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Innovative moments on online Cognitive Behavioural Therapy for alcohol dependence

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Online Cognitive Behavioural Therapy (CBT) is a promising intervention for reducing alcohol consumption among the population. However, due to the lack of studies in the area, the present study aims to evaluate the effects of the therapeutic process of online CBT for alcohol addicts in a Brazilian sample. Thirty-six recordings of six male participants diagnosed with alcohol dependence, who sought treatment to cease or reduce the substance's consumption, were analysed using the Innovative Moments Coding System (IMCS). The IMCS is a method that analyses changes occurred during the therapeutic process. The results suggested: (1) an increase in the number of Innovative Moments (IMs) from the beginning to the end of the sessions in all analysed cases, and (2) a correlation between a decrease in the doses of alcohol consumption at the end of the sessions and the increase of IMs. The present study successfully applies for the first time the IMCS in alcohol dependence and proved to be an adequate method to evaluate the online therapy process for this sample. However, it is necessary to conduct further research to confirm the IMCS's effectiveness for alcohol dependence.

Key words: Innovative moments, Psychotherapy, Alcohol addiction.

Introduction

Alcohol addiction constitutes a severe health problem both in Brazil and worldwide, and the availability of the treatment offered is not enough to cover for the present demand (Ministério Público do Estado do Paraná – MPEP, 2020). Ahead of other 140 countries, Brazil occupies the 53rd position of alcohol consumption per capita, with a media of 8.7 litres of pure alcohol consumed by a single individual. Demographically, Brazilian men present a higher consumption of alcohol than women: 13.6 litres per year among men and 4.3 litres consumed by women (Organização Mundial da Saúde – OMS, 2014).

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Many individuals diagnosed with alcohol addiction hardly seek specialized aid due to geographical reasons, lack of information, or maintenance of the status quo. Employing treatment on its traditional frames can have some limitations as a result of the high cost of the treatment, the lack of specialized therapists, and geographical distance (Cheng & Dizon, 2012; Ye et al., 2016). For these reasons, the investment in virtual approaches, such as online psychotherapy, is an interesting alternative to treat alcohol addiction (Gumier, 2015). Patients have pointed out some advantages regarding online intervention, such us the convenience, the possibility to follow their own pace to fill out the material, low cost, and privacy (Andrews et al., 2010). Internet-based interventions seems to outweigh face-to-face treatment decreasing the gap between the people who need treatment and those who actually seek it, and facilitating patients' assessment, the evaluation of the therapeutic progress, and its results; also being a more cost-effective alternative. Treatment based on Cognitive Behavioural Therapy (CBT), developed for internet practice, has been tested in several controlled clinical trials. Systematic reviews and meta-analysis show the effectiveness of this internet-based approach on the treatment of different disorders, such as anxiety, depression, and insomnia (Andrews et al., 2010; Cheng & Dizon, 2012; Rooke et al., 2010; Seyffert et al., 2016; Vallury et al., 2015; Ye et al., 2016). For the treatment of addictions, online therapies were found effective promoting positive changes in addiction behaviour (Gainsbury & Blaszczynski, 2011; White et al., 2010). Online therapies for alcohol consumption correlated with a significant decrease in alcohol consumption, which remained in six months of follow up, high adherence to this treatment modality, and an increase in the number of abstinence days (Carroll & Kiluk, 2017; Kiluk et al., 2016, 2019; Sundström et al., 2017). In addition, Kiluk et al. (2018) in their study comparing online CBT with standard outpatient carepoint out that the group that received online CBT treatment showed better learning on cognitive and behavioural concepts and reported better satisfaction about the treatment.

Although promising, more research is needed to clarify how is the change process for alcohol addiction in online CBT. Despite the advance in the online psychotherapy field over the past years, the studies require an approach that contemplates the evaluation of the process of internet-based psychotherapy. The analysis of psychotherapy processes is also a trend in face-to-face psychotherapy, whose studies seek to understand processes such as the therapeutic alliance, the therapist's competence, or the client's motivation (Cuijpers et al., 2019; Hayes & Hoffmann, 2020). Through studies regarding psychotherapy processes, it is possible to elucidate connections between psychological treatment and its effects. Thus, based on the process evaluation, it becomes possible to identify therapeutic active mechanisms and strategies to enhance the change process. Also, the evaluation of the psychotherapeutic process and the consequent effect on psychological interventions remain an important challenge for researchers and clinicians, and this field of research needs further studies (Peuker et al., 2009.)

