# ABSTRACT

The analysis of DNA is an important component among forensic applications. Biological materials containing low DNA levels such as touch traces, can be valuable as evidence. One of the main goals of forensic genetics is the development and standardization of methods to obtain a DNA profile from latent touch traces deposited on objects found at a crime scene. The amount of DNA from trace evidence is often small, ultimately resulting in poor detection of DNA profiles.

The aim of this study was assessment of detectability of detection genetic profiles in touch traces deposited during car theft and development of a research procedure for genotyping of touch traces collected from fingerprints left on car parts by unauthorized persons.

The results were obtained from 20 cars used by women only, while men were donors of experimental touch traces. This research was divided according to the place and type of contact. These car parts were involved: external handle, internal handle, steering wheel, gear stick. Moreover, the tests were carried out in two extreme temperature and humidity conditions, divided into summer and winter season. Despite the low concentration the extracted DNA was not degraded and the profiles were interpretable.

Even if quality of the profile is influenced by several factors such as environmental conditions, type of material the touched surface, type of contact, individual factors of the donors of the touch traces, results obtained are adequately informative.