CLINICAL NOTE

CLINICAL VIEW ON SUBSTANCE-INDUCED PSYCHOTIC SYMPTOMS IN A MEDICALLY SUPERVISED INJECTING ROOM: A DECADE OF EXPERIENCE

Running head: Substance-induced psychotic symptoms in a medically supervised injecting room

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ABSTRACT

Introduction. Medically supervised injecting rooms (MSIRs) are extremely important facilities for people who inject drugs (PWID) as MSIRs provide a safe place for the consumption of street-sourced drugs, impacting overdose rates and viral transmitted infections.

Methods. The current paper describes more than 10 years of our MSIR experience regarding psychotic symptoms and their relationship with the substance used. The analysis was performed using data collected between 01/01/2009 and 08/31/2021.

Results. 3731 self-injections (68.7% heroin, 29.1% cocaine, 2.1% speedball, and 0.2% other substance) were recorded during the studied period. Psychotic symptoms were only observed in 7.1% of the total self-injections. However, large differences were detected among substances: 23.2% of cocaine consumptions were related to psychotic symptoms, 20.8% of speedball injections presented psychotic symptoms, and only 0.3% of heroin consumptions had psychotic symptoms (X^2=604.99; p<0.001). Also, some other variables highlight that psychotic symptoms induced by substances may be associated with higher clinical severity.

Conclusions. subjects with cocaine or speedball use who attend MSIRs may present substance-induced psychotic symptoms, having higher clinical severity. Thus, MSIRs' protocols should be analyzed and adapted in terms of the substance used and the induction of psychotic symptoms. Moreover, further research is necessary on this critical issue.

Key words. Harm reduction; Medically supervised injecting center; People who inject drugs; Psychosis; Substance-induced psychosis; Substance use disorder.

UNA VISIÓN CLÍNICA DE LOS SÍNTOMAS PSICÓTICOS INDUCIDOS POR SUSTANCIAS EN UNA SALA DE VENOPUNCIÓN SUPERVISADA: UNA DÉCADA DE EXPERIENCIA

RESUMEN

Introducción. Las salas de venopunción supervisadas (MSIR) son centros extremadamente importantes para las personas que usan drogas intravenosas (PWID), ya que las MSIR brindan un lugar sanitariamente seguro para el consumo de sustancias psicoativas ilícitas, teniendo un impacto importante en las tasas de sobredosis y las infecciones virales transmitidas por vía sanguínea.

Métodos. Descripción de los síntomas psicóticos inducidos observados en una MSIR y su relación con la sustancia utilizada. El análisis se realizó con datos recopilados entre el 01/01/2009 y el 31/08/2021.

Resultados. Se registraron 3731 autoinyecciones (68,7% heroína, 29,1% cocaína, 2,1% speedball y 0,2% otra sustancia) durante el período estudiado. Los síntomas psicóticos solo se observaron en el 7,1% del total de autoinyecciones.

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Sin embargo, se detectaron grandes diferencias entre las sustancias: el 23,2% de los consumos de cocaína estuvieron relacionados con síntomas psicóticos, el 20,8% de las inyecciones de speedball presentaron síntomas psicóticos y solo el 0,3% de las venopunciones de heroína se relacionaron con síntomas psicóticos (X^2=604.99; p<0.001). Además, algunas variables señalan que los síntomas psicóticos inducidos por sustancias pueden estar asociados con una mayor gravedad clínica.

Conclusiones. Los sujetos con consumo de cocaína o speedball que acuden a MSIR pueden presentar síntomas psicóticos inducidos por sustancias, siendo esto un criterio de mayor gravedad clínica. Por lo tanto, los protocolos de las MSIR deben analizarse y adaptarse en función de la sustancia utilizada y la inducción de síntomas psicóticos. Además, se necesita más investigación en esta área.

