Addictive Behaviors 79 (2018) 8–13

Contents lists available at ScienceDirect

Addictive Behaviors

journal homepage: www.elsevier.com/locate/addictbeh

Interpersonal and intrapersonal emotional processes in individuals treated for alcohol use disorder and non-addicted healthy individuals

Maciej Kopera[a], Elisa M. Trucco[b,c], Andrzej Jakubczyk[a], Hubert Suszek[d], Aneta Michalska[a], Aleksandra Majewska[a], Natalia Szejko[e,f], Agata Łoczewska[g], Aleksandra Krasowska[a], Anna Klimkiewicz[a,*], Kirk J. Brower[c], Robert A. Zucker[c,h], Marcin Wojnar[a,c]

[a] Department of Psychiatry, Medical University of Warsaw, Warsaw, Poland
[b] Department of Psychology, Center for Children and Families, Florida International University, Miami, FL, USA
[c] Department of Psychiatry, Addiction Center, University of Michigan, Ann Arbor, MI, USA
[d] Department of Psychology, University of Warsaw, Warsaw, Poland
[e] Department of Neurology, Medical University of Warsaw, Poland
[f] Department of Bioethics, Medical University of Warsaw, Poland
[g] Department of Psychiatry, Bielański Hospital, Warsaw, Poland
[h] Department of Psychology, University of Michigan, Ann Arbor, MI, USA

HIGHLIGHTS

- Inter- and intrapersonal emotional processes in individuals with alcohol use disorder and healthy controls was assessed.
- Deficits in identification and description of their own emotions were recognized in individuals with alcohol use disorder.
- Groups did not differ in self-reported recognition of other people's emotions, social skills, and mental states recognition.
- Specific rather than general emotion-processing deficits in individuals with alcohol use disorder were identified.
- The results suggest problems with processing of intrapersonal emotional signals in patients with alcohol use disorder.

ARTICLE INFO

Keywords:
Alcohol dependence
Emotion recognition
Alexithymia

ABSTRACT

Introduction: Prior work largely confirms the presence of various emotional processing deficits among individuals with an alcohol use disorder (AUD); however, their specificity and relevance still warrant investigation. The aim of the current study was to compare selected aspects of emotional processing (i.e., mental state recognition, alexithymia, and emotional intelligence) between individuals treated for an AUD and healthy individuals.

Methods: The AUD sample consisted of 92 abstinent men with AUD who were participating in an 8-week inpatient abstinence-based treatment program in Warsaw, Poland. The healthy control (HC) group consisted of 86 men recruited from the Medical University of Warsaw and the Nowowiejski Hospital administrative staff. Baseline information about demographics, psychopathological symptoms, and severity of alcohol problems was obtained. Mental states recognition was assessed using the Reading the Mind in the Eyes Test (RMET). Alexithymia was measured with the Toronto Alexithymia Scale (TAS-20). The Schutte Self-Report Emotional Intelligence Test (SSEIT) was used to measure emotional intelligence (EI).

Results and conclusions: After accounting for potentially confounding variables (demographics, severity of depression, anxiety symptoms) in MANCOVA models, patients with AUD presented deficits in identification and description of their own emotional states, as well as lower emotion regulation skills when compared to HCs. No between-group differences were observed in self-reported recognition of other people's emotions, social skills, and a behavioral measure of mental states recognition.

Specific rather than general emotion-processing deficits in participants with AUD were identified, suggesting problems with processing of intrapersonal emotional signals.

* Corresponding author at: Department of Psychiatry, Medical University of Warsaw, 27 Nowowiejska St., 00-665 Warsaw, Poland.
E-mail address: anna.klimkiewicz@wum.edu.pl (A. Klimkiewicz).

https://doi.org/10.1016/j.addbeh.2017.12.006
Received 16 June 2017; Received in revised form 4 December 2017; Accepted 4 December 2017
Available online 05 December 2017

1. Introduction

Effective social interactions are based on the ability to accurately perceive, correctly express, and appropriately react to one's own emotional states as well as those expressed by others (Feldman & Rimé, 1991).Individuals with alcohol use disorder (AUD) demonstrate deficits in processing inter- and intrapersonal emotional signals (Maurage, Timary, & D'Hondt, 2017). Moreover, individuals with AUD have difficulties responding appropriately in social situations, which cause serious interpersonal problems (Nixon, Tivis, & Parsons, 1992). Interpersonal problems, in turn, are related to emotional decoding deficits among individuals with AUD (Kornreich et al., 2002). Problems with the processing of inter- and intrapersonal emotional signals among this group are especially problematic given that effective emotion regulation is perceived as necessary to successfully complete AUD treatment (Moos & Moos, 2006). In fact, it has been shown that more than half of post-treatment relapses are related to emotional and interpersonal factors (Zywiak, Westerberg, Connors, & Maisto, 2003).

