Pink Cloud Syndrome Among Ruled Drug Users in Iligan City Drug Treatment and Rehabilitation Center (ICDTRC)

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Abstract

Substance abuse is a global challenge with an inimical effect on an individual's health. It has been associated with crime, violence, risky behaviour, and poor health consequences. The term "Pink Cloud" is used to describe a state in which a person undergoing treatment manifests euphoria, overconfidence, and a false sense of well-being, therefore making them vulnerable to relapse. This study determined the demographic profile, and risk status for relapse, and motivation, readiness for and retention in treatment of ruled drug users in ICDTRC and their corresponding relationships with one another. The researchers utilized a descriptive-correlational design and two modified questionnaires were employed to 22 respondents. The data obtained were analyzed through Pearson Correlational Formula.

It was found that 13 or 59% of the respondents are not at risk for relapse. There is a direct relationship between their risk status for relapse and gender, educational attainment, marital status, employment status, and length of stay in rehab. Furthermore, majority of the respondents have medium to high motivation, readiness for and retention in treatment, which has an inverse relationship with their age, marital status, employment status, and length of stay in rehab.

The researchers conclude that men have a higher rate of drug abuse than women and being single, unemployed, having a high education level and low income may increase one's risk for drug use. Additionally, single, unemployed, and younger respondents who stayed for less than 90 days in rehab tended to have better motivation to retain treatment. Thus, it is imperative for symptoms of relapse to be continually assessed throughout the treatment program to promote a lasting recovery. Increasing awareness on Pink Cloud Syndrome and its symptoms through health teaching and use of a targeted treatment approach for each individual are also recommended to improve treatment outcome.

Keywords: *substance abuse relapse; Pink Cloud Syndrome; motivation; treatment*

I. INTRODUCTION

Illicit drug use remains to be an emerging and persistent global concern today. It is regarded as a major threat to health as it affects the physical and mental well-being of its users, which in turn affects their families and communities (Kassani, Niazi, Hassanzadeh, & Menati, 2015). There are many reasons as to why people choose to use illicit drugs, but what these drugs have in common, regardless of its kind, is the sense of euphoria it gives the user which might be initially perceived as a positive effect. Adversely, its long-term use causes alterations in the brain structure and function which may persist even after the cease of its use, and that is when it becomes an addiction (NIDA, 2007).

Addiction is defined as a chronic disease of brain reward, motivation, and memory circuitry and it exists in many forms (ASAM, 2011). This study focuses on addiction to drugs which has a defining characteristic of the user's inability to exert control over the impulse to use drugs despite its harmful consequences. Given the chronic nature of the disease, it involves cycles of relapse and remission. Drug addiction has a relapse rate of 40-60% which resembles that of chronic diseases such as hypertension, diabetes and asthma (NIDA, 2012). More specifically, two-thirds and four-fifths of adults and adolescents begin using drugs again after having gone to treatment (Ramo & Brown, 2008).

It is estimated that 247 million people or 1 in 20 adults between the ages 15 and 64 years old used at least one drug in the year 2014. 29 million of this population suffer from drug use disorders, but only 1 in 6 people is in treatment (UNODC, 2016). In the Philippines, as of year 2004, there was an estimate of 6.7 million drug users. Additionally, based on a statistical analysis done by the Dangerous Drugs Board in 2015, 20% of the reported cases in rehabilitation centers are re-admission cases, which cover the individuals who have relapsed and gone back to rehabilitation centers to seek treatment.

Pink Cloud Syndrome is a common phenomenon experienced by those who are in early recovery; it is characterized by euphoria, delusions, and the incapacity to meet the reality of one's situation (Abdullah, Ali, & Duncano, 2015). The individual then becomes complacent and stops making a conscious effort to stay in recovery, placing him more vulnerable to triggers which can lead to relapse.

This study is aimed at assessing the Advanced Warning Signs of Pink Cloud Syndrome, (PCS) or simply the risk status for relapse of ruled drug users as well as determining their Circumstances, Motivation, and Readiness for

Treatment (CMRT) and then determining any significance in the results. This will help indicate whether the current treatment approach utilized is effective or not.

A. *Theoretical Framework*

Brain Disease Model of Addiction

Researches done over the last two decades have supported the claim that addiction is a disease of the brain (Volkow, Koob, McLellan, 2016). This theory highlights the development of addiction and individual differences in susceptibility to and recovery from it. It is characterized by altered brain structure and functioning. These brain abnormalities cause persons with this disease to become addicted to the substances or activities, once exposure to these substances or activities occurs. This model considers addiction irreversible once acquired. It is claimed that the behavior of an addict is not normal because of its compulsive tendencies. The changes in the brain are the result of overpowering urges to use a drug again. Another concept that arises in this theory is that of craving, these 'urgent and overpowering desires' are feelings that drives an addict to perform whatever steps necessary and feasible to achieve the object of addiction. This entity of drug addiction is so strong that it encompasses all other considerations in a single-minded search for the object of desire. This is

where compulsion comes into this theory, it appears that an addict has no real choice whether or not to take the drug. The main overlying argument against the disease model is that it does not address the physical and psychological dependence (West, 2005).

Opponent Process Theory

According to Richard Solomon and John Corbit's (1974) *Opponent Process Theory of Motivation*, internal reward processes are altered by drug use and that it induces an increase in reward threshold which may result in compulsive drug use. The drug reward process from repetitive drug use is upset by opponent processes that have a homeostatic function following drug euphoria to restore baseline levels. This leads to a reduction in the effect of the drug and withdrawal symptoms during abstinence.

A Cognitive Model of Drug Urges

The Theory of Drug Urges proposes that compulsive drug use involves more than subjective feelings of craving. It involves enactment of highly automated action sequences that are motivated by cue-response actions. This theory is designed to explain the relationship between environmental cues and reports of craving and the fact that relapse to an addictive behavior often occurs in the absence of cravings. According to the theory, craving should be

divided into two dimensions. One dimension is a feeling of urgent need linked with withdrawal symptoms and the other arises from expectation of pleasure from the activity concerned. This theory also stems from a need to integrate cognitive processing models along with motivational systems that do not involve conscious awareness. It recognizes that urges to engage in addictive behaviors does not simply derive from the anticipated pleasure that these will provide.

