between 18 and 50 years, from the Universidade Lusófona de Humanidades e Tecnologias, from different academic courses, related or not with health sciences. Mediterranean diet adherence was also assessed using a validated 14-item questionnaire.
Of the 169 participants, 33 presented a restrained eating behavior, 73 an external and 63 an emotional. 62.10% of the nutrition sciences students presented an emotional eating behavior. In the nutrition sciences academic course, it was observed that these students presented a significantly higher risk of having an emotional eating behavior. Otherwise, presenting restrained eating behavior was statistically associated with being old and having a higher MedDiet adherence.
Studying nutrition sciences was associated with having an emotional eating behavior. Older students and those who adhere more closely to the MedDiet were associated with having a restrained eating behavior.

P5: The nutritional potentiality of grape pomace in human food: effect on texture and colour of salted cookies

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The winemaking industry has become a valued segment worldwide in the sectors of agriculture, economy and environment. World wine production reached 292.3 million hectolitres in 2018, generating about 13 million tons of residue (1). These by-products, namely grape pomace, results from the pressing of the grape and consists of the solid parts such as stalks, stems, skins and seeds (2).
In recent years there have been numerous studies on the chemical, nutritional and physiological properties of this by-product, showing its diverse potential as a possible ingredient for human consumption, since many bioactive compounds reported high nutritional value and health benefits (3-6). Grape pomace is an excellent raw material for the development of other food products, in line with the concept of a circular economy.
In this study, we focus on two different grape pomaces (Arinto and Touriga Nacional, white and red wine varieties, respectively) from Alentejo, a Portuguese region. These residues were recycled through a drying and grinding

process giving rise to a flour. The objective of this work is to evaluate these grape pomace flours as innovative ingredients to enhance the functional properties of cookies. Three levels (5, 10 and 15 % w/w) were incorporated into a salt cracker formulation and compared to control. The cookie's physical properties were analysed for 4 weeks in terms of firmness, in a texturometer, and CIELAB colour parameters, using a colorimeter. The incorporation of grape pomace flours, even at 15 %, did not comprise texture. Innovative and stable tonalities varied, depending on the variety used, from violet (Touriga Nacional) to brown (Arinto). The developed cookies presented stable texture and colour along four weeks storage.
Considering the obtained results, grape pomace may potentially be considered innovative ingredient with functional properties and a value-added recycled and sustainable product.

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P6: Influence of stress caused by exams on eating habits of college students

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University entrance is characterized as a period willing to stress, mainly caused by academic requirements. This leads to changes in eating behavior, namely a high desire to eat, a consumption of more palatable foods and a reduced intake of fruit and vegetables. Health students have more knowledge about healthy eating compared to other areas, but there is not always a relationship between their behaviors and this knowledge. A cross-sectional analysis was carried out with the objective of verifying whether the stress caused by the evaluations influences the students diet, as well as it differs between students of health courses and those from other areas. The study was composed by 346 portuguese university students from different courses. To assess their eating habits, the participants answered a questionnaire. 87% of university students had a regular consumption of foods rich in fat, sugar and salt as consolation. The vast majority (74%) used to eat to relieve stress. Students did not consumed more than 2 doses of vegetables and 3 pieces of fruit daily. The adoption of less healthy eating behaviors was mainly observed in students from areas other than health.

P7: Diterpenoids from edible Plectranthus spp. as potential chemopreventive and therapeutic agents in cancer

Vera M.S. Isca[a,b], Epole Ntungwe[a,c], Eva María Domínguez-Martína[c], Joana Tavares[a], Lucília Saraiva[d], Milica Pesic[e], Carlos A.M. Afonso[b], Patrícia Rijo[a],[b]