To help researching the change process in online therapies for alcohol consumption, the Innovative Moments Coding System (IMCS) is a suitable method. The IMCS consists of a coding system which tracks Innovative Moments (IMs) on the patient's speech during the course of the psychotherapeutic conversation aiming to understand how these changes are developed throughout treatment (Gonçalves et al., 2011; Gonçalves et al., 2017). The authors define IMs as exceptions of the problematic meaning pattern that bring the patient to seek psychotherapy. Thus, IMs are markers of the patient process of meaning changing that emerge during psychotherapy sessions. Different types of IMs were identified and organised into three developmental levels of meaning change (Fernández-Navarro et al., 2020). Level 1 IMs correspond to novelties appearing on the patient's narrative and focus on distancing from the problem. Actions, reflections or critics towards the problem can be made, generating an impact on the way the problem is experienced by the patient, for example: *"I passed in front of the bar and didn't get in".* Level 2 IMs focus on change, that is, the patient refers to new objectives, experiences, or activities, for example: *"I'm feeling*

better after I stopped drinking". Level 3 IMs are the most elaborate IMs and focus on the consolidation of the change, presenting two components, a contrast of the self between a past dysfunctional facet and a present facet more functional, as well as the process of change that enabled this transition. For example: "*I'm more mature now (than in the past), I'm feeling better after I stopped drinking".*

In a nutshell, the IMs model of change suggests that the elementary IMs (level 1) are the basic indicators of psychological change and are identified by the presence of new thoughts, feelings and behaviors that differ from the initial problematic meaning pattern. The more complex IMs (level 2 and 3) appear on patients that show improvement, usually from the middle of the therapy, and tend to increase and evolve until its ending. The IMs analysis has been applied to different therapeutic approaches (Gonçalves et al., 2017; Montesano et al., 2017), including CBT (Gonçalves et al., 2016). However, it was never tested for alcohol dependence, especially for online therapy focused on this matter. From this perspective, this study aims to explore the change process in online CBT for alcohol addiction through the IMCS method. In particular, the present study goals involve (1) the discussion about the viability of the IMCS as an adequate method to analyse the change process in online CBT; (2) the analysis of the relation between IMs and alcohol consumption – we hypothesize that an increase of IMs is associated with a decrease in alcohol consumption; (3) the analysis of the drinking behaviour changing process based on IMs.

Method

Participants

Six Brazilian men aged 38-56 years (*M*=45.1 years, *SD*=8.5), diagnosed with alcohol dependence, participated in this study. The criteria for inclusion were: being over 18 years old, having the criteria for alcohol dependence according to the DSM-5 (American Psychiatric Association – APA, 2014), and presenting availability to access online sessions. All participants signed the consent form (Consolidated Opinion Nº 1.360.973) that ensures the interviewee's agreement to participate in the research, within ethical limits. The exclusion criteria refrain participation to individuals that: did not consume alcohol in the past 30 days, presented dependence on other substances (except tobacco), participated in another psychotherapeutic intervention over the past three months, or have been diagnosed with psychotic conditions. Initially, 12 individuals participated in the study, meeting the inclusion criteria. However, five participants did not conclude the medical attendance and, in one of the cases, there was a problem with the recordings. Of the final six participants, two participants had completed Elementary School, one had a High School Degree, and three had an Undergraduate Degree. Among the study participants, only one was retired, and the others had jobs.

Treatment

The sample of this study is part of a randomized and controlled clinical trial, properly registered on REBEC (Nº 3334299), where it is possible to find more details concerning the methodology. The present study includes six recordings of the therapy sessions of each one of the six cases analysed, totalizing 36 recordings of Online CBT for alcohol dependence. After treatment, four participants presented the therapeutic objective of achieving abstinence, whereas the other two sought to reduce the doses they consumed.

Instruments

Sociodemographic data questionnaire: was used to collect data about the patients, gathering information about age, sex, religion, socioeconomic class, and scholarship.

