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THE GROUP THERAPEUTIC MANAGEMENT OF PATIENTS WITH DRUG MISUSE IN A PSYCHIATRIC FACILITY

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ABSTRACT

The paper focused on the group therapeutic management of patients with drug misuse in a psychiatric ward. At the time of the therapeutic management, there were a total of 30 hospitalized patients in the psychiatric ward of the Kampala International University Teaching Hospital, Western Campus Ishaka Uganda. After the inclusion and exclusion check, 3 patients were excluded, and 12 patients were eligible. In Preconsent screening, 10 patients gave informed consent and 9 in post-consent screening. Nine patients were ready to participate in the group sessions. The result showed that only 5 patients completed the 5 sessions of the group therapy in psychoeducational, skill development, cognitive behavioural, support, and interpersonal process groups. The 5 patients who completed the 5 sessions were ready to leave substance abuse and adhere to their plans of action. Group therapy was effective at helping patients to overcome their addiction. The token economy was used as a behaviour modification technique to motivate and reinforce the patients to participate in group therapy. The paper recommended that patients with drug misuse should be encouraged to participate in group therapy through the behaviour reinforcement of token economy because of its efficacy in the rehabilitation of such patients.

Keywords: Group therapy, Management, Patients, Drug misuse

INTRODUCTION

Drug misuse is described as the use of a substance or substances for a purpose not consistent with legal or medical guidelines (WHO, 2006). It has a negative impact on health or functioning and may take the form of drug dependence, or be part of a wider spectrum of problematic or harmful behaviour. Drug use disorders are a significant public health concern. According to the National Epidemiologic

Survey of Alcohol and Related Conditions-III, the lifetime prevalence rate of DSM-5 drug use disorders is 9.9%, which includes amphetamine, cannabis, club drug, cocaine, hallucinogen, heroin, opioids, sedative/tranquilizer, and solvent/inhalant use disorders (Grant, et al 2016). Drug use disorders are defined in terms of eleven criteria including physiological, behavioral, and cognitive symptoms, as well as consequences of criteria, any two of which qualify for a diagnosis (Rehm, Jet al, 2013).

The narcotic drugs and psychotropic substances (control) act, no 3 of republic of Uganda (2015) outlaws possessions of, and trafficking in narcotic drugs and psychotropic substances and cultivation of associated plants. The government is saddled with the responsibility for instituting measures to prevent drug abuse. The law enforcement agent such as police has authority to search persons and vehicles and to arrest persons who abuse or attempt to abuse drugs (The Republic of Uganda, 2015). Planting of cannabis for export in Uganda (for medical purposes) was approved in 2020, with carefulness to limit its use among the general population (Africanews, 2020).

Studies further shows that factor associated with illicit drug use include being single, young, male, and sensation-seeking (Hasan et al., 2022; Ssewanyana et al., 2020). Peer acceptance is an important factor in influencing initiation and subsequent use of illicit drugs in most of the sub populations, drivers inclusive. Truck drivers participate in drug use to acclimatize with the trucking "image" (Davey et al., 2007; Hasan et al., 2022). However, the main reason for illicit drug use among truckers is to reduce fatigue (Davey et al., 2007). Comparatively among commercial motorcyclists in Nigeria, drug use and misuse is attributed to stress, fatigue and exhaustion (Nelson et al., 2018). Findings of some studies have shown that socioeconomic disadvantage or a low economic status is associated with illicit drug use among young persons (Archie et al., 2013; Hasan et al., 2022; Redonnet et al., 2012).

Cocaine is a strong central nervous system stimulant drawn out from the leaves of the coca plant. Cocaine produces feelings of alertness, euphoria, well-being, power, boundless energy, and pleasure (Gawin, 1991). Cocaine has an enduring history of use and misuse. At the turn of the century, dozens of non-prescription potions and cure-alls contained cocaine. It was during this time that Coca-Cola was indeed the 'real thing.' From 1886 until 1906, when the pure food and drug act was passed, Coca-Cola contained cocaine (which has since been replaced with caffeine). Nowadays, cocaine is one of the mostly widely abused drugs. An estimated 4 to 5 million Americans use it at least once a month, and half of all Americans between the ages of 25 and 30 have tried cocaine (Gawin, 1991). Among the college students, there has been a 4-fold increase in cocaine use, compared to 15 years ago (Patterson, et al. 1988). Cocaine and amphetamine are very much similar in their effects on the central nervous system. The main difference is that amphetamine effects may last several hours; cocaine is quickly metabolized, so its effects last only about 15 to 30 minutes.