Alexithymia is considered a deficit in the cognitive processing of emotion and an impairment in the mental representation of emotions (as feelings), which limits the capacity to regulate emotions through cognitive processes. As a result, those with alexithymiatend to experience high physiological arousal. According to Taylor, Bagby, and Parker (1997), alexithymiais a multifaceted construct characterized by: affective and cognitive deficits in identifying and describing one's own emotional states, impoverished inner emotions, and a concrete cognitive style. Difficulty in identifying and describing one's own feelings – the primary feature of alexithymia – is recognized in 50% to 78% of individuals with an AUD (Thorberg, Young, Sullivan, & Lyvers, 2009) in comparison to 10%of individuals in the general population (Hiirola et al., 2017). These rates may indicate problems with processing of intrapersonal emotional information among those with an AUD. Kauhanen, Julkunen, and Salonen (1992) observed that long-term heavy alcohol use was related to alexithymia in Finnish men. Furthermore, the authors observed that men with alexithymia drink more than men without alexithymia, perhaps as an effort to cope with negative affect. This is consistent with other work indicating that unpleasant arousal typically experienced by individuals with alexithymia might lead to maladaptive coping behaviors, including excessive alcohol consumption (Thorberg et al., 2011). Moreover, Finn, Martin, and Pihl (1987) suggest that drinking alcohol may facilitate verbal and emotional interpersonal communication among individuals with alexithymia who tend to feel incompetent in these areas. Drinking alcohol may increase access to greater emotional states, making this substance particularly reinforcing for individuals experiencing both an AUD and alexithymia (Thorberg et al., 2009). Conversely, it is also plausible that alexithymia may develop as a long-term consequence of heavy consumption of alcohol through its adverse effects on brain structures involved in cognitive regulation of emotional processes (e.g., the amygdala and the anterior cingulate cortex; Kober, 2014).

Deficits in accurate recognition and labeling of other peoples' facial expressions – critical in interpersonal interactions – have also been examined in participants with AUD (Castellano et al., 2015). Research shows that beyond simple facial affect recognition, individuals with AUD also exhibit more complex variability in social perception and social cognition - Theory of mind (ToM) – deficits (Onuoha, Quintana, Lyvers, & Guastella, 2016). ToM, also referred to as mentalizing, is the ability to ascribe complex mental states (desires, beliefs, feelings) to oneself and to other people to make predictions about other peoples' behavior in social situations (Premack & Woodruff, 1978). Even though a recent study (Onuoha et al., 2016) supports *general ToM impairment* in AUD participants, results of studies on the *social perceptual component of ToM*are less straightforward. In some studies, the differences in mental state recognition between individuals with AUD and healthy controls (HCs) were significant (Thoma, Winter, Juckel, & Roser, 2013), whereas in others, differences were not apparent (Kornreich et al., 2011).

The above interpersonal and intrapersonal emotional processes are also viewed as basic components of emotional intelligence (EI). EI is conceptualized as emotional competencies such as recognition, regulation, and utilization of self and others' emotions in thinking or acting (Salovey & Mayer, 1990). Preliminary data suggests that individuals with AUD have lower EI compared to controls, but more work is necessary to make definitive conclusions (Peterson, Malouff, & Thorsteinsson, 2011). Among the EI components, problems with emotion regulation are thought to be the primary motives for alcohol use, as well as a core emotional feature of alcohol dependence (Petit et al., 2015). For some individuals with AUD, alcohol intoxication may help regulate current emotional states temporarily by increasing positive affect and decreasing negative affect (Kober, 2014).The long-term reliance on alcohol use to regulate emotions could have a negative impact on structures related to affect regulation (e.g., prefrontal cortex), which could result in blunting of emotions and worsen emotion regulation capabilities (Kober, 2014).Preliminary data shows that emotion regulation impairments may be associated with adverse outcomes in individuals with AUD. Deficits in the utilization of emotions predicted poorer post-treatment outcomes in those treated for AUD (Kopera et al., 2014), and poor emotion-regulation skills predicted post-treatment alcohol use during follow-up (Berking et al., 2011).

Although prior work confirms emotional processing deficits in AUD, its specificity and clinical relevance needs additional investigation. Research suggests that at the intrapersonal level, individuals with AUD lack emotional and/or cognitive skills that lead to impaired understanding of their own emotional states (high alexithymia), and they report problems with effective regulation of their inner states. At the interpersonal level, deficits in the recognition of others' mental state are also described in participants with AUD. Currently, few studies investigate intra- and interpersonal emotional processes in the same group of individuals with AUD. One exception, is a study demonstrating that individuals with AUD are more likely to endorse high alexithymia and have more difficulties in social interactions compared to matched controls (Maurage et al., 2017). Yet, the same group also found that individuals with AUD demonstrate heterogeneous presentations of emotional and interpersonal difficulties, with some characterized by intense alexithymia traits with few interpersonal problems and others characterized by intense interpersonal problems but moderate emotional impairments (Maurage et al., 2017). Thus, further exploration of the specific aspects of intra- and interpersonal emotional and social deficits among individuals with AUD is warranted. A greater understanding of additional dimensions that may help characterize individuals with AUD (e.g., emotional functioning) could help to identify additional subgroups in order to provide tailored alcohol use interventions.

The current study assessed and compared the aforementioned emotional processes (i.e., mental state recognition, alexithymia, and EI) between individuals with AUD and HCs. Based on previous work, we anticipated that individuals with AUD would have deficits in emotion regulation and both inter- and intrapersonal domains, particularly in recognition of their own and others' emotions, compared to that of HCs.

2. Material and methods

2.1. Participants and procedures

The sample consisted of 92 individuals with AUD who were currently abstinent. Participants were recruited from an inpatient addiction treatment center in Warsaw, Poland that included an 8-week abstinence-based treatment program with intensive group and individual therapy. This study focused on White men, as this was the demographic group that was overrepresented in this center. Participants were between ages 18 and 74. The diagnosis of AUD was based on the International Classification of Diseases and Related Health Problems,