Mini-International Neuropsychiatric Interview (MINI; Amorim, 2000): brief standardized diagnosis interview, compatible with the criteria proposed on DSM-5 (APA, 2014). The MINI was employed to ascertain the inclusion criterion and to diagnose alcohol dependence and other drugs, as well as mental disorders. The researchers formulated three questions about alcohol consumption: "Over the last 30 days, on average, how many doses of alcoholic drinks did you consume on the days you drank and how many days did you drink?"; "Over the last 30 days, how many days were you abstinent?"; "What is your objective with the therapy: complete abstinence of alcohol or reducing the consumption?". The considered standard dose is an alcoholic beverage containing approximately 14 grams of pure ethanol (Babor et al., 2001).

Innovative Moments Coding System. The IMCS is a qualitative procedure that tracks the proportion of IMs. The proportion is calculated per interview and corresponds to the relative amount of time each participant dedicates to elaborate each type of IM's compared to the interview's total time. In the present study, IMs types where organized in two main levels: elementary and complex (see Table 1). The sum of elementary and complex IMs proportion of the sample allows to calculate a global mean of IMs. The sum of the proportion of level 1 IMs enabled the calculation of elementary IMs, whereas the sum of the proportion of levels 2 and 3 IMs allow the calculation of complex IMs. The reliability of the IMs type categorization in previous studies varied from 0.86 to 0.97 Cohen's kappa (Alves et al., 2014; Gonçalves et al., 2011; Mendes et al., 2010). For a review of the previous studies' kappas see Gonçalves et al. (2017). The judges calculated the inter-coder agreement for the proportion using the proportions of words overlaid by both judges following this formula: 2*Agreement between judges/(Judge 1 total IMs+Judge 2 total IMs)*100 (Batista et al., 2020). It is considered a reliable and robust settlement >0.75 (Hill et al., 2005).

Procedures

After an initial interview with the participants, carried out to collect data such as sex, age, alcohol consumption, among others the sessions were conducted by three therapists. One therapist was a Ph.D. student and attended three patients individually, another was a master student and attended two patients, and lastly another master student was responsible for one patient. All of them were trained in CBT for the treatment of substance usage and had, at least, two years of clinical practice. An experience therapist with a Ph.D. in the area and fifteen years of clinical practice supervised the sessions on weekly basis (Cançado, 2017; Gumier, 2015).

The CBT protocol for alcohol dependence consisted of 12 sessions. This protocol was adapted from Matching Alcoholism Treatments to Client Heterogeneity (Project Match; Kadden et al., 1995), the most prominent American multicentric study about the treatment of alcoholism. The first session addressed psychoeducational concepts related to alcoholism and CBT; the second session focused on identifying risk situations associated with alcohol and strategies to control the desire to drink; the third session sought to address which situations predispose to relapse, and to ask the client to make a list showing the pros and cons of drinking; the fourth session focused on solving problems regarding risk situations that appeared before the patient stopped drinking and regarding difficulties in developing activities that could help maintaining abstinence.

Table 1

Types of innovative moments

Levels	Definition	Content
Elementary – Level 1 Distancing from the problem	Actions destined to overcome the problem	• New behaviour strategies to overcome the problem • Actively seeking solutions • Seeking information about the problem
	New understanding of the problem	• Reconsider the problem's cause • Conscient of the problem's effects • New formulation of the problem • Self-instruction and adaptative thoughts • Intention to step up (question) with the problem's demand • General references of self-value and/or well-being feelings
	Questioning the problem and its premises	• Rejecting or objecting the problem • Critical posture towards whom supports the problem • Critical posture towards problematic aspects of yourself
Complex – Level 2 Focused on the changes	Generalization of good outcomes for the future and on other areas of the life (executing or projecting actions)	• Investing on new projects because results from the changing process • Investing on new relationships because results from the changing process • New skills that are not related to the problem • Problematic experiences as a resource for new situations
	Self-contrast (what has changed?) OR Changing process (how/why has the change occurred?)	• Contrasting self-positioning on the client's speech containing the solution (or the ongoing solution) of a past conflict with yourself and/or with significant others • Moments of self-observation where the client understands or feels the relative progression and the change that occurred during the therapy • Self-esteem references and/or feelings of well-being (as a consequence of change)
	Assertiveness and empowerment	• Focused on the *self* • Affirming rights and needs
Complex– Level 3 Reconceptualization: Consolidation of change	Moments of distancing from the experience (meta-positions) where the *self* is re-positioned outside the problematic experience and also comprehending the process involved on this transformation	• Self-position of contrast (what has changed?) AND • Changing process (how/why has the change occurred?)

Note. Adapted from "How do self-narratives change during psychotherapy? A Review of Innovative Moments research" (Montesano et al., 2017).