B. Conceptual Framework

Fig. 1 Conceptual Framework of the Study

As shown in Fig. 1, the independent variable in this study is the "Demographic Profile" of the respondents, namely: age, gender, educational attainment, marital status, employment status, monthly income, and length of stay in the rehabilitation center. The first dependent variable is the "Advanced Warning Signs of Pink Cloud Syndrome" which is interpreted as "No Risk for Relapse" if the respondent gets a score of less than 112 or "Risk for Relapse" if the respondent gets a score of more than or equal to 112; the second dependent variable is the "Circumstances, Motivation, and Readiness for Treatment", which is interpreted as "Low" if the respondent gets a score ranging from 46-54, "Medium" if 55-63, "High" if 64-72, and "Very High" if 73-80. These are indispensable in determining whether the demographic profile of the respondents has a significant relationship with their risk status for relapse & their retention in treatment, respectively.

C. Statement of the problem

It is not uncommon for many individuals to relapse within the first few months after recovery, which suggests that an effort to innovate different treatment programs should be made, especially ones that focus on the prevention of relapse. This study focuses on the assessment of advanced warning signs of PCS and the circumstances, motivation, and readiness for treatment of the respondents who are currently undergoing treatment in the rehabilitation center.

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D. *Objectives of the study*

Specifically, this study aims to:

1. To determine the demographic profile of the respondents as to:

    1.1 Age

    1.2 Gender

    1.3 Educational Attainment

    1.4 Marital Status

    1.5 Employment Status

    1.6 Monthly Income

    1.7 Length of Stay in the Rehabilitation Center

2. To determine the Advanced Warnings Signs of PCS scores or simply the risk status for relapse of the respondents

3. To determine if there is a significant relationship between the demographic profile of the respondents and their Advanced Warnings Signs of PCS scores

4. To determine the Circumstances, Motivation and Readiness for Treatment (CMRT) Scales of the respondents or simply their motivation, readiness for and retention in treatment

5. To determine if there is a significant relationship between the demographic profile of the respondents and their Circumstances, Motivation and Readiness for Treatment (CMRT) Scales

E. *Null hypotheses*

    $H_0 1$: There is no significant relationship between the demographic profile of the respondents and their risk status for relapse.

    $H_0 2$: There is no significant relationship between the demographic profile of the respondents and their motivation, readiness for and retention in treatment.

F. *Significance of the study*

This study can help us gain a better understanding of the chronic nature of drug addiction and its treatment, at the same time, relieve the stigma that our society holds against drug addicts. This study assesses whether the ruled drug user in rehabilitation is at risk for relapse or not, and determines their motivation, readiness for and retention in treatment. The results of this study can be used as baseline data to determine the efficacy of the current treatment approach utilized by the rehabilitation center.

The following individuals/groups will benefit from this study in ways as follow:

1. **Respondents** - This study assesses the risk status of relapse of the respondents and determine their motivation, readiness for, and retention in treatment. Once results are communicated, it will increase their awareness on Pink Cloud Syndrome, and will allow for a better understanding of their condition, specifically what recovery entails after rehabilitation. It will help them keep their conscious effort to stay in recovery and prevent likely relapse in cases of lack of awareness and complacency.

2. **Community** – The results of this study will help the community understand that addiction is a chronic disease of the mind, which does not differ from other chronic diseases of the body such as hypertension and diabetes. Treatment approach may differ from one person to another and may even need to be modified at some point to suit the needs of an individual. The community plays a big role in their recovery as it is through their moral support that these individuals are engaged back to function productively in the society and are able to maintain a healthy lifestyle after rehabilitation.

3. **Department of Health (DOH)** – The data obtained from this study can help determine the efficacy of their standard treatment program in rehabilitation centers and can be used as basis to improve these programs. Also, it will help the department innovate programs that focus on the prevention of relapse after treatment.

4. **Future Researchers** - The outcome of this study provides future researchers with baseline data of the respondents' risk status for relapse and their motivation, readiness for and retention in treatment for those who are undergoing the standard treatment program in the rehabilitation center.

G. Scope and limitations

This study aims to assess the Advanced Warning Signs of PCS or the risk status for relapse of the respondents, and measure their motivation, readiness for and retention in treatment. It will then be determined if there is a relationship between the respondents' demographic profile and their risk status

for relapse and their motivation, readiness for and retention in treatment, respectively.

The respondents of this study are ruled drug users from year 2016-2017 who are within 6 months under rehabilitation or have almost completed their rehabilitation. The respondents are chosen regardless of gender and are within the age bracket of 18-60 years old. This study is conducted within Iligan City, Lanao del Norte specifically, in Iligan City Drug Treatment and Rehabilitation Center (ICDTRC).

H. Definition of terms

For consistency and better interpretation of the study, the following terms are conceptually and operationally defined:

- **Addiction –** persistent, compulsive dependence on behaviour or substance or a condition of being addicted to a particular substance, thing, or activity. The term has been partially replaced by the word *dependence* for substance abuse (operational)

- **Barkada** – Filipino street slang for a group of friends or a gang of youth with common activities and interests (operational)

- **Educational Attainment –** refers to the highest level of education an individual has completed (operational)

  a. **College level / graduate**

  b. **High school level / graduate**

  c. **Elementary level / graduate**

- **Income –** earnings measured by money in a given period of time

  a. **High income** - ample amount of earnings

  b. **Middle income** - adequate amount of earnings

  c. **Low income**- insufficient amount of earnings

- **Pink Cloud Syndrome (PCS)** – a dangerous euphoria, delusion, and the inability to accept or meet the present circumstances (operational)

- **Relapse** – resuming the use of a drug or a chemical substance after one or more periods of abstinence (conceptual)

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- **Rehabilitation** – the process of restoring to a productive condition of health after a drug problem (operational)

- **Ruled Drug Users** – legally considered to be drug users by judicial procedure (operational)

II. REVIEW OF RELATED LITERATURE

This chapter presents the related literature and studies after an in-depth pursuit done by the researchers. It contains different standpoints from previous studies, facts, and relevant statistical findings about drug use, addiction, rehabilitation, and relapse, all of which are expedient in strengthening the context of our study.