Cocaine is one of the most hazardous drugs of abuse. Even casual of first-time user are at the risk of its usage because cocaine can cause convulsion, heart attack or a stroke (Cregler & Mark, 1985; Isner, 1986). In an experiment, when rats and monkeys are given free access to cocaine, they usually find it enticing. Most of this animals end up dying of convulsion from self-administered overdoses of the drug (Hammer & Hazelton, 1984). Cocaine increases activity in brain pathways sensitive to the chemical messengers' dopamine and noradrenaline. Experimentally, noradrenaline arouses the brain, and added dopamine produces a 'rush' of pleasure. This combination is so powerfully rewarded that

those who abuse cocaine run a high risk of becoming dependent and irresistible abusers. A person who stops using cocaine does not experience the physical withdrawal symptoms typical of drugs such as heroin. Cocaine has its own withdrawal pattern and can be just as addicting. There is a jarring 'crash' of mood and energy following a cocaine binge. In a couple of days, the person enters a long period of fatigue, anxiety, paranoia, boredom, and anhedonia (an inability to feel pleasure). This happens because the brain adapts to cocaine abuse in ways that upset its chemical balance, causing depression when cocaine is withdrawn (Hurley, 1989). At withdrawal stage, longing for cocaine are intense: The person feels miserable and also vividly remembers the intense pleasure of previous cocaine highs. The desire to use cocaine has grown so overwhelmingly in some communities. As much as cocaine does not fit the classic pattern of physical addiction, there is little doubt about its possibilities for compulsive abuse (Byck, 1987). Even a person who gets through the withdrawal period may crave cocaine for months or years after last using it (Gawin, 1991).

Cocaine's rate of abuse may probably be even higher were it not for its ridiculously high price. Researchers estimate that if cocaine were cheaper, 9 out of 10 users would advance to compulsive use. In fact, rock cocaine (or 'crack'), which is quite cheaper, and produces very high abuse rate among those who try it. Here are some progressively serious signs of cocaine abuse according to (Pursch, 1983): **Compulsive use:** If cocaine is available-say, at a party- you may undoubtedly use it. You can't say no to it. **Loss of Control:** Once you have had some cocaine, you will keep using it until you are exhausted or the cocaine is gone. **Disregarding consequences:** When you don't care if the rents are paid, your job is endangered, your lover disapproves, or your health is affected, you'll use cocaine anyway. Anyone who thinks he or she may be developing a cocaine problem should seek advice at a drug clinic or a cocaine anonymous meeting. From 30 to 90 percent of cocaine abusers who remain in treatment programmes succeed in breaking their drug addiction (Gawin, 1991).

Nicotine is a natural stimulant found mainly in tobacco. Next to caffeine, it is the most widely used psychoactive drug (Julien, 1988). Nicotine is seen as a strong drug, it is so toxic that it is sometimes used as an insecticide! In large doses it causes stomach pain, vomiting and diarrhea, cold sweats, dizziness, confusion, and muscle tremor. In very large doses, nicotine may cause convulsions, respiratory failure, and death. For a non-smoker, 50 to 75 milligrams of nicotine taken in a single dose could be lethal. (Chain-smoking about 17 to 25 cigarettes will produce this dosage). A 1988 report by the U.S. surgeon general concluded that nicotine is addicting. For many smokers, withdrawal from nicotine causes headaches, sweating, cramps, insomnia, digestive upset, irritability, and a sharp craving for cigarettes. These symptoms may last from 2 to 6 weeks and may be worse than heroin withdrawal. Indeed, relapse patterns are nearly identical for alcoholics, heroin addicts, cocaine abusers, and smokers who try to quit (Brownell et al., 1986; Koop, 1989a). Relapse is mostly likely to occur if a smoker becomes depressed during withdrawal- as many do (Hughes, 1992). Research has shown "the scientific link between tobacco smoking and cancer is now as firmly established as any link between cause and effect in a human disease is likely to be" (Reif, 1981). Users of smokeless tobacco run a 4 to 6 times higher risk of developing oral cancer. Smokeless tobacco also causes shrinkage of the gums, contributes to heart disease, and probably is as addicting as cigarettes (Christian & McDonald, 1987; Foreyt, 1987).

