

## Factors associated with craving in crack users: systematic review

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**Objective:** to identify publications related to the influence of the factors associated with the variation in the levels of craving in crack users. **Method:** systematic literature review in which studies published in Brazil and abroad were screened. The databases used were Publisher Medline, *Literatura Latino-Americana e do Caribe em Ciências da Saúde* and Scientific Electronic Library Online. **Results:** nine articles were selected, after the use of the inclusion and exclusion criteria. The associated factors observed are related to the pattern of crack use, family relationships, professional activity, use of other substances, damage reduction strategies and anxiety. **Conclusion:** craving can interfere in crack abuse and thus cause different social and health problems.

**Descriptors:** Crack Cocaine; Craving; Social Problems.

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## Fatores associados à fissura em usuários de *crack*: revisão sistemática

Objetivo: identificar publicações relacionadas à influência dos fatores associados à variação dos níveis de fissura em usuários de *crack*. Metodologia: revisão de literatura sistemática, em que se rastreou estudos publicados no Brasil e exterior. As bases de dados utilizadas foram Publisher Medline, Literatura Latino-Americana e do Caribe em Ciências da Saúde e Scientific Electronic Library. Resultados: foram selecionados nove artigos, após a utilização dos critérios de inclusão e exclusão. Os fatores associados observados estão relacionados ao padrão de uso do *crack*, relações familiares, atividade profissional, utilização de outras substâncias, estratégias de redução de danos e ansiedade. Conclusão: acredita-se que a fissura pode interferir no consumo abusivo de *crack* e, assim, ocasionar diversos problemas tanto de ordem social como de saúde.

Descritores: Cocaína Crack; Fissura; Problemas Sociais.

## Los factores asociados con la ansia en los consumidores de crack: revisión sistemática

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### Introduction

Although crack does not figure among the most used illegal drugs in Brazil, the urgency to use the substance and the intensity of craving effects put forward abuse and addiction as a health problem<sup>(1)</sup>. Their consequences are not limited to safety issues, but are also intrinsically linked to social, mental and health aspects of the users and the people around them.

Craving, characterized by the intense desire to consume a certain substance, is considered the main difficulty faced, as it can affect the mood, behavior and cognition<sup>(2)</sup>. Craving is often appointed as a fundamental need for the body, being responsible for the

phenomenon known as binge: an intense, continuous and repetitive pattern of crack consumption, which can last for days, until the availability of the substance has ended or the user is worn out<sup>(1)</sup>.

In research, it is appointed that the craving for crack plays a fundamental role in maintaining the use, in the difficulty to reduce or give up the substance and in cases of relapse<sup>(1,3)</sup>. Therefore, it is necessary and fundamental to study craving, thus seeking a better understanding about the possible factors related to the higher or lower level.

It should be taken into account that the use of pharmacotherapeutic agents, as candidates for the treatment of craving, has presented results that were generally classified as disappointing<sup>(4)</sup>.

Psychoactive Substance (PAS) users are considered as singular subjects and aspects beyond the effect of the substance itself interfere in how it is used. In this study, the objective was to develop a systematic literature review, in order to identify publications on the influence of the factors associated with the variation in the levels of craving in crack users.

## Method

To search scientific production on the theme and go deeper into the topic, a systematic review was developed on craving in crack users, broadening the findings to the following guiding questions: what factors influence the variation in craving levels in crack users?

The literature review occurred between September and October 2015 and studies on the theme in Brazil and abroad were screened.

The databases used to search studies were Publisher Medline (PubMed), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) and Scientific Electronic Library Online (SciELO). To search LILACS and SciELO, the database of the Descriptors in Health Sciences (DeCs) was used and, for the search in PubMed, the terms according to the Medical Subject Headings (MeSH). The exact descriptors used for the search were: *crack cocaine* and *craving*, and their similar terms, as well as the non-exact descriptor *CCQ-Brief*. No filters were used to delimit the year of publication, nor the language of the publications.

The inclusion criteria were: quantitative studies in which craving in crack cocaine users was discussed. First, the titles of all articles screened were assessed, followed by their abstracts. As exclusion criteria, no case studies, clinical research, qualitative studies and literature reviews focused on medication were accepted, not studies that used unclear methods or that went beyond the theme. All articles that complied with the inclusion criterion or did not present sufficient elements to determine their exclusion were fully read.

To extract the data from the articles, an instrument was created with the following information: authors, year of publication, place of study, year of publication, sample size and factors associated with crack craving.

It is important to highlight the trajectory to obtain the full articles, as the majority was not fully available online. The first step, as the full article was not available in the database, was the search on the website *Research Gate*, a social network where different authors make their studies available. Then,

the two missing articles were obtained by exchanging e-mails with the authors. These steps should be informed as many authors choose to develop reviews using open-access articles only, which can negatively affect the quality of their studies.