A. *Related Literature*

The term "Pink Cloud" was first described by Alcoholics Anonymous. It is the period where an addict or an alcoholic feels a slight euphoria in early recovery. People experiencing this phase are overconfident about staying clean and sober. They tend to be too high on life and are at risk for relapse. According to Dangerous Drug Board, there are total of five thousand four hundred-two (5, 402) admitted to different facilities and about one thousand seventy-seven (1,077) of these drug users are reported to have relapsed. Because of optimism, addicts would most likely stop seeking help and are less motivated to continue recovering. Physiological, psychological, and social triggers may cause the individual to relapse.

Relapse is defined as "the reinstatement of addictive behavior, thoughts, and feelings after a period of abstinence" (Ibrahim & Kumar, 2011). Chances of relapse among drug addicts during early recovery is usually high. The goal of the treatment is to help individuals recognize and be aware of the possible warning signs in the occurrence of relapse. One of the most common reasons of drug relapse is that addicts may feel very positive about their recovery. They begin to experience excitement about being free from addiction. According to some authors, relapse is complex, dynamic and unpredictable. It can occur anytime during the recovery process. Self-efficacy, as defined by Albert Bandura, is the degree to which an individual feels confident and capable of performing a certain behavior in a specific situational context (Ibrahim & Kumar, 2011). Drug addicts who have low self-efficacy would most likely be back to addiction after getting rehabilitation and treatment (Abu Samah, Ibrahim, & Kumar, 2011). For the treatment to be effective, different methods of therapies should be given to addicts.

B. *Related Studies*

Illicit Drug Use As A Global Concern

Illicit drug use is progressively becoming a worldwide trend in lifestyle that is prevalent in rich and poor countries alike and is regarded as a major health problem (Ali et al., 2011). It is estimated that a total of 246 million people, or 1 out of 20 people between the ages 15-64 years used illicit drug in 2013. More than 1 out of 10 drug users are problem drug users who have substance abuse disorder and there is an estimate of 27 million people who suffer from it. 1.65 million of this population are people who inject drugs (PWIDs) and have contracted HIV in 2013 (UNODC, 2015). PWIDs are ones of the most at risk for HIV infection because sharing of injecting equipment is a highly effective way of transmitting HIV and other blood-borne diseases such as Hepatitis B and C (Akindipe, Abiodun, Adebajo, Lawal, & Rataemane, 2014). Substance abuse disorder is a group of cognitive, behavioral and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems. There is an evident behavioral change caused by a change in the underlying brain circuits which may be exhibited by intense drug cravings and repeated relapses even after treatment (APA, 2013).

Substance abuse disorder impairs an individual's ability to respond appropriately to situations which cultivates illegal activities by the user(s) or makes them more vulnerable to victimization (De Jesus et al., 2009). This leads to numerous harmful consequences and people of all ages suffer from these. Babies exposed to drugs in utero may be born premature and underweight. This exposure can hamper the child's intellectual development and affect their behavior later in life. Adolescents are at risk for unplanned pregnancies, violence, and transmission of infectious diseases. Adults who abuse drugs often have memory and attention problems which lead them to develop and exhibit unwanted social behaviors. Their work performance and personal relationships suffer. Parents' drug abuse often means chaotic, stress-filled homes, as well as child abuse and neglect. Such conditions harm the well-being and development of children in the home. It becomes a vicious cycle of drug abuse to be passed onto the next generation (NIDA, 2007).

Addiction

Addiction is defined as a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, albeit harmful consequences (NIDA, 2009). While it is not a specific diagnosis in the fifth edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-V), it is used to describe more

extreme presentations of Substance Use Disorder, which is the neutral term to describe its wide range as a disorder (APA, 2013). It causes important derangements in pathways affecting reward and cognition (Fowler, Volkow, Kassed, & Chang, 2007) and is characterized by compulsive drug-taking, losing control and having a negative emotional state (Koob & Volkow, 2010).

The nature of addiction is frequently deliberated as either a personal lifestyle choice or a biological vulnerability. Using drugs initially is a voluntary behavior, but using drugs continuously impairs brain function by interfering with the capacity to exert self-control over drug-seeking behaviors and rendering the brain more sensitive to stress and negative moods (Volkow & Morales, 2015).

Drugs work in the brain to produce pleasure by flooding its reward system with dopamine. Dopamine is a neurotransmitter that regulates movement, emotion, motivation, and feelings of pleasure. When it is activated at normal levels, this system rewards our natural behaviors like eating, listening to music, and having sex. Overstimulating this system with drugs produces euphoric effects. This strongly reinforces the behavior of drug use, warranting the user to repeat it. The brain copes with the surge of dopamine by producing less dopamine or by reducing the number of receptors that can receive signals. The impact of dopamine on the reward circuit of the brain then becomes abnormally low, reducing a person's ability to experience any pleasure. This is why a person who abuses drugs eventually feels flat and cannot find any pleasure from things that were previously pleasurable (NIDA, 2007).

Factors Leading to Drug Use

According to Griffin & Botvin (2011), most people use drug for two different reasons; it can either be for self-treatment or for recreational purposes. Self-treatment reasons include relief of psychological pain, treatment for infection or illnesses, alleviation of depressed mood, increased concentration and achieve weight loss, while recreational reasons such as becoming intoxicated, having fun and physical or psychological pleasure.