Non-smoking women who are married to smokers suffer a 30 percent increase in their risk of developing lung cancer. Babies born to mothers who smoked during and after pregnancy are 3 times more likely to die of sudden infant death syndrome. It is therefore specifically reckless of smokers to expose young children to second-hand smoke (Abramson, 1993). It has been established that smokers, unless they have a death wish, must be getting something out of smoking. Some claim that smoking helps them to concentrate, feel sociable, or calm down. But Psychologist Stanley Schachter asserts, "The heavy smoker gain nothing out of smoking. He smokes only to prevent withdrawal" (Schachter, 1978). Schachter has also shown that heavy smokers adjust their smoking pattern to keep bodily level of nicotine continuous. Thus, when smokers are given lighter cigarettes, they smoke more. Also, if they are under some stressors (which accelerates the removal of nicotine from the body), they smoke more (Schachter, 1978). The link between stress and nicotine perhaps account for why students smoke more during stressful periods such as final exams, or at parties, which are also stressful.

Alcohol is the most common abused substance in the republic of Uganda. Alcohol is the common name for ethyl alcohol, the intoxicating element in fermented and distilled liquors. Contrary to popular belief, alcohol is not a stimulant. Lively behaviour at drinking parties is actually due to the fact that alcohol is a central nervous system depressant. Large amount of alcohol cause ever-greater impairment of the brain until the drinker loses consciousness. Alcohol does not act as an aphrodisiac. It usually impairs sexual performance, particularly in males. As William Shakespeare observed many years ago, drink "evokes the desire, but takes away performance." When a person is drunk, thinking and perception become dulled or shortsighted, a psychological state that has been called alcohol myopia. Only the most obvious and immediate stimuli catch a drinker's attention. Worries and "second thoughts" that would normally prevent behaviour are extinguished from the drinker's mind. This explains the reason why much behaviour become more extreme when a person is drunk. Alcohol in its entirety reduces anxiety and temporarily makes people feel better about them (Steele & Josephs, 1990). Alcohol evidently is such a seductive drug that must be controlled among users.

Over 160 million Americans use alcohol, and an estimated 20 million of these have a significant drinking problem. A particularly alarming trend is a dramatic increase in alcohol abuse among adolescents and young adults. A national survey of college students in the United State of America found that 17 percent (more than 1 out of 6) are heavy drinkers. For college males, the figure was 25 percent, or 1 out of 4 males' students (Olmstead, 1984). Children of alcoholics must be very careful about drinking. As adults, these people have a high risk of becoming alcohol abusers themselves (Blane, 1988). It has been identified that women also face some distinctive risks of alcohol abuse. For one thing, alcohol is absorbed faster and metabolized more slowly by women's bodies. The result is that women get intoxicated from less alcohol than men do. Women who drink alcohol are also predisposed to liver disease, osteoporosis, and depression. As few as three alcohol drinks a week may increase a woman's risk of breast cancer by 50 percent. In addition, women who abuse alcohol are more likely to face social rejection and stigma than men who drink the same amounts (Gomberg, 1993).

In addition, marijuana and hashish are derived from the hemp plant *Cannabis sativa*. The main active chemical in Cannabis is tetrahydrocannabinol or THC for short. THC is a mild hallucinogen- a substance that alters sensory impressions. Marijuana's typical psychological effects include a sense of

euphoria or well-being, relaxation, altered time sense, and perceptual distortions. At high dosages, however, paranoia, hallucinations, and delusions can occur (Palfai & Jankiewicz, 1991). In all considerations, marijuana intoxication is relatively subtle by comparison to drugs such as LSD or alcohol (Kelly et al., 1991). Statistics has shown that there have been no overdose deaths from marijuana use reported in the United States. However, enough is now known about the effects of marijuana to make it clear that it cannot be considered harmless. Particularly worrisome is the fact that THC accumulates in the body's fatty tissues, especially in the brain and reproductive organs. Even if an individual smokes marijuana just once a week, the body is never entirely free of THC. Scientists recently located a specific receptor site on the surface of the human brain cells where THC binds to produce its effects. These receptor sites are located in large numbers in the cerebral cortex, which is the seat of human consciousness (Matsuda et al., 1990). Studies on long-term users in countries such as Jamaica, Greece, and Costa Rica could not find any physical dependence (Cater, 1980; Rubin & Comitas, 1975; Stefanis et al., 1977). Marijuana's potential for abuse lies primarily in the realm of psychological dependence, not addiction.