The therapists choose the themes for the final four sessions according to the patient's needs. There were 14 theme options, such as managing negative thoughts, family involvement, risky situations, and anger management. In the last and 12th session, we applied a quick summary of all the strategies discussed during the therapy, and the therapist and the client, fill in the feedback (Gumier, 2015). We included two customized assessments in the adapted protocol, one pre-treatment and one post-treatment. The objective was to assess what can change the alcohol consumption pattern and the patient's clinical condition.

The recordings of the online therapy sessions were analysed through video media by two psychologists studying to obtain their Ph.D., properly trained by the same instructor, which has a Ph.D. in psychology and experience in analysing the IMs. Both of the researchers took the training for the IMCS, on presential modality, in Portugal, directly supervised by the original authors (for a detailed account of the training steps see Batista et al., 2020). Although the online CBT treatment was based on a 12 sessions protocol, only six sessions per case were chosen to analyse the IMs: two sessions from the beginning of the treatment (sessions 1 and 2), two sessions from the middle (sessions 6 and 7) and two sessions from the end of the treatment (sessions 11 and 12). This choice

of specific parts of the treatment aimed to compare IMs' frequency at the beginning, middle, and end of the treatment. The coding of the IMs involves three stages: (a) consensual definition of the codes of each problem shared by the participants; (b) identification of IMs' proportion directly from the interviews recorded in audio, during the time (in seconds) spent in each one; (c) the categorization of each IM into elementary and complex levels.

Consensual definition of each participant's problems: A consensus. The list of problems was presented at the beginning of the coding processes by each coder, taking into account the problems shared by each participant on the first and the second session of psychotherapy. Each coder first prepared an independent list of problems, and later both lists were discussed by the two coders until a consensus list of problems emerged. This list guided the levelling and categorization of IMs.

Identification of innovative moments throughout the audio recordings: Independent coding. After establishing a list of problems for each participant, we independently coded all interviews. We calculate the starting and ending minutes of the IMs (i.e., IM's proportion).

Categorization of IMs into levels and proportion: Agreement between coders. Once identified, we classify the MIs independently, in levels by the two encoders. In this study, we used the terminology of elementary IMs (level 1) and complexed IMs (level 2 and level 3). The previous presented formula was used to compute the agreement between the coders: the number of overlapped seconds (e.g., identified by both coders) corresponding to the IMs divided between the sum of seconds of the complete coding (e.g., overlapped seconds and non-overlapped) that was calculated for each coder. To calculate the reliability of the IMCS, we used weighted Cohen's kappa, pondered through the software SPSS/20.

In order to study the evolution of IMs over three months, we used a Generalized Linear Model (GLM) that allowed to compare the IMs' evolution according to three main variables: (1) time (evolution of IMs during the sessions); (2) consumption; and (3) the interaction between time and alcohol consumption. In the analysis, we used the proportion of IMs and the difference in the number of alcohol doses consumed on the pre-test and the post-test. This type of analysis enables the identification of patterns of change throughout time (Agresti, 2002).

In this analysis, the probability of "non-occurrence of an IM" or the "occurrence of a certain type of IM" was illustrated by a variable of binary response 0/1. We treat this probability as a random variety with a Bernoulli distribution, and the main objective was to infer the probability associated with this distribution. Thus, the GLM, generalized linear model of mixed-effects (Agresti, 2002), was used, integrating a specific randomized effect of the participant to consider the variability between the participants. Therefore, we observed a correlation between the measures of the same participant.

$$P\ (\text{Occurrence of an IM of a certain level of explanatory variable}) = \mu$$

The explanatory variable has a linear effect on the probability through a Link Function to

$$\mu = [\exp(\eta)]/[1+\exp(\eta)]$$

where η is the logarithm of *odds ratio* between the occurrence and non-occurrence of an IM, respectively,

$$\eta = \log[\mu/(1-\mu)]$$

We consider the explanatory variable as:

$$\eta = \beta \times X$$

where vector X represents all the significant explanatory variables, and β corresponds to the vector of the parameters estimated, specifically:

$$\eta = \beta 0 + \beta 1 \times \text{session} + \beta 2 \times C + \beta 3 \times \text{session} \times C$$

where interview session β1× is the effect of time (evolution from the first interview session to the last session), and β2×C is the level of change (that is, the difference between the number of alcohol doses between the first and the last interview) and β3×session×C corresponds to the interaction between time and the difference between the number of alcohol doses between the first and the last interview.