Palabras clave. Reducción de daños; sala de venopunción supervisada; personas que se inyectan sustancias; Psicosis; Psicosis inducida por sustancias; Trastorno por uso de sustancias.

Harm reduction programs are extremely important for individuals who use substances. Specifically, medically supervised injecting rooms (MSIRs) provide a safe site for the consumption of street-sourced drugs to numerous subjects in more than 10 countries around the world[1]. In Spain, these facilities were created more than 20 years ago and have demonstrated a positive impact on blood-borne diseases and overdoses[2]. MSIRs have an important role in the approach of people who inject drugs (PWID) as this population has more difficult social conditions and poorer mental and physical health than non-PWID[2-4]. Regarding psychiatric comorbidity, some reports describe that more than 82% of PWID have a psychiatric diagnosis[4]. Despite psychosis among drug users is frequent, there are scarce studies on psychosis in PWID who use MSIRs[3]. Also, it is important to highlight that the prevalence of psychosis varies according to the substance used[3,5]. Hence, considering that heroin, cocaine, and speedball (cocaine-heroin) are the most used substances in MSIRs in Spain[2], we would like to present results about our more than 10 years of MSIR experience regarding psychotic symptoms and their relationship with the substance used.

Our MSIR is located at the same place of an outpatient treatment center for addictions inside a Hospital Complex, and hence, our MSIR has differences from other MSIRs in Barcelona (as the other MSIRs are located outside any health care facility). We present mainly information that was collected between 01/01/2009 and 08/31/2021 by trained nurses and social educators who supervised the self-injections. Univariate and bivariate analyses were performed according to each self-consumption and not by individual information. The information is part of a clinical study approved by the Hospital Ethics Committee, all the included patients accepted to participate and signed an informed consent. In total, 3731 self-injections were performed by 141 subjects at our MSIR in the studied period. Heroin was the most self-injected substance (68.7%) followed by cocaine (29.1%), speedball (2.1%), and other substances (0.2%). Most consumptions were performed by males (92.4% of the time) and the mean age was 43.2±6.5 years (note that this mean represents the age at each registered consumption, and therefore, several individuals may be repeated as some subjects may be frequent MSIR users). Psychotic symptoms (delusions, illusions, and hallucinations) were observed in only 7.1% of the self-injections and large differences were observed among substances. Thus, 23.2% of cocaine and 20.8% of speedball consumptions had psychotic symptoms, while 0.3% of heroin self-injections were related to psychotic symptoms, being these differences statistically significant (X^2 = 604.99; p<0.001). If it is analyzed by the individual information, from the whole sample (n=141) only 32 subjects (22.7%) had psychotic symptoms during MSIR use. Most subjects had psychotic symptoms exclusively induced by one substance (n=26 [81.2%]) while only 6 individuals (18.8%) had psychotic symptoms induced by the use of diverse substances (n=4 for cocaine and speedball injections, and n=2 for cocaine and heroin use). The amount of substance injected in the MSIR was not different between consumption with or without psychotic symptoms (0.23±0.35g vs. 0.22±0.13g; t = 0.62; p>0.533), while psychotic symptoms were more frequently observed in subjects who reported more substance consumptions during the same day (2.38±1.40 vs. 1.47±0.92 consumptions in the same day; t = 10.31; p<0.001) and those who had any consumption in the previous 6 hours to the consumptions in the MSIR (64.2 vs. 35.7%; X^2 = 136.04; p<0.001). Finally, no differences were found on overdoses between self-injections with or without psychotic symptoms (X^2 = 0.128; p>0.721); note that no fatalities have been faced in our MSIR during all these years.