Empirically, the approach to interviews and drug test was conducted in a similar setting (Wakiso district) prior to data collection. Out of the 785 cyclists, 450 were tested for illicit drugs and 401 tests were valid. Invalid results were attributed to failure to saturate the swab and were dropped during the analysis. The saliva test kit (12-panel Oral Cube Device) tested the following substances: Marijuana (THC), Cocaine (COC), Amphetamine (AMP), Methamphetamine (mAMP), Opiates (OPI), Phencyclidine (PCP), Benzodiazepines (BZO), Barbiturate (BAR), Methadone (MET), Oxycodone (OXY), Buprenorphine (BUP) and Alcohol.

Group therapy can be described as the treatment of multiple patients at once by one or more healthcare providers. It can be used to treat a variety of conditions such as emotional trauma, anxiety, depression, post-traumatic stress disorder (PTSD), and attention deficit hyperactivity disorder (ADHD). This activity outlines the principles of group therapy and explains the role of the inter professional team such as clinical psychologists, psychiatrists, social workers, occupational therapists, and counsellors in evaluating, treating, and improving care for patients who undergo group therapy (Malhotra & Baker, 2023).

Group therapy is looked at by some patients and mental health professionals as the second-best individual therapy. Groups are mostly found in outpatient agencies and hospitals, where they are used to treat individuals with severe and acute conditions. In private practice, it is observed that group therapy makes up at most 5% of treatment, with 95% of resources going into individual therapy. But group therapy is as effective as individual therapy for a wide range of symptoms and conditions, and it is more efficacious, allowing a single therapist to reach many people at once. In most cases, groups can be even more effective than individual therapy, compliments to the stigma reduction and solidarity that people experience in the presence of their peers (Dappas, 2023).

Group therapy can be particularly fruitful for people of marginalized identities, offering support and solidarity from others with similar experiences. For instance, a meta-analysis of a group intervention for trauma and depression in refugee adults and children led by Maryam Rafieifar, a social worker now at Montclair State University in New Jersey, found reduced symptoms of posttraumatic stress and depression after group therapeutic sessions. (Research on Social work practice, 2022).

Research has also found that group therapy can help patients identifying as lesbian, gay, bisexual, transgender, queer, or questioning(LGBTQ)cope with universal stressors and stressors stemming from coping with bias as well as other challenges related to their minority status (Craig, et al, 2021). In the starting stages of group therapy, the group leader must work to establish group rules and regulations and foster group cohesion. Cohesion is one of the most important predictors of outcomes of group therapy (Burlingame, G.M. et al. 2018).

Prior to the pandemic, online groups were often considered best than in-person groups, said Weinberg, who has long conducted virtual group therapy. The pandemic changed that perception, though virtual groups are still less well-studied than in-person groups. A pre-pandemic meta-analysis by Mayo Clinic Psychiatrist Melanie Gentry and colleagues found similar outcomes between video teleconference group therapy and in-person group therapy (Gentry, 2019). A recent survey of clinicians' practices with substance use treatment found that clinicians often conducted therapy in groups (Wendt D., 2017).A group format is often used in substance use treatment (Stinchfield RD et al, 1994) and aftercare (Fisher MS et al, 1996).

Group therapy may be an instrumental part of your addiction treatment plan. Group therapy helps aid in the long-term recovery process by providing patients with the skills they need to prevent relapse. Group therapy sessions can be conducted in varied therapeutic settings and levels of care, including hospital-based inpatient programs, residential programs, and outpatient recovery programs. For someone committed to ending their drug use and beginning a period of recovery, group therapy is an option that can be as effective as individual sessions.

Advantages of Group Therapy

Group therapy has a number of elements that equal or surpass individual therapy, such as the ability to:

- Offer members education about the recovery process.
- Provide support and motivation from peers to maintain recovery goals.
- Give members the opportunity to observe issues encountered by others in recovery and observe their methods of problem-solving.
- Empower group members by encouraging them to offer assistance and feedback to other members.
- Teach healthy coping skills to manage daily stressors without resorting to substance use.
- Boost structure and routine in the lives of group members.
- Build a sense of optimism, self-worth, and belief in the group members.
- Develop relationships between group members that can be used outside of sessions for support and encouragement.
- Effectively treat many individuals simultaneously with one therapist, allowing those clients quicker access to therapy.
- Utilize therapeutic tools (such as challenging irrational beliefs and confronting poor decision-making) to modify behaviors.