The risk factors that may lead an individual to use drugs are divided into three categories: familial, social, and individual risk factors. Family plays an important role in an individual's life. Conflict within the household can amplify stress and cause some to seek an escape through the use of substances. Social factors that contribute to increased risk for substance use include deviant peer relationships, popularity, bullying, and association

with gangs. Social situations, especially to young people, can be tolerant of heavy substance abuse and may begin developing addictive behaviors. Individual risk factors are common among any age groups. Those who are diagnosed with mental illness are at greater risk for substance abuse. Most of these users suffer from depression, post-traumatic stress disorder, and attention deficit hyperactivity disorder (Whitesell, Bachand, Peel, & Mark Brown, 2013).

Stress is also identified as a risk factor in the development of addiction. Negative life events such as parental loss, divorce and conflict, low parental support, physical violence and abuse, emotional abuse and neglect, isolation and deviant affiliation, and single-parent family structure have all been associated with increased risk of substance abuse. These stressors are often highly emotionally, distressing events that are uncontrollable and unpredictable (Sinha, 2008).

Adolescent Drug Use

Adolescence is a crucial period of brain development and mind-altering substances could potentially have more of an effect at this stage compared with other age groups. When substance use disorders occur in adolescence, they affect key developmental and social transitions, and they can restrict with normal brain maturation. There are many reasons as to why adolescents are drawn to use these substances, including the desire for new experiences, an attempt to deal with problems or perform better in school, and simple peer pressure (NIDA, 2014). The decision to use a drug is based on a rational appraisal process, rather than a passive reaction to the context in which a substance is available (Gorski, 2001). Young drug users are most likely to be involved in multiple drug use – the use of different psychoactive substances simultaneously. Most of these young drug users exhibit risky behaviors such as illicit substance use, binge drinking, gambling and sexual activity (Collins, 2015).

Co-morbidity of Mental Illness & Drug Abuse

Psychiatric disorders and substance abuse disorders are highly co-morbid (Kelly & Daley, 2013). Drug abuse affects a person's physical, psychological and well-being. The first onset of mental disorders usually occur in childhood or adolescence. Persons diagnosed with mood or anxiety disorders and antisocial personality disorder are about twice as likely to suffer also from a drug use disorder. Patients who have both a drug use disorder and another mental illness often exhibit symptoms that are more persistent, severe, and resistant to treatment compared with patients who have either disorder alone (Kessler et al., 2007). The more severe

the mental illness and the substance abuse problems are, the more dysfunctional thought processes, impaired decision-making skills, and the lack of insight diminish the ability to recognize the need for treatment as well as the individuals' ability to seek and participate in it (DiClemente, Nidecker, & Bellack, 2006). Studies shows that 50% of persons with mental illness have met the criteria for substance use disorder in their lifetime. Treatment of these individuals is often characterized by lack of therapeutic management, problematic motivation for change, and they are more at risk for having relapse (DiClemente et al., 2006). The identification of psychiatric comorbidity in substance users is important because the effects of substance use disorders can mimic the symptoms of many other mental disorders. Those individuals who have both a substance use disorder and another comorbid mental disorder show more emergency admissions, significantly increased rates of psychiatric hospitalizations and a higher prevalence of suicide than those without comorbid mental disorders. They have increased risks of chronicity and criminality, treatment is difficult and costly, and chances of recovery are reduced (De Jesus et al., 2009).

Drug Abuse in the Philippines

Illegal drug-abuse in the country has become an epidemic (Cerado, 2014). According to International Narcotics Control Strategy Report (INCSR) in 2009, illegal drug use is a significant problem in the Philippines due to corruption and poor law enforcement. Around 93.32% of the admitted cases in rehabilitation centers are males and seven percent 6.68% are females with a mean age of 31 years old. The youngest is 10 years old while the eldest is 67 years old, and the highest percentage belongs to age group of 30 – 34 years old. Methamphetamine Hydrochloride (shabu) is the primary drug of abuse among Filipinos with 96.74 % of the total admission in rehabilitation centers, followed by Cannabis (Marijuana) at 24.94% and Cocaine with 1.11%. The common routes of administration are inhalation/sniffing and oral ingestion (DDB, 2015). In 2012, Philippines has been found to have the highest rate of Methamphetamine Hydrochloride (shabu) use in East Asia (UNODC, 2012).

The statistical figures over the last decade has also revealed a trend towards a decreasing age among drug abusers and most of them are street children. The streets provide the children a way of escaping from the oppressive boredom and lack of creative prospects at home. Rugby has been called a survival drug and is the most commonly used drug by

street children. This drug may seem to have help these children survive physiologically and psychologically (De Jesus et al., 2009). People are most likely to begin using and abusing drugs with the influence of adults, siblings, and peers on inhalant use during adolescence and young adulthood (Ober, Miles, Ewing, Tucker, & D'Amico, 2013).

The Three Stages of Relapse

According to Terence Gorski, there are three stages of relapse: emotional relapse, mental relapse, and physical relapse. These stages occur gradually. It usually begins weeks or months before someone starts using addictive substance again (Melemis, 2015).

The first stage of relapse is the emotional relapse. In this stage, an individual does not think about using drugs, but his/her emotions and behaviors are controlling him/her that may cause them to relapse in the future. Possible signs of having a relapse includes mood swings, isolating himself/herself, not going to meetings – he/she may show up but does not talk, poor eating and sleeping habits, defensiveness, anxiety, intolerance, and anger. These signs of emotional relapse are also similar to the symptoms of post-acute withdrawal syndrome (Melemis, 2015). Treatment plan in this stage is to help client understand the meaning and importance of self care. Patients should always be reminded about

taking care of one's self and making time for themselves. Also, helping clients identify their denial is important. Comparing their current behavior and behavior when relapse occurs will help them know if self care is improving.

The second stage of relapse is the mental relapse. An individual is torn between using and not using drugs. Part of them wants it but part of them also does not. Common signs during this stage includes cravings for addictive substances, thinking about the people, places and things related to past use, bargaining, lying, fantasizing about using, thinking and planning about relapsing (Melemis, 2015). Helping clients avoiding risky behavior is one of the goal of treatment in this stage. Addicts in this stage are usually confused and have a low self-esteem. They would think that if they try to avoid high-risk situations, they are weak. Encouraging patients to share their current situation while recovering is essential to determine the possible factors that may trigger them to use drugs again. With a good coping skills, person can learn to let go of thoughts from using addictive substances again.