Results

Regarding the objective of the present research, testing whether the IMCS method is viable to analyse the process of online psychotherapy for alcohol dependence, IMCS has successfully adapted both online therapy and the problem of adding alcohol without the need for modifications. The agreement between the coders totalized 96.6%, which indicates a high level of consensus concerning, between the seconds that IMs appeared in the analysed videos. These results indicate a strong agreement between the coders regarding identifying the IMs (Hill & Lambert, 2004). It is also worth mentioning that the IMs levels' reliability coefficient was 0.943, as assessed by weighted Cohen's kappa (weighted kappa). These values represented an excellent agreement between the coders, highlighting this method's adequacy for the studied sample.

From the total of 36 sessions analysed, we found 356 IMs using the IMCS. The elementary IMs corresponded to 250 (70.2% of the total sample), and the complex IMs summed 106 (29.8%). Table 2 shows alcohol consumption in each case, on pre- and post-test, and the frequency of IMs identified in the first sessions, in the middle, and end of the treatment. It is possible to observe in Table 2 an increase in the proportion of elementary IMs from the beginning to the final sessions in five (83.3%) of the analysed cases. Likewise, it was observed an increasing tendency of elementary IMs on middle sessions when compared to initial sessions. Complex IMs (levels 2 and 3) also increased their proportion on post-test compared to the pre-test.

Concerning the difference between the number of doses corresponding to alcohol consumption, the participants presented a mean of 10.3 doses (*SD*=4.9) on the first interview and a mean of 3.5 doses consumed (*SD*=4.4) last interview. Table 2 shows the participants' changes in the number of doses on the first and last interviews. That means that, in average, the participants reduced the consumption of alcohol after treatment completion.

Table 2

Table presenting the evolution of number of alcohol doses

Casos	Pre-test doses	Post-test doses	Diferences in doses Post-/Pre-teste	Elementary IMs initial sessions	Elementary IMs middle sessions	Elementary IMs end sessions	Complex IMs initial sessions	Complex IMs middle sessions	Complex IMs end sessions
CV	18	12	-6	21 (20.5)	13 (11.2)	16 (21.9)	2 (1.5)	9 (26.1)	6 (11.0)
G	12		-12	13 (11.2)	14 (17.4)	12 (22.4)	1 (3.7)	1 (1.3)	5 (18.3)
AH	5	2	-3	13 (4.9)	12 (29.9)	5 (7.2)	3 (26.3)	12 (82.4)	
A	10	3	-7	19 (7.3)	8 (11.9)	11 (19.1)	12 (40.8)	11 (91.4)	9 (40.8)
LH	5	4	-1	6 (7.8)	13 (22.0)	8 (14.1)	2 (3.8)	6 (21.1)	6 (11.9)
F	12		-12	30 (24.2)	25 (21.1)	11 (17.1)	1 (2.6)	9 (20.8)	11 (58.7)

Note. N (%): Values expressed in frequency of IMs and proportion of IMs.

The three types of analyses that were carried out through GLM were:

Proportion of IMs concerning time (evolution of elementary and complex IMs during the sessions). According to the analysis performed, we noticed an increase in the proportion of

elementary, complex IMs, and the total of IMs over time, as shown in Table 3. Therefore, if we compare the first and last psychotherapy sessions, the proportion of IMs increased significantly at all levels.

Table 3

GLM analyses on IMs' proportion and alcohol consumption

Outcome	Total of IMs	Elementary IMs	Complex IMs
Proportion of IMs concerning time	0.001*	0.001*	0.001*
Proportion of IMs concerning alcohol consumption	0.875	0.098	0.726
Proportion of IMs concerning time and alcohol consumption	0.001*	0.1136	0.001*

Note. *Values with statistical significance: $p<0.05$.

Proportion of IMs concerning consumption (reduction of alcohol consumption). When it comes to the number of doses concerning the increase of IMs, it is possible to observe that the cases with the highest difference on the pre-test/post-test showed an increase in the proportion of complex IMs if we compare the first and the last sessions. However, although this result apparently presents relevance from the clinical point of view, this difference was not statistically significant, *p*-value (for the total)=0.875; *p*-value (for level 1 IM)=0.0989; *p*-value (for level 2 IM+level 3)=0.726.