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Plectranthus is an Old-World genus belonging to Lamiaceae family, commonly known as mint family. This family include many aromatic plants, widely use in culinary, such as mint (Mentha piperita L.), sage (Salvia officinalis L.) or rosemary (Salvia rosmarinus). Plectranthus genus comprises more than 300 species distributed through the tropical and warm regions of the globe.1 Plectranthus species exhibit a wide range of uses in different areas as horticultury, floricultury, ethnobotany, household and as foodplants. Some of the species are traditionally used in culinary as aromatic herbs, starch or vegetables. Different parts of the plant are used such as the tubers (P. punctatus, P. edulis, P. rotundifolius, P. parviflorus), the fruits of P. parvifolius (which are employed as vegetables), the leaves (P. mollis, P. barbatus, P. amboinicus) and the stems of P. crassus and P. esculentus (the latter case as gruel sweetener).2 A large number of Plectranthus species are used in traditional medicine and have potential for development towards their use in the primary health care system.3 In fact, this genus is rich in valuable biologically active compounds, specifically, diterpenes.2 Several naturally occurring dietary and non-dietary phytochemicals have shown enormous potential in the prevention and treatment of several cancers, especially those of the gastrointestinal tract. Diterpenoids, are a large group of phytochemicals, traditionally used for medicinal purposes in India and China and are currently explored as anticancer agents in clinical trials.
The abietane diterpenes 7α,6β-dihydroxyroyleanone (P. madagascariensis), 6,7-dehydroroyleanone (P. madagascariensis), 7α-acetoxy-6β-hydroxyroyleanone (P. grandidentatus and P. madagascariensis) parvifloron D (P. ecklonii) are examples of cytotoxic molecules obtained with different extraction methods and solvents from Plectranthus spp.4,5
The potential role of these naturally occurring diterpenoids, in the chemoprevention and treatment of liver tumors is a key point in this work.
The in vitro effects of these agents and related cellular and molecular mechanisms are herein highlighted. The potential challenges and future directions involved in the advancement of these potential natural compounds in the chemoprevention and therapy of human cancers are understudy.

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P8: Diet impact on type 2 Diabetics an initial review

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Diabetes is the 7th leading cause of death, affecting 422 million of adults in 2016. 9.2% of the Portuguese population is diabetic: 59.8% overweight and 22.1% obese [1-2]. Type 2 diabetes (T2D) results from the ineffective use of insulin in adults, promoting hyperglycemia. T2D accounts for 90% of all cases of diabetes and may remain undiagnosed for numerous years. Among other, unbalanced diet, overweight and obesity increases the risk of T2D [1]. Besides regular glycemic control, monitoring glycated haemoglobin (HbA1c) are recommended to monitor T2D [3]. HbA1c "reflects the average blood glucose concentration over the past few weeks" [1]. To identify and analyze reviews about the impact of diet on the control of T2D during 2019. PRISMA criteria were followed. Timeframe: 2019 (1year). Keywords: ["diabetes" and "type 2" and "diet" and "control"]. PubMed and SciELO were screened. Inclusion criteria: reviews describing impacts/outputs of diet on the control of T2D. Exclusion criteria: other topics and repeated studies. PubMed (n=74 reviews): 21 selected. SciELO (n=6 studies): 0 selected. Overall, 2 reviews confirmed that diets related to weight loss of >5% may improve glycaemic control and HbA1c in T2D, supporting a similar glycemic reduction to those promoted by the addition of oral antidiabetics. Three reviews identified that a healthy diet (e.g. avoiding saturated fatty acids) and physical activity are among the most relevant factors to positively control T2D. Fifteen reviews supported the influence of specific diets or foods on the positive management of T2D. Diets (n=9): palaeolithic diet (n=1), popular diets (low-carbohydrate, ketogenic or vegan diet) (n=4), low caloric (n=1), diets capable of modulating gut microbiota (dietary fiber or polyphenols) (n=1) and Mediterranean diet (n=2). Foods with demonstrated positive effect (n=3): green tea (n=1), zinc (n=1) and pistachios (n=1). Foods with potential positive effect (n=3): foods rich in polyunsaturated fatty acids (e.g. fish, fish and vegetable oils or nuts) (n=1), foods rich in anthocyanins and flavan-3-ols (e.g. some fruits) (n=1) and probiotic yogurt (n=1). One review discussed cultural/personal factors that may influence adherence to a healthy diet (e.g. honey consumption due religious values). A healthy diet, especially those related to weight loss contributes for the management of T2D. Dietary habits (e.g. consumption of certain foods) and physical activity may positively support glycemic control, since weight loss may be favored. It seems advisable that health professionals supervise the impletion of diets to minimize the potential risk of hypoglycemia. Study limitations: The number of screened keywords and databases was limited, and a restricted timeframe was assessed. The methodologies of the selected reviews were not individually evaluated. Limitations may have somewhat influenced study conclusions.

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