The last stage of relapse is the physical relapse. It is when an individual finally starts using drugs again. Researchers divided this stage into "lapse" and "relapse". They defined lapse as the initial drink or drug use and relapse as the return of

uncontrolled using of addictive substances. Once an individual starts to lapse, it quickly leads them to relapse of uncontrolled using. One of the focus in giving treatment to patients involves strategies that develops their skills and rehearsing them to situations that would cause them to relapse. When someone fails to overcome the second stage of relapse, then they are most likely turn to using drugs again.

Incidence of Relapse and Its Prevention

Relapse is the re-use of drugs during 6 months after quitting. It is a common clinical problem in individuals with substance dependence. Results of several studies have suggested that relapse is common after treatment for drug addiction. In a ten-year prospective follow-up study by Xie et al. (2005) has shown that approximately one-third of clients who were in full remission relapsed in the first year, and two thirds relapsed over the full follow-up period. A relatively high rate of relapse (64.0%) has been found in the 6 months follow-up study by Mohammadpoorasl et al. (2012) which support the claim of Rounsaville (1986) that relapse and relapse prevention are the major challenges faced by clinicians who work with addicts. Age, therapeutic residential programming, and, employment appear to be potential factors to consider in the development of

relapse prevention models (Rollins, O'Neill, Davis, & Devitt, 2005).

Having a drug user in the family, being unemployed, staying connected with drug user friends after quitting were main factors associated with relapse. Smoking and having lower hope to quit were two other factors that determined relapse (Mohammadpoorasl et al., 2012).

Most people who are at risk for relapse tend to develop a stress related illness and may become suicidal. Recovering drug users are most likely to experience these warning signs, failure to cope with the situation have increased risk for relapse (Gorski, 2001).

Prevention Programs

Prevention programs helps an individual to cope and manage negative emotions and factors that can possibly trigger them to use substance. It is used to reduce the number of users experimenting with, and potentially developing an addiction to illicit substances ("Alcohol and Drug Prevention and Treatment/Therapy," 2015). Being motivated to perform such behavior is critical to an individual's performance and whether or not a successful outcome is achieved. The person's interest in the need for change is important for the improvement of treatment therapies, the goals and intentions, and the

responsibilities to take and the commitment to change. (DiClemente et al., 2006).

Its ultimate aim is to change behaviors which encourage drug abuse and to reinforce positive behaviors which lead to the rejection of drugs. Risk factors and protective factors have been identified to help determine how drug abuse begins and how it progresses. Risk factors can increase a person's chances for drug abuse and protective factors can reduce the risks. Successful drug prevention programs depend on the contributors and expertise of many segments of our society, such as, the educators, the peers, the medical community and the community leaders.

The success of prevention efforts increases when these segments collaborate and provide clear anti-drug messages to target populations (De Jesus et al., 2009).

There are organizations in the Philippines that aim at preventing drug abuse, especially to students, through the development of desirable values, attitudes and practices. Findings show that the most effective programs target salient risk and protective factors at the individual, family, and/or community levels, and are guided by relevant psychosocial theories regarding the etiology of substance use and abuse. These programs decrease or eradicate the risk of using other substances rather than just preventing the use of harmful substances (Cerado, 2014).

Treatment & Rehabilitation

Recovery from alcohol and drug problems is a process of change through which an individual achieves abstinence, health wellness, and quality of life (Feidler, Leary, Pertica, & Strohl, 2002). Planning the treatment begins with a comprehensive assessment of a person's strengths and weaknesses which are to be addressed during its course. Its goal to help individuals recognize the early warning signs of relapse and to develop coping skills on how to prevent its occurrence. The needs of the person including his or her developmental stage and cognitive abilities and the influence of family, friends, and others in the person's life, as well as any additional mental or physical health conditions should be considered during treatment (NIDA, 2014).

There are several treatment interventions that help patients recover from substance use problems. A variety of approaches have been developed that work with families, schools, and communities to help children and adolescents develop skills and approaches to prevent substance use, and to treat those who develop substance use problems. Involvement of families in treatment services has been considered to be essential,

especially among youths, to strengthen attachment between parent and child and decrease conflict. Other studies have shown family-based treatments to have higher retention rates, which may be related to positive outcomes

("Alcohol and Drug Prevention and Treatment/Therapy," 2015).

In the Philippines, treatment and rehabilitation centers follow the Manual of Operations for Drug Abuse Treatment and Rehabilitation Centers by the Department of Health. The recommended treatment approaches used during rehabilitation are the Multidisciplinary Approach, Therapeutic Community Approach, Hazelden-Minesotta Model, Spiritual Approach, and the Eclectic Approach (DOH, 2003).

III. RESEARCH AND METHODOLOGY

A. *Research design*

This study utilized descriptive-correlational design in order to assess the risk status for relapse of the respondents and to measure their motivation, readiness for and retention in treatment. Quantitative data obtained from both surveys were analyzed using appropriate statistical tools to identify the relationships between the variables defined in the study.

B. *Sampling Procedure*

For the selection of respondents, the researchers employed a purposive sampling method. In using this non-probability sampling technique, the respondents were specifically selected to meet objectives of the study. The researchers identified all the ruled drug users in the treatment and rehabilitation center and selected all of them as respondents. The respondents have a similar characteristic of being ruled as drug users who have been under rehabilitation within 6 months or have almost completed it and who are within the age bracket of 18-60 years old. The sampling was done in Iligan City Drug Treatment and Rehabilitation Center (ICDTRC).

C. *Locale of the study*

Fig. 2 Map of Brgy. Abuno, Iligan City

The collection of data was conducted in Iligan City Drug Treatment and Rehabilitation Center (ICDTRC) which is situated in Sitio Fatima, Barangay Abuno in Iligan City, Lanao Del Norte. It will take 45 minutes via public transportation and 25 minutes via a private vehicle from the city proper to

reach the location. The rehabilitation center has 22 residents of ruled drug users, 14 of whom are males and 8 are females.

