

expressão quântica com as especificidades culturais que podemos potencialmente enfrentar. **Objetivos:** O presente estudo visa promover a reflexão sobre o tema da transculturalidade nas áreas da psiquiatria e da psicologia forense e, concomitantemente, alertar para a necessidade de se padronizarem os procedimentos de tradução e de adaptação transcultural. **Material e Métodos:** A partir de um caso de psiquiatria e de psicologia forense envolvendo um examinado natural do Nepal, vivendo na região de Odemira, como trabalhador ocasional (agricultura/restauração), acusado de abuso sexual de menores e de violência doméstica colocaram-se novas hipóteses de estudo pela urgência em adotar técnicas métricas e paramétricas adequadas às especificidades culturais, designadamente ao nível da abordagem na entrevista, no exame direto e na psicometria. **Resultados:** A validade dos resultados alcançados é duvidosa já que o avaliado pertence a um grupo étnico e racial diverso daquele que foi utilizado na standardização dos

instrumentos de medida em causa. Assim, é preciso considerar a possibilidade dos resultados obtidos não serem representativos do real funcionamento psicológico do Examinado e, do mesmo modo, é igualmente necessário relevar os constrangimentos relativos às interpretações comportamentais realizadas, sujeitas também as influências culturais. **Conclusões:** Com o crescente interesse pelo estudo da transculturalidade, no campo da saúde mental, emerge igualmente o interesse pela utilização de procedimentos adequados que vão para além da mera tradução linguística e de instrumentos psicométricos, frequentemente desadaptados à cultura a que se destinam. Em suma, sem a utilização de escalas, questionários e outros instrumentos de medida, sujeitos a uma adaptação cultural, e assim validados por padrões criteriosos e reconhecidos cientificamente, aos tradutores/peritos cabe fazer as devidas advertências relativamente às conclusões forenses que vierem a ser produzidas.

**Palavras-chave:** tradutores; instrumentos; medida; cultura; forense.

### Referências:

- [1] Ferreira, JS. Consentimento Informado e Comunicação Intercultural: Problemas éticos e desafios metodológicos. Comunicação Pública [Online] 15: 29, 2020.

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## POSTER 176

### Cytotoxicity of areca catechu nut (betel nut) in BV-2 microglial cells and impact of areca alkaloids

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### Resumo

**Introduction:** While being known that arecoline hampers an array of antioxidant systems, stimulates the production of radical species and pro-inflammatory mediators [1], the alkaloids guvacine and arecaidine, also ascribed as main constituents of Betel nut, remain scarcely investigated in this matter. **Objectives:** Elucidate the role of areca alkaloids, arecoline, guvacine and arecaidine, on pro-inflammatory pathways as assessed by cell-free in vitro assays on the impact against radical species, and upon BV-2 microglial cells. **Materials and Methods:** Scavenging activity was evaluated upon nitric oxide and superoxide radicals in cell-free systems, as described in [2]. The impact upon the mitochondrial activity in BV-2 cells was investigated by the MTT assay,

followed by the assessment of the effects on nitric oxide levels [3]. **Results:** Both arecoline and guvacine proved to be inactive on the scavenging ability upon nitric oxide at the full range of concentrations being tested (3.125-100 µM), while arecaidine was found to increase the levels of the radical at concentrations higher than 25 µM. In order to set the range of concentrations of the areca alkaloids, that will be later assessed on the cytotoxicity against BV-2 microglial cells, an aqueous extract obtained from Betel nut (Areca catechu) was first investigated in this cell model of neuroinflammation. Preliminary evaluation being carried at concentrations ranging from 31.125 to 1000 µg mL<sup>-1</sup> allowed us to know that the extract elicits a toxic response in BV-2 cells, at concentrations as low as

250 µg mL<sup>-1</sup>. **Conclusions:** In line with previous reports, the areca alkaloids proved to be unable to counteract NO levels in a cell-free system, calling for cell-based studies to scrutinize the impact on the production in models of inflammation. Relevantly, as in other models of inflammation, Betel nut appears to induce

a toxic response in BV-2 cells, probably associated with arecoline and structurally similar neurotoxic alkaloids. This prompted us to pursue additional research efforts that will allow us to know if the toxicity is associated with the pro-inflammatory effects of the areca alkaloids, or via other mechanisms of toxicity.

**Keywords:** arecoline; guvacine; arecaidine; nitric oxide; neuroinflammation.

#### References:

- [1] Gupta A K, Tulsyan S, Thakur N, Sharma V, Sinha D N, Mehrotra R. Chemistry, metabolism and pharmacology of carcinogenic alkaloids present in areca nut and factors affecting their concentration, Regul. Toxicol. Pharmacol 110: 104548, 2020.
- [2] Ferreres F, Andrade C, Gomes N G M, Andrade P B, Gil-Izquierdo A, Pereira D M, Suksungworn R, Duangsrisai S, Videira R A, Valentão P. Valorisation of kitul, an overlooked food plant: Phenolic profiling of fruits and inflorescences and assessment of their effects on diabetes-related targets. Food Chem 342: 128323, 2021.
- [3] Bernardo J, Malheiro I, Videira RA, Valentão P, Santos AC, Veiga F, Andrade PB. Trichilia catigua and Turnera diffusa extracts: In vitro inhibition of tyrosinase, antiglycation activity and effects on enzymes and pathways engaged in the neuroinflammatory process. J Ethnopharmacol 271: 113865, 2021.

## POSTER 177

### An overview of the Historical, conceptual and legal framework of pet abuse

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#### Resumo

**Introduction:** In the recent years, society has mobilised for animal welfare and, in line with the Universal Declaration of Animal Rights, mistreatment of animal pets was called for criminalisation and penalty throughout the world [1]. The effectiveness of such legal framing remains however unclear and the establishment of further preventive measures on the matter urges the current characterisation of the phenomenon. **Objectives:** As such, we herein aimed to compile and discuss information on the history, concepts, legislation, and current state of the art on pet abuse. **Methods:** An extensive literature search was performed in Medline (PubMed, US National Library of Medicine) and Science Direct databases and in Official Gazettes, up to December 2020, without a start date restriction, and using general terms such as "pet/animal abuse", "pet/animal abuse history", "pet/animal abuse typologies", "pet/animal abuse motivations" and "pet/animal legislation". Bibliography of retrieved full papers was

scrutinised to find additional useful publications. **Results:** The mistreatment of pets is often linked to other forms of violence and in spite of the growing, positive evolution experienced along the past decades on the pet abuse fight, mainly driven by the change of society thoughts and sensitivity [2,3], it is still possible to observe several issues concerning the need to i) eliminate the ambiguity of the animal/ pet abuse concepts; ii) know which pets are protected by law, as specific country legislations are often equivocal; iii) better understand the motivations behind the criminal acts; iv) better characterise the perpetrator profiles; and v) increase citizens awareness and training. **Conclusions:** The shortfalls herein identified thus constitute new opportunities for research as their tackling will certainly contribute to a worldwide better application of the law, diminishing the number of occurrences and recurrences, and eventually preventing other forms of violent acts, such as domestic violence.

**Keywords:** animal cruelty; animal legislation; animal rights; animal welfare; criminalisation.