Proportion of IMs concerning the interaction between time and alcohol consumption. Let's compare the interaction between the variables. We found an interaction between the evolution of IMs concerning the beginning and the final sessions with participants presenting a higher difference between the number of doses on the pre-test/post-test, that is, those who present a higher reduction on the consumption of doses also present a rapid increase on the production of IMs (compared to the mean), this statement can be exemplified because of the changing values of complex MIs: *p*-value (for level 1 IMs)=0.1136; *p*-value (for level 2 IMs+level 3)=0.00102.

The value of determination coefficient (R2) (model of total IMs) was 0.111, and R2 (model of level 1 IMs) was 0.013, and o R2 (model of level 2 IMs+level 3)=0.181. In Figures 1 and 2, the lines of gradient represent the evolution of the probability of IMs occurrence. To illustrate the evolution, we have selected two extreme cases [LH(diff=-1), G (diff=-12)] and an intermediate one [CV(diff=-6)].

On Figure 1 we can identify the increase in the proportion of IMs throughout time; that is, the IMs increase significantly from the beginning to the end of the sessions on the analysed cases.

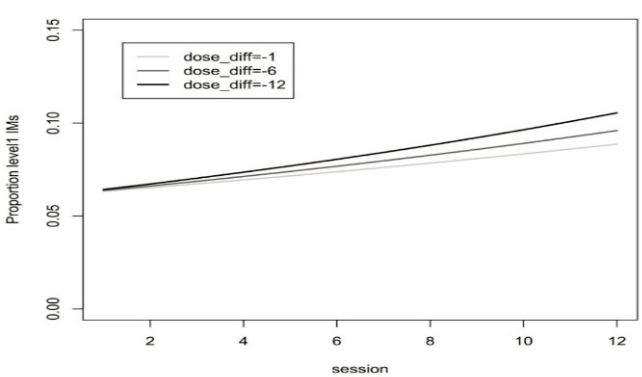


Figure 1. Evolution of elementary IMs throughout the sessions

Figure 2 shows the evolution of complex IMs throughout the sessions and a smaller difference in doses (higher reduction in consumption) which stands for a higher proportion of IMs.

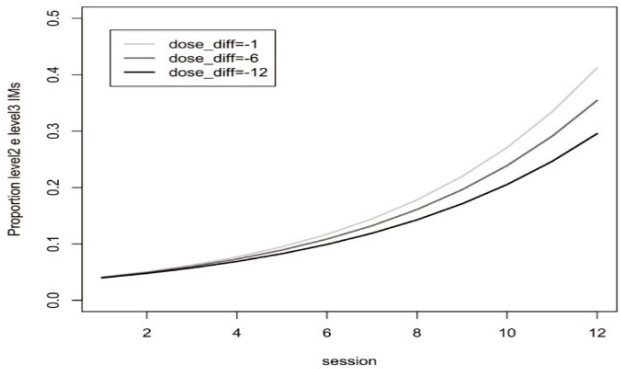


Figure 2. Evolution of complex IMs throughout the sessions

Discussion

The present study's main contribution is its innovative character since it is unavailable on the current literature evaluating the process of online psychotherapy with alcoholic dependents and using the IMCS method. Concerning the objectives of this study, our results suggests that the IMCS is an adequate tool to study the process of change in online CBT for alcohol dependence. The mean global proportion of IMs that emerged throughout the treatment reached 16.7% of the total amount of interviews, which means that the participants used that time to devise innovations for a problematic alcohol consumption pattern. Similar results were also found on psychotherapeutic samples using different approaches (Alves et al., 2014; Gonçalves et al., 2012; Matos et al., 2009; Mendes et al., 2010).

Considering the objective of evaluating whether the proportion of IMs has increased during the therapeutic process, this hypothesis was confirmed since the elementary and complex IMs increased from the beginning to the end of the sessions. These results indicate that the method was adequate to evaluate the process of psychotherapy, supporting the idea that the construction of new meanings on the patient's narrative is important to the process of change in psychotherapy (Gonçalves et al., 2016; Neimeyer & Bridges, 2003).

Another important finding is the increase in the proportion of IMs at the end of the sessions correlates with reduction of consumed alcohol doses throughout time. Therefore, the initial hypothesis of this study was confirmed, since there is on the evolution of the IMs an interaction between the beginning and the final sessions on the patients that present a higher difference in the number of doses on the pre-test/post-test, that is, those who present a higher reduction on the consumed doses show a more rapidly production of IMs. It is necessary to carry out further studies to explore this tendency.

