

AMPHETAMINICS STIMULANTS: DEVELOPMENT AND VALIDATION OF LIQUID CHROMATOGRAPHY METHOD USING SOLID PHASE MICROEXTRACTION AND PHARMACOKINETIC EVALUATION.

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Introduction: The abuse of psychoactive substances (SPA) is now a global problem. According to the *United Nations* (2001) there was an increase in the abuse and misuse of drugs traditionally used for medicinal purposes, such as amphetamines, opiates, benzodiazepines, barbiturates, analgesics¹. The Brazil is one of the biggest consumers on worldwide of anorectics stimulating of the Central Nervous System (CNS)². The amphetamines drugs more used are called moderators of appetite and they are mainly composed of fenproporex and amfepramone³. Methylphenidate is a medication that has properties similar to cocaine and amphetamine. Its use has increased along with the awareness of society to morbidity associated with Attention Deficit Hyperactivity Disorder. On the other hand, grows in parallel its use as a street and recreational drug⁴. Due to the significant behavioral and psychomotor changes caused by SPA, the use of these compounds by motorists in traffic and its consequences has been the object of concern for national and international authorities. National studies have shown a high prevalence in the use of SPA in traffic, especially cocaine and amphetamine compounds, mainly used by professional drivers to increase mental and physical alertness during the long work days. To monitor the drug use in traffic, oral fluid has been used and has a number of advantages over traditional arrays (urine and blood) such as: collection easy and noninvasive, which can be performed *in situ* approach, under surveillance and without constraint, and provide information about recent use⁵. Urine is a biological fluid widely and traditionally used in toxicological analysis, because it has a smaller number of endogenous interferences⁶.

Objective: In this context, this project aims to develop and validate analytical methods applied to oral fluid and urine for quantification of fenproporex, amfepramone and methylphenidate. Furthermore, will be established the pharmacokinetic profile of amfepramone and methylphenidate.

Materials and Methods: To develop this work will be used liquid chromatography coupled to ultraviolet detector (LC-UV) and solid phase microextraction (SPME) for extraction and concentration of analytes. The pharmacokinetics profile will be performed with eight healthy volunteers that will be screening by clinical interview. The time to sample collections will be established based on data describe in scientific literature. **Conclusions:** This project has a purpose to develop methodology for forensic research, contribute to understanding the pharmacokinetic behavior of this SPA and contribute to the creation of public policies in order to reduce traffic accidents.

References:

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