D. Respondents of the study

The respondents of this study are ruled drug users from year 2016-2017 who are within 6 months under rehabilitation or have almost completed their rehabilitation. They are also within the age bracket of 18-65 years old.

E. Research Instrument

The researchers utilized two modified questionnaires called "The Advanced Warning Signs of Pink Cloud Syndrome Questionnaire" by Abdullah et al. (2015) and "Circumstances, Motivation, and Readiness for Treatment (CMRT) Scales" by De Leon (1993) to assess the risk status for relapse of the respondents and their motivation, readiness for and retention in treatment, respectively. The data obtained from these questionnaires were used to determine any significance between the variables defined in the study and the efficacy of the current treatment approach utilized by the rehabilitation center. The questionnaires have already been used in previous researches and were approved by a panel of experts; both yield a Cronbach's alpha of 0.738 and 0.70, respectively, which indicate a good level of internal consistency. Questionnaires were designed to be self-administered, but in case there was a language barrier, the researchers translated the questions in order for the respondents to understand. The Advanced Warning Signs of Pink Cloud Syndrome Questionnaire contains 28 Likert type items, and is designed to determine the risk status for relapse of the respondents. The CMRT Scales, on the other hand, is an 18-item instrument which consists of four factor derived scales: Circumstances 1 (external influences to enter or remain in treatment), Circumstances 2 (external influences to leave treatment), Motivation (internal recognition of the need to change), and Readiness for treatment. This instrument was designed to measure the motivation and readiness for treatment and to predict retention in treatment among ruled drug users.

F. Data gathering procedure

The researchers sent a letter of request to the head of Iligan City Drug Treatment and Rehabilitation Center (ICDTRC) which contains information about the research and its purpose. After the request was approved, the head of ICDTRC set the time and date for the researchers to conduct the sampling. The data collection took place on February 24 and February 27, 2017. Upon entering the treatment and rehabilitation center, the researchers were briefly oriented about the residents, and the rules and regulations inside the rehabilitation center. The staff and the residents were assured that the data

obtained will be treated with utmost confidentiality and will not be disclosed elsewhere except for the intended research. The questionnaires were given to 12 male respondents on the first date of sampling, then followed by 2 other males and 8 females on the second date. The two sampling dates were due the unavailability of some of the respondents on either of the said dates. The researchers provided a brief orientation about the purpose of this study and gave instructions as to how to answer the questionnaire. The respondents were instructed to ask the researchers if they have any questions or clarifications concerning the questionnaires and not to leave any question unanswered to ensure data reliability. After the questionnaires were answered by the respondents, the researchers then reviewed the papers, checked if the respondents were able to answer all items.

After the successful collection of data, the researchers tallied, analysed and interpreted the data.

G. Statistical technique

Descriptive statistics was used to describe and analyze the respondent's demographic profile including the age, educational status, marital and employment status, and monthly income. Frequency tabulation and percentage calculation was done on the obtained demographic profile of the respondents.

The main statistical tool utilized in this study is *Pearson Correlational Coefficient Formula* for the purpose of establishing the type and strength of relationships between the independent variable of this study, which is the demographic profile of the respondents, and the dependent variables which are the Advanced Warning Signs of PCS Score and the CMRT Scales, correspondingly. By employing this formula, the interrelationships of the defined variables were determined.

Pearson Correlation Coefficient Formula:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$$

Where,

N = number of pairs of scores

$\sum$ = sum of the products of paired scores

$\sum$ = sum of x scores

$\sum$ = sum of y scores

$\sum$ = sum of squared x scores

$\sum$ = sum of squared y scores

IV. RESULTS AND DISCUSSIONS

This chapter presents the results of data obtained and the corresponding statistical treatment used for analysis and interpretation. A total of 22 residents from Iligan City Drug Treatment and Rehabilitation Center (ICDTRC) were selected as

respondents for this study. The research instruments are modified questionnaires called the Advanced Pink Cloud Syndrome (PCS) Warning Sign Questionnaire and the Circumstances, Readiness and Motivation for Treatment (CMRT) Scales which yield a Cronbach's alpha of 0.738 and 0.70 respectively, which indicate a good level of internal consistency. The Advanced PCS Warning Sign Questionnaire was utilized to determine the risk status for relapse of the respondents, interpreting those who scored <112 as having no risk for relapse and those who scored >112 as having a risk for relapse. The CMRT Scales was used to measure motivation and readiness for treatment and to predict retention in treatment among the respondents, which was categorized into four interval scales: Low (46-54), Medium (55-63), High (64-72), and Very High (73-80).

Specific Objective 1: To determine the demographic profile of the respondents according to: age, gender, educational attainment, marital status, employment status, and monthly income.

TABLE 1. FREQUENCY AND PERCENTAGE DISTRIBUTION (AGE)

Age	Frequency Distribution
19-25	3
26-32	6
33-39	11
40-45	2
Total	22

Table 1 represents the age of the respondents. The minimum and maximum age of the respondents are 19 and 45, respectively. It is shown that majority or half of the respondents are adults whose ages range from 33-39. This coincides with the statistical data by Dangerous Drug Boards (2016), which shows that the mean age of drug abusers is 31.

TABLE 2. FREQUENCY AND PERCENTAGE DISTRIBUTION (GENDER)

Gender	Frequency Distribution
Male	14
Female	8
Total	22

Table 2 represents the gender of the respondents. It is shown that 64% of the respondents are females and the remaining 36% are males. It indicates that males are dominant in number than females. This is supported by a research conducted by National Institute on Drug Abuse (2016), which states that rates of drug abuse are higher in men than in women.

Educational Attainment	Frequency Distribution	Per
Elementary	4	
High School	9	
College	9	
Total	22	

TABLE 3. FREQUENCY AND PERCENTAGE DISTRIBUTION (EDUCATIONAL ATTAINMENT)

Table 3 represents the educational attainment of the respondents. It is shown that 18% of the respondents have reached or finished elementary, and 41%

have reached or finished high school and college, respectively.