CASE- SCESCENARIO

Group therapy for patients with drug misuse among 30 hospitalized patients in the Psychiatric Wards of Kampala International University Teaching Hospital, Western Campus Ishaka Uganda.

a) Screen for eligibility:

Inclusion criteria: every patient with drug misuse: 15 patients are included

Exclusion criteria: Patients who:

- Refuse group therapy as a viable treatment option.
- Cannot maintain confidentiality and are at risk of breaking group rules.
- Are currently in crisis with severe, unmanageable symptoms.
- Struggle to build suitable relationships.
- Experience extreme stress around other people and new situations.

3 patients have been excluded: 12 patients were eligible

b) **Preconsent screen**: 10 give informed consent

c) **Post consent:** only 9 were ready to participate in the group session

Group therapy sessions:

Sessions	Number of participants	Techniques used
1	9 (5 males and 4 females)	**Psycho-education groups:** - To recognize the impact of substance use. - About their condition, the barriers to recovery, and how to live a drug-free life. - Beneficial skills like relaxation, meditation, healthy eating, and anger management. They will be informed that from intake interview and the test administration done by the clinicians. They were rated high on substance use and the reason for the group therapy was to equip them with skill to manage the condition.
2	8 (4 males and 4 females)	**Skills development groups:** A recap of the previous session was done, and application of token economy. • To recognize the impact of substance use. Handling triggers to engage in substance use or related behaviors. • Positively interacting and communicating with others. • Identifying and modifying responses to anger. • Improving parenting skills.

		• Managing financial responsibilities. • The Therapists/ researchers gave the patient home work assignment to read about substance use and its effects on users.
3	7 (4 males and 3 females)	**Cognitive Behavioral Therapy Groups:** A recap of the previous session was done and home work assignment given in the previous session was reviewed. Token economy was applied. • Identify the members' distorted beliefs and problematic behaviors. • Teach and encourage the use of new thinking and behavior patterns. • Offer relapse prevention training. • The therapist gave the patients home work assignment to read about substance use and why they should stay out of it.
4	7 (4 males and 3 females)	**Support Groups:** Token economy was applied. The principal focus of a support group is to offer care and understanding to all members of the group. This support will come from the group leader and from one member to the others. The leader will help members to improve their interpersonal skills as they engage in group discussion, share experiences, and help each other resolve their challenge
5	5 (3 males and 2 females)	• **Interpersonal Process Groups:** attempt to promote healing in members through an understanding of psychodynamics. How each member is feeling and functioning in the group. • How the members are interacting with each other. • How the group is performing as a whole. • The patient participants were thanked for participating in the group therapy.

Results:

Among the nine patients who began the group psychotherapy sessions, only five patients completed all 5 sessions. One patient left after the first group therapy session, another one after the second group therapy session, and 2 patients left after the fourth group therapy session.

After the first group psychotherapy session, most patients gain insight into substances misuses even if some were still in the pre-contemplation stage of change. After the second group psychotherapy

session, most of the patients were in the contemplation stage of change and some were in the preparation stage of change. The five patients who completed the five sessions had appreciable insight into their condition and were ready to leave substance abuse, and were following the plan they have implemented during the therapeutic sessions to leave the use of substances.

Discussion

Group therapy that is offered in an inpatient setting appears to be more effective at helping patients overcome their addiction by focusing on treating anxiety, painful withdrawal, and symptoms of depression. Patients who are asked to come into a facility for weekly sessions are less likely to complete the entire program, often due to a lack of motivation to continue. The therapists motivated the patient to attend and complete their therapeutic sessions. The token economy as a behaviour modification technique used to reinforce the positive behaviour of the patients and invariably motivated them to complete the sessions. After the first session with 9 patients, a voucher was given to the various patients present that will be exchanged with grilled chicken parts in the second session. In the second session, one patient did not attend the group therapy, and participants reduced to 8 patients. In continuation of the therapy, the voucher was retrieved and exchanged with grill chicken parts. They were given to eat and enjoy the grilled chicken parts before the next session. Seven patients attended the third session (cognitive behaviour therapy group). After the third session, the patients was again given a voucher that will be exchanged with Ugandan meal called (katungu) in the fourth session. The seven patients that attended the third session fourth session (social support). During the communication of the therapists with the patient, they found out that there was appreciable level of improvement among the patients. As a follow up, the patients were once again issued another voucher that will be exchanged with apples in the next session. Five patients attended the fifth session of the group therapy (interpersonal process groups). Before the commencement of the fifth session, the voucher given to them in the fourth session was exchanged with the apples. The patients were given 10 minutes to enjoy their apples. After eating the apples, the therapists interacted with the 5 patient present, and they found out that there was a tremendous improvement in attitude towards drug misuse. Finally, the patients resolved to quit drugs and adhere strictly to their medication. At the end, the patients after their discharge were individually and systematically integrated back to their various communities. The group therapy session lasted for five weeks, and was conducted for two sessions in a week. The group therapy was achieved through the application of behaviour reinforcement of token economy in the therapeutic milieu.