## Results

As a result, in this review, through the search, 101 studies were screened, being 57 from PubMed, 20 from SciELO and 24 from LILACS. The first step to select the articles was the reading of the titles and abstracts. During this procedure, 69 studies were discarded, being 18 qualitative studies, five case studies, 33 clinical studies focused on medication, six literature reviews and seven studies beyond the theme. Twelve other studies were discarded because they were repeated, leaving 20 texts to read the full versions. Among the studies that were fully read, 11 were discarded because they were focused on medication, leaving nine articles to be considered for this review. In Figure 1, the trajectory to select the articles is presented.

In Figure 2, the tool used to collect data from the selected articles is displayed.

Among the selected studies, four articles were written in Portuguese and five in English. Concerning the method used to develop the studies, in six a cross-sectional design was used, in two a longitudinal design, and one translation and adaptation of scales to Portuguese. The articles presented different numbers of participants, ranging from 20 to 205 interviewees, but the majority (six) presented up to 66 interviewees.

As regards the scales used, it was observed that no validated scales<sup>(10-11)</sup> were used in two studies. In the other seven articles, 13 distinct scales were used. The most repeated scales were: Addiction Severity Index-6, found in four studies<sup>(6-8,13)</sup>, and the Cocaine Craving Questionnaire-Brief, found in three studies<sup>(5-6,9)</sup>.

What the data collection instruments are concerned, except for one study<sup>(6)</sup>, in the others (eight), questions on the interviewees' sociodemographic profile were asked.

The interviewees' profile varied among the studies. In two articles, an exclusively female sample was presented<sup>(6,8)</sup>. In two other articles, the sample was exclusively male<sup>(7,12)</sup>, and one study used conventionally selected interviewees, half being male and half female<sup>(9)</sup>. The remaining four studies, in which the sample was randomly selected, consisted of predominantly male interviewees, with prevalence rates ranging between 56 and 90%.

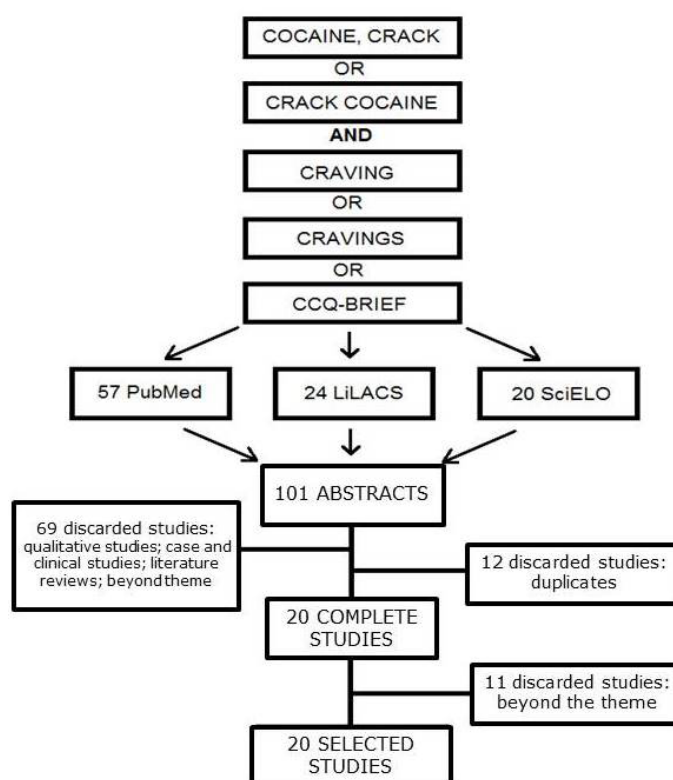


Figure 1 – Trajectory of systematic literature review. Pelotas, RS, Brazil, 2015

First author	Place/year	Journal	Sample	Associated factors
Lappann <sup>(5)</sup>	Brazil/2015	R. Eletr. Saúde Mental Álcool e Drogas	n=20	Usage time of crack
Kluwe-Schiavon <sup>(6)</sup>	Brazil/2015	J. Brasileiro de Psiquiatria	n=125	Unhealthy life habits and anxiety
Ismael <sup>(7)</sup>	Brazil/2014	R. Brasileira de Psiquiatria	n=66	Crack usage pattern and anxiety
Viola <sup>(8)</sup>	Brazil/2013	Estudos de Psicologia	n=120	Family relationships
Viola <sup>(9)</sup>	Brazil/2012	Drug and Alcohol Dependence	n=45	Professional activity
Silveira <sup>(10)</sup>	Brazil/2006	Addictive Behaviors	n=205	Craving levels
Magura <sup>(11)</sup>	USA/2000	Addictive Behaviors	n=66	Alcohol use
Labigalini Junior <sup>(12)</sup>	Brazil/1999	J. of Psychoactive Drugs	n=25	Use of Cannabis
Reid <sup>(13)</sup>	USA/1998	Drug and Alcohol Dependence	n=20	Use of nicotine

Figure 2 – Characteristics of articles screened in the literature review (n=9). Pelotas, RS, Brazil, 2015

The interviewees were mostly young and single. Among the studies in which the interviewees' level of education was described, in only one study, it was observed that the users presented 12 or more years of education on average<sup>(7)</sup>. In the remainder, low education levels were found<sup>(5,9,12)</sup>.