According to a research done by the National Survey on Drug Use and Health (2013), college graduates battled drug addiction at lower rates than those who did not graduate from high school or those who did not finish college. This may indicate an increased need for therapy to those who have lower educational attainment.

TABLE 4. FREQUENCY AND PERCENTAGE DISTRIBUTION (MARITAL STATUS)

Marital Status	Frequency Distribution
Single	12
Married	9
Separated	1
Total	22

Table 4 represents the marital status of the respondents. It is shown that out of 22 respondents, 54% are single 41% are married and 5% is separated from his/her spouse. It indicates that majority of the respondents are single.

TABLE 5. FREQUENCY AND PERCENTAGE DISTRIBUTION (EMPLOYMENT STATUS)

Employment Status	Frequency Distribution
Unemployed	
Employed	
Total	

Table 5 represents the employment status of the respondents. It is shown that 64% of the respondents are unemployed and 36% are employed. It indicates that majority of the respondents were unemployed prior to admission in the drug treatment and rehabilitation center. According to a study made by the National Survey on Drug Use and Health (2012), almost twice as many people who are unemployed struggle with drug addiction that those who are full-time workers. Poverty, including low education, lack of family structure, low-skilled employment, and poor physical health may lead an individual to use drugs. It is whether the substance abuse leads someone to become unemployed or the pressure being unemployed leads them to substance abuse.

TABLE 6. FREQUENCY AND PERCENTAGE DISTRIBUTION (MONTHLY INCOME)

Monthly Income	Frequency Distribution	
Less than P10,000	13	
P10,000 – P20,000	6	
More than P20,000	3	
Total	22	

Table 6 represents the monthly income of the respondents. Out of 22 respondents, 59% have less than P10,000 as monthly income, 27% have an income ranging from P10,000-20,000, and 14% have more than P20,000 as monthly income. This indicates that majority of the respondents

have an income of less than P10,000. According to Patrick et al. (2012), lower income may be related to drug use as a coping mechanism due to increased stress and lesser alternative activities.

TABLE 7. FREQUENCY AND PERCENTAGE DISTRIBUTION (LENGTH OF STAY IN REHAB)

Length of Stay in Rehab	Frequency Distribution
Less than 90 days	
More than 90 days	
Total	

Table 7 represents the length of stay in the rehabilitation center of the respondents. Out of 22 respondents, 12 or 55% of the respondents have been under treatment for more than 90 days already. According to a research conducted by the National Institute on Drug Abuse (2012), outcomes for residential or outpatient treatment programs are more successful when an individual participates for 90 days (3 months) or more.

Specific Objective 2: To determine the risk status for relapse of the respondents

TABLE 8. FREQUENCY AND PERCENTAGE DISTRIBUTION (RISK STATUS FOR RELAPSE)

Risk Status	Frequency Distribution
No risk for relapse	13
Risk for relapse	9
Total	22

Table 8 represents the risk status for relapse of the respondents. Out of 22 respondents, 13 or 59% of the total population present no risk for relapse and 9 or 41% are at risk for relapse. It indicates that majority of the respondents are not at risk for relapse, but a considerable number are at risk for relapse.

TABLE 9. COMPLETE LIST OF RAW SCORES (ADVANCED PINK CLOUD SYNDROME WARNING SIGN QUESTIONNAIRE)

Scores (Total:)	Frequency Distribution	Total (Percentage) According to Risk for Relapse	
73	1		
77	1		
80	1		
81	1		
84	1	13 (59%)	
87	1		
96	1		
97	1		
99	1		
100	1		
104	1		
105	1		
110	1		
114	1		
116	2		
117	1		
118	1	9 (41%)	Risk
134	1		
144	1		
151	1		
166	1		

The first column in Table 9 comprises of the scores obtained by the respondents, 73 being the lowest score and 166 being the highest score. The second column shows the frequency distribution of each score. The third column shows the total frequency and percentage distribution of the raw scores. Out of 22 respondents, 13 or 59% obtained a score

of less than 112 and 9 or 41 % obtained a score of more than 112. The fourth column shows the corresponding interpretation of the scores.

Specific Objective 3: To determine if there is a significant relationship between the demographic profile of the respondents and their Advanced Warning Signs of PCS scores or their risk status for relapse

TABLE 10. RELATIONSHIP BETWEEN THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS AND THEIR RISK STATUS FOR RELAPSE

Variable	Pearson
Age	-0.42358
Gender	0.348467
Educational attainment	0.088707
Marital status	0.427925
Employment status	0.41537
Monthly Income	-0.3022
Length of Stay in Rehab	0.482164

The gender, educational attainment, marital status, employment status and length of stay in the rehabilitation center of the respondents have a direct relationship with their risk status for relapse. Female respondents have greater advanced PCS scores than males. This result is supported by a study conducted by National Institute on Drug Abuse (2016), which states that women are more susceptible to craving and relapse than men. It is because women tend to progress more quickly from using an addictive substance to dependence at a faster rate than men. It may then lead to the development of medical and behavioural consequences, which could be why they find it harder to quit from using addictive substances. This may indicate a need for a gender-focused approach in treatment. There is particularly a strong link between educational attainment and their risk status for relapse. This may indicate a need for increased therapy to those who have a lower educational attainment. On the other hand, the age and monthly income of the respondents have an inverse relationship with their risk status for relapse. This means that younger respondents and those who have a lower income tend to be more at risk for relapse. They are usually exposed to stress brought about by their development as individuals and financial problems. These factors might trigger a relapse, thus, proper coping techniques should be taught to these identified vulnerable population.

Specific Objective 4: To determine the Circumstances, Motivation for Treatment (CMRT) Scales of the

respondents or simply their motivation, readiness for and retention in treatment

TABLE 11. FREQUENCY AND PERCENTAGE DISTRIBUTION (CIRCUMSTANCES, MOTIVATION, AND READINESS FOR TREATMENT SCALES)

Motivation, Readiness for and Retention in Treatment	Frequency Distribution
Low	6
Medium	7
High	7
Very High	2
Total	22

Table 11 represents the motivation, readiness for treatment and retention in treatment among the respondents. Out of 22 respondents, 6 or 27% of the respondents have low, 7 respondents have medium, and another 7 respondents have high motivation, readiness for and retention in treatment. Only 2 or 9% of the total population presented with very high chances of retention in treatment.