The elementary IMs that correspond to new thoughts, feelings, and behaviours, different from the problematic ones, seem to be associated with a higher ambivalence towards change since they emerged mainly in the initial sessions – where the dominant problem is most notorious. These results are similar to the ones on Gonçalves et al. (2017) that shows these IMs as a solution of commitment: the person produces an innovation that does not threaten the problematic personal stability but is simultaneously incapable of producing a long-term duration change. These findings

were also consistent with previous studies on global research psychotherapy on IMs (Cunha et al., 2012; Gonçalves & Ribeiro, 2012), suggesting the elementary IMs seem to play a less fundamental role in the change in psychotherapy.

On the other hand, it is possible to observe that complex IMs appear with a higher frequency at the end of the psychotherapies and present an interaction between time and the occurred change. More specifically, the present study results indicated that the proportion of complex IMs increased with time, especially on individuals with higher levels of change concerning the reducing alcohol consumption. Therefore, we conclude that those participants who evaluated themselves as making changes in the period of this study were more able to create meaning contrasts between the initial problem and a new, more adjusted position and they were also able to understand what allowed this change and what contributed to reaching this transformation (these two components are part of the concept of reconceptualization on the IM literature). These findings are also in agreement with the studies of Alves et al., 2014; Cunha et al., 2012; Fernández-Navarro et al., 2018; Gonçalves & Ribeiro, 2012.

Lastly, we observed the three levels of IMs among clients, even though it is online psychotherapy and relatively brief one (12 sessions). Since the most complex levels of IMs, which are directly related to the treatment results, occur in the final stages of therapy, could be important for practitioners to work on the motivation for change right at the beginning of psychotherapy (Arkowitz et al., 2015).

Limitations and future studies

This exploratory study presents some limitations since the sample was small, highly heterogeneous, and do not allow generalizations. Despite of this limitations, the present study brings important contributions since it refers to a process measure analysed by applying an empirical study. Future research ought to analyse higher samples, evaluate the therapeutic process on a quantitative approach through a randomized clinical trial to obtain a representative sample, and look for causal relations. Another suggestion for future studies is to evaluate the relationship between IMs and alcohol dependence using other psychotherapeutic approaches to test IMs' applicability directly compared to the present sample.

The number of alcohol dependents seeking treatment for this condition is low, although alcoholism has a high prevalence and is serious health problem in the population. In Brazil, specifically, there is little treatment offer compared to the demand for alcohol addicts, and online psychotherapy can be an alternative to fill this gap. Health professionals can use online psychotherapy in Basic Health Centers (UBS), in Primary Health Care Centers (UAPS) and in other contexts, where there is a lack of specialized professionals to treat alcohol dependence.

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Momentos de Inovação para a Terapia Cognitiva Comportamental online em pacientes dependentes de álcool

A Terapia Cognitivo-Comportamental Online (TCC) é uma intervenção que se mostra promissora para reduzir o consumo de álcool na população. Porém, devido à escassez de estudos na área, o presente estudo tem como objetivo avaliar os efeitos do processo terapêutico da TCC online para uma amostra de alcoolistas residentes em um município brasileiro. Como método foram analisadas o total de trinta e seis gravações de sessões de psicoterapia online, aplicadas em seis participantes, do sexo masculino, com diagnóstico prévio de dependência de álcool. Estes participantes procuraram o tratamento para cessar ou reduzir o consumo da substância. As gravações foram analisadas segundo o método *Innovative Moments Coding System (IMCS)*. O IMCS é um método que analisa as mudanças ocorridas durante o processo terapêutico. Os resultados mostraram que: (1) houve um aumento no número de Momentos Inovadores (MIs) do início ao fim das sessões em todos os casos analisados, e (2) houve uma correlação entre a diminuição das doses de consumo de álcool ao final das sessões e aumento dos MIs. O presente estudo aplicou pela primeira vez com sucesso o IMCS para a dependência de álcool online e provou ser um método adequado para avaliar o processo de terapia para esta amostra. No entanto, é necessária a realização de pesquisas adicionais para confirmar a eficácia do IMCS para a dependência de álcool.

Palavras-chave: Momentos de inovação, Psicoterapia online, Álcool.

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