In only two articles, the levels of craving were presented in detail. In the first study, the interviewees' mean level of craving was presented according to the *CCQ-Brief* scale, in which the result appoints a severe level ( $\geq 23$  points)<sup>(5)</sup>. And, in the second study, 29% of the

interviewees indicated having felt intense craving, 39.5% reported moderate craving and 31.5% mild craving<sup>(10)</sup>.

## Discussion

In all articles analyzed, the variables that could influence the interviewees' craving for crack were studied. It was observed that the increase in the levels of craving is positively associated with the length of crack use, that is, the longer the substance has been used, the higher the levels of craving will be<sup>(5)</sup>. The authors also highlight that the amount used does not

interfere in the change in these levels. Nevertheless, in another study, the usage pattern of crack was a factor associated with the increase in the levels of craving<sup>(7)</sup>.

Another point that was analyzed in some studies was the existence of interference in the levels of craving and the execution of some professional activity. It was verified that people who were professionally active had lower levels of craving and that people with high levels of craving were unable to execute these functions<sup>(8-9)</sup>.

The losses crack users present in decision making, in combination with the difficulty to cope with the craving, are factors that can influence the cycle of relapses, dismissal from employment, financial losses and even family disaggregation<sup>(9)</sup>. It should be highlighted that, in this study, the selected sample consisted of multiple drug users, i.e. people using different psychoactive substances besides crack, which affect the cognitive system. This could interfere in the result deriving from crack use.

The fact was also identified that the family relationships interfere in the craving, as people with a history of childhood neglect present higher levels of craving than people without this history<sup>(8)</sup>. Although childhood neglect is presented as a possible factor that could influence the levels of craving for crack, the fact that the study was only developed with women represents a limit, which means that the study results cannot be applied to the male population.

The analysis of the results present in another study revealed that the practice of unhealthy life habits was also appointed as a possible factor interfering in the levels of craving. Insufficient food intake, non-consumption of water and absence or decrease of sleep periods were factors that influenced increased craving<sup>(6)</sup>. Hence, without any intent to present prescriptive standards, when analyzing the study results, we highlight the need for the individual to establish certain healthier patterns or habits, which positively influence the metabolism of the organism and the reduction of abstinence symptoms and, consequently, of the levels of craving that may appear. As a negative point in this study, it is highlighted that it was developed with female participants only, limiting the projection of its results to other populations.

The interference of other PAS in the levels of craving was also studied. In the study in which the interference of alcohol in the interviewees' craving was analyzed, it is observed that individuals with difficulties to cope with crack cocaine consumption are more prone to alcohol use as a mechanism to reduce the craving<sup>(11)</sup>. Also, in the study in which the interference of marijuana was

analyzed as a form of treatment to reduce the crack use and the levels of craving, 68% of the interviewees gave up the crack use and the use of Cannabis reduced the craving and produced subjective and concrete changes in their behaviors<sup>(12)</sup>. The results in those studies presented the use of other psychoactive substances as a strategy to mitigate the symptoms of abstinence and the levels of craving for crack. Nevertheless, the need to assess this use in further depth should be considered, with a view to avoiding the abuse of these other substances which, like crack abuse, can lead to physical, mental and social losses.

In the analyses of the interference tobacco use provokes, the results demonstrated that nicotine increases the levels of craving<sup>(13)</sup>. This reveals that the use of alcohol and/or marijuana can serve as a protection mechanism to reduce the levels of craving, while tobacco use can entail the increase of these levels.

Finally, what the factors associated with the levels of craving are concerned, different authors presented the presence of anxiety symptoms as a factor that interferes directly in the emergence and increase of these levels<sup>(6-7,12-13)</sup>. The conclusion that anxiety is an aspect that positively influences the levels of craving turns it into an important factor, which needs to be identified and analyzed as the main target in future studies. The identification of its causes raises healthcare based on biological aspects only to another level, based on biopsychosocial care.

## Conclusion

In the articles, the influence of the following variables on the outcome level of craving in crack users was investigated: length of crack use; crack usage pattern; professional occupation; family relationships; damage reduction strategies; concomitant use of alcohol, marijuana and tobacco and anxiety symptoms. Nevertheless, it is highlighted that none of these studies analyzed all of these factors at the same time, thus evidencing a research gap due to the need to test the influence of these variables, mutually adjusted, on the outcome craving levels in crack users.

As craving can entail intense drug consumption, and can therefore bring about different social or health problems for the users, we believe that further quantitative studies in which the interference of factors in craving is investigated, using a representative sample, are needed to understand the best form of action with a view to helping the users to cope with the problem.

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