Group therapy has been found to be effective as individual therapy for an array of symptoms and conditions. In recent series of eleven meta-analyses encompassing 239 studies comparing groups with individual therapy, group therapy was found curative for depression and bipolar disorders,

schizophrenia, anxiety disorders, social anxiety disorder, panic disorders, obsessive-compulsive disorders, borderline personality disorder, substance use disorders, and chronic pain (Rosendahl, et al. 2021). Therefore, assessing a patient's motivation to change at the initiation of treatment is an important factor in predicting whether or not the individual will completely recover.

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Conflicting Interest

The authors hereby declare that there are no conflicting interests.

Authors Contributions

All authors contributed to read, and approved the final manuscript.

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Availability of data

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Ethics approval and consent to participate

The study was conducted in accordance with ethical guideline of the Kampala International University, Western Campus. The study was performed by the ethical standard outlined in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. Participants provided written informed consent.

Consent for publication

All Authors consented to the publication of this manuscript.

References

Abramson, R. (1993). EPA officially links passive smoke, cancer. Los Angeles Times, Jan. 8, A 27.

Blane, H.T. (1988). Prevention issues with children of alcoholics. *British Journal of Addiction*, 83(7), 793-798.

Brownell, K.D., Greenwood, M.R.C., Stellar, E. & Shrager, E.E. (1986). The effects of repeated cycle of weight loss and regain in rats. *Physiology and Behaviour, 38, 459-464.*

Burlingame, G.M., McClendon D.T., Yang C. (2018). Cohesion in group therapy: A meta-analysis. Psychotherapy (Chic). 2018 Dec; 55(4):384-398.doi:10.1037/pst0000173.PMID: 30335452.

Byck, R. (1987). Cocaine use and research: Three histories. In Fisher, S., Raskin, A. & Uhlenhuth, E.H. (Eds.), Cocaine: *Clinical and behavioural aspects*. New York: Oxford University Press.

Cater, W.E. (Ed) (1980). Cannabis in Costa Rica. A study of chronic marijuana use. Philadelphia: Institute for the study of human issues.

Christian, A.G. & McDonald, J.L. (1987). Smokeless tobacco country: From nicotine dependence to oral problems and cancer. *Aviation, Space, & Environmental Medicine*, 58(2), 97-104

Craig, S.L., Eaton, A.D., Vivian, W., Leung, Y., Gio, L., Pang, N., Dillon, F., Austin, A., Pascoe, R & Dobinson C. (2021). *BMC Psychology* 9, Article number: 94. Online, 2021.

Cregler, L.L., & Mark, H. (1985). Medical Complication of Cocaine Abuse. *New England Journal of Medicine, 315*(23), 1495-1500.

Dappas, S. (2023). Group therapy is as effective as individual therapy and more efficient. Here's how to do it successfully. American Psychological Association. *Monitor on Psychology*. Continuing Education. Vol. 54 No2. Print version: Page 30.

Fisher, M.S., Sr, Bentley K.J. (1996). Two group therapy models for clients with a dual

diagnosis of Substance abuse and personality disorder. *Psychiatr Serv.* 47(11):1244–50.

Foreyt, J.P. (1987b). The addictive disorders. In Wilson, G.T., Franks, C.M., Kendall, P.C.& Foreyt, J.P. Review of behaviour therapy: Theory and Practice, Vol. II. New York: Guilford.

Gawin, F.H. (1991). Cocaine addiction. Psychology and neurophysiology. Science, 251(5000), 1580-1586.

Gentry, M. (2019). *Journal of Telemedicine and Telecare.* Vol.25, No. 6. 2019.