Current data are in line with previous studies that report that cocaine is more related to psychotic symptoms than heroin[5,6]. In this line, some investigations suggest that opioids may have antipsychotic properties[6,7]. Interestingly, cocaine and speedball consumption presented similar percentages of psychotic symptoms. Hence, we may consider that cocaine and speedball users may have similar clinical presentations. However, previous studies report that psychopathological profile and substance use variables are

different among cocaine, heroin, and speedball users[8,9]. On the other hand, the consumptions with psychotic symptoms seem to be associated with higher severity, as we detected more consumption during the same day and a shorter time between consumptions. Impulsivity may explain this finding, as previous studies relate higher levels of impulsivity in patients with cocaine-induced psychosis[10,11]. Furthermore, these results are in line with previous reports which describe that substance-induced psychosis is related to higher clinical severity, including a higher risk of overdose, more years of consumption, earlier onset of drug use, development of schizophrenia, high prevalence of suicidal behaviors, more violent behaviors and agitation, and an increased mortality[10,12-15].

Taking into account the previously mentioned, and that agitation and overdose are frequently related to cocaine-induced psychosis[10,15,16], MSIRs should include in their protocols specific approaches for psychotic symptoms induced by substances, especially for cocaine and speedball consumption. The approach of psychotic symptoms in MSIRs is scarcely addressed in research and most of the literature and guidelines are focused only on overdose and blood-borne diseases[16,17]. According to the current findings and previous studies, we suggest that MSIRs professionals should have specific training in mental health issues due to the high prevalence of mental health problems in patients using these facilities[4]. In this way, MSIR professionals could detect and manage mental health issues (including psychosis) in MSIRs, and subsequently, they may promote to link to specific facilities for MSIR users' needs[2,4]. According to the current scientific evidence, it is difficult to propose any particular strategy for the management of acute psychotic symptoms in MSIRs. The use of non-pharmacological and pharmacological strategies (including the use of benzodiazepines and antipsychotics) in the management of agitation and substance-induced psychotic symptoms in MSIRs is likely to be necessary[18-20].

Our experience here explained should be cautiously analyzed as several limitations are presented. Firstly, the analysis was mainly conducted with each self-injection and not by the information of each individual. Therefore, some subjects may overrepresent the self-injections analyzed as they may be frequent MSIR users. However, in terms of self-injections, current data is very similar to a previous research[3]. Secondly, subjects could report incomplete information of substance used before and during the MSIR attendance. Also, no information about substance purity is available. Thirdly, there is no data on eventual psychotic symptoms that could appear hours later of MSIR attendance. Finally, no information on psychiatric comorbidity was recorded. In any case, the current information represents the daily clinical practice and it is based on a large number of observed self-injections in an experienced MSIR.

In conclusion, subjects with cocaine or speedball use who attend MSIR may present substance-induced psychotic symptoms, having higher clinical severity. Therefore, we would wish to point out the need to analyze and adapt harm reduction programs and MSIRs' protocols in terms of the substance used and the induction of psychotic symptoms. Moreover, further research is necessary on this critical issue.

CONFLICT OF INTERESTS

Dr. Palma-Álvarez has received fees to give talks for Angelini, Exeltis, Lundbeck, MSD, Mundipharma, and Takeda. Dr. Roncero has received fees to give lectures for Janssen-Cilag, Ferrer-Brainfarma, Pfizer, Indivior, Lundbeck, Otsuka, Servier, GSK, Rovi, Astra, Gilead, MSD, Sanofi, and Exeltis. He has received financial compensation for his participation as a board member of JanssenCilag, Lundbeck, Gilead, MSD, Indivior, and Mundipharma. He has carried out the PROTEUS project, which was funded by a grant from Reckitt-Benckiser/Indivior. He received a medical education grant for Gilead. Dr. Ramos-Quiroga has received fees as speaker from Janssen-Cilag, Shire, Lilly, Ferrer, Medice, and Rubió. He has received research funding from Janssen-Cilag, Lilly, Ferrer, Lundbeck, and Rubió. Dr. Grau-López has received fees to give talks for Janssen-Cilag, Lundbeck, Servier, Otsuka, and Pfizer. The other authors have no competing conflicts of interest and report no financial relationships with commercial interests.

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