TABLE 12. COMPLETE LIST OF RAW SCORES (CIRCUMSTANCES, MOTIVATION, AND READINESS FOR TREATMENT SCALES)

Scores	Frequency Distribution	Total (Percentage) According to CMR Scores
46	1	
51	1	
52	1	6 (27 %)
53	2	
54	1	
56	1	
58	1	
59	1	7 (32 %)
60	2	
63	2	
64	4	
65	1	7 (32 %)
66	1	
73	1	2 (9 %)
80	1	

The first column in Table 12 comprises of the scores obtained by the respondents, 46 being the lowest score and 80 being the highest score. The second column shows the frequency distribution of each score. The third column shows the total frequency and percentage distribution of the raw scores. Out of 22 respondents, 6 or 27% obtained scores ranging from 46-54., 7 or 32% of the respondents obtained 55-63, another 7 or 32% of the respondents obtained 64-72, and 2 or 9% of the respondents obtained 73-80. The fourth column shows the corresponding interpretation of the scores.

Specific Objective 5: To determine if there is a significant relationship between the demographic profile of the respondents and their Circumstances, Motivation and Readiness for Treatment (CMRT) Scales

TABLE 13. SIGNIFICANT RELATIONSHIP BETWEEN THE DEMOGRAPHIC PROFILE OF THE RESPONDENTS AND THEIR MOTIVATION, READINESS FOR AND RETENTION IN TREATMENT

Variable	Pearson	Interpreta
Age	-0.03199	Moderate Inverse
Gender	0.010152	Weak Direct Re
Educational attainment	0.261208	Weak Direct Re
Marital status	-0.10981	Weak Inverse R

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Employment status	-0.23801	
Monthly Income	0.245903	
Length of Stay in Rehab	-0.24301	

V. SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings, the conclusions drawn, and the recommendations made by the researchers as an outgrowth of this study.

This study, entitled, Pink Cloud Syndrome Among Ruled Drug Users in Iligan City Drug Treatment and Rehabilitation Center (ICDTRC), primarily aims to assess the Advanced Warning Signs of Pink Cloud Syndrome, or simply the risk status for relapse of ruled drug users and to measure their motivation, readiness for and in treatment. The relationship between the demographic profile of the respondents and the aforesaid dependent variables are also established and thoroughly defined in this study.

A. *Summary of findings*

A total of 22 respondents in a selected rehabilitation center were purposively selected by the researchers to meet the objectives of this study. The

demographic profile of the respondents according to age, gender, educational attainment, marital status, employment status, and monthly income were determined. Two modified and standardized questionnaires were subsequently administered to the respondents, namely "The Advanced Warning Signs of Pink Cloud Syndrome Questionnaire" by Abdullah et al. (2015) and "Circumstances, Motivation, and Readiness for Treatment Scales" by De Leon (1993) to determine the risk status for relapse and to measure the motivation, readiness for and retention in treatment of the respondents. The data collected were encoded for analysis and interpretation using Microsoft Excel 2015.

Findings revealed that the majority of the respondents are aged 33-39 years old, single, males, have reached or finished high school and college, unemployed, have an income of less than P10,000 and have been under treatment for more than 90 days already.

13 or 59% of the respondents scored less than 112 in the Advanced Warning Signs of PCS Questionnaire and are not at risk for relapse and only 9 or 41% scored more than 112 and are at risk for relapse; The corresponding Pearson correlational values and relationship with Advanced Warning Signs of PCS scores for each demographic profile of the respondents are as follow: Age (-0.42458; moderate inverse), Gender (0.348467; moderate direct), Educational Attainment (0.088707; strong direct), Marital Status (0.427925; moderate direct), Employment Status (0.41537; moderate direct), Monthly Income (-0.3022; moderate inverse), and Length of Stay in Rehab (0.482164; moderate direct).

7 or 32% of the respondents obtained scores ranging from 55-63 in the CMRT Scales and have medium motivation, readiness for and retention in treatment, and another 7 or 32% obtained scores ranging from 64-72 and have high motivation, readiness for and retention in treatment; The corresponding Pearson correlational values for each demographic profile of the respondents and relationship with CMRT scales are as

follow: Age (-0.03199; moderate inverse), Gender (0.010152; weak direct), Educational Attainment (0.261208; weak direct), Marital Status (-0.10981; weak inverse), Employment Status (-0.23801; weak inverse), Monthly Income (0.245903; weak direct), and Length of Stay in Rehab (-0.24301; weak inverse).

B .Conclusion

After a thorough analysis, the researchers can draw the following conclusions: There is a direct relationship between the gender, educational attainment, marital status, employment status and length of stay in the rehabilitation center of the respondents, and an inverse relationship between age and monthly income and their Advanced Warning Signs of PCS scores or their risk status for relapse, thus rejecting the first null hypothesis; There is particularly a strong link between educational attainment and their risk status for relapse. This may indicate a need for increased therapy to those who have a lower educational attainment; There is a direct relationship between the gender, educational attainment, and monthly income of the respondents, and an indirect relationship between the age, marital status, employment status, and length of stay in the rehabilitation center and their CMRT Scales or their motivation, readiness for and retention in treatment, thus rejecting the second null hypothesis. Single, younger, and unemployed respondents who stayed for less than 90 days in the rehabilitation center tend to be more motivated to retain treatment.

Specifically, majority of the respondents are aged 33-39 years old, single, males, have reached or finished high school and college, unemployed, have an income of less than P10,000 and have been under treatment for more than 90 days already. Based on these findings, the following can be inferred: Men have a higher rate of drug abuse than women; Being single, unemployed, having a low income and conversely having a high education level may be factors that may contribute to initiating drug use; Also, majority of the research population