Grant B.F., Saha T.D., Ruan W.J., Goldstein, R.B., Chou SP., Jung J, et al… (2016).
Epidemiology of DSM-5 drug use disorder: results from the National Epidemiologic Survey on alcohol and related conditions-III. *JAMA Psychiatry*. 2016; 73(1):39–47.

Gomberg, E.L. (1993). Women and alcohol: Use and abuse. *Journal of Nervous and Mental Disease*, 18(4), 211-219.

Hammer, S., & Hazleton, L. (1984). Cocaine and the chemical brain. *Science Digest*, 92, 58-61, 100-103.

Hughes, J.R. (1992). Tobacco withdrawal in self-quitters. *Journal of Consulting & Clinical Psychology*, 60(5), 689-697.

Hurley, D. (1989). The search for cocaine's methadone. *Psychology Today,* July/August., 59-60.

Isner, J.M., Estes, N.A.M, Thompson, P.D., Constanzo-Nordin, M.R. et al., (1986). Acute cardiac events temporally related to cocaine abuse. *New England Journal of Medicine, 315*(23), 1438-1443.

Julien, R.M. (1988). A primer of drug action. San Francisco: Freeman.

Kelly, T.H., Foltin, R.W., Emurian, C.S., & Fischman, M.W. (1990). Multidimensional behavioural effects of marijuana. *Progress in Neuro-psychopharmacology & Biological Psychiatry*, 14(6), 885-902.

Koop, C.E. (1988a). *The health consequences of smoking*. *Addiction.* United States Surgeon

General's Report. Washington DC: United States Government Printing Office.

López et al. (2021). Substance Abuse Treatment, Prevention, and Policy, 16:51 https://doi.org/10.1186/s13011-021-00371-0.

Malhotra, A., Baker, J. (2023). Group therapy. [updated 2022 Dec 13]. In: Stat Pearls [Internet].Treasure Island (FL): Stat Pearls publishing; 2023 Jan-

Matsuda, L.A., Lolait, S.J., Brownstein, M.J., Young, A.C., & Bonner, T.I. (1990). Structure of a combined receptor and functional expression of the cloned cDNA. *Nature*, 346(6284), 561-564.

Olmstead, B. (1983). More heavy drinks in colleges. *Los Angeles Times*, Feb.17.

Palfai, T. & Jankiewicz, H. (1991). *Drugs and human behaviour*. Dubuque, IA: Wm. C. Brown.

Patterson, E.W., Myers, G., & Gallant, D.M. (1988). Patterns of substance use on a college campus. A 14-year comparison study. *American Journal of Drug and Alcohol Abuse, 14*(2), 237-246.

Pursch, J.A. (1983). Cocaine can give you the business. *Los Angeles Times,* June 12, Part VII, 12.

Rehm J, Marmet S, Anderson P, Gual A, Kraus L, Nutt D.J., and et al…(2013). Defining substance use disorders: do we really need more than heavy use? Alcohol. 2013; 48(6):633–40.

Reif, A.E. (1981). The causes of cancer. American scientist, 69, 437-447.

Research on Social Work Practice, Vol.32, No.1, (2022).

Rosendahl, J., Alldredge C.T., Burlingame, G.M., Strauss B. (2021). Recent Developments in Group Psychotherapy *Research. Am J Psychother*. 2021 Jun 1; 74(2):52-59. doi:10.1176/appi.psychotherapy.20200031.Epub 2021 March 22. PMID: 33745284.

Rubin, V., & Comitas, L. (Eds.). (1975). Ganja in Jamaica. The Hague. *Mouton*.

Schachter, S. (1978). Pharmacological and psychological determinants of smoking. In R.E. Thorton (Ed.), *Smoking behaviour*. Edinburgh, U.K: Churchill Livingston.

Stefanis, C., Dombush, R.L., & Fink, M. (1977). Hashish. A study of long-term use. New York: Raven.

Stinchfield R.D., Owen P., Winters K. (1994). Group therapy for substance abuse: A review of the empirical research. In: Burlingame AFG, editor. *Handbook of group psychotherapy*. New York: Wiley; p. 458–88.

Steele, C.M. & Joseph, R.A. (1990). Alcohol myopia. American Psychologists, 45(8), 921-933.

Wendt, D. (2017). Group therapy for substance use disorders: a survey of clinician practices. *J Groups Addict Recove*r. 12(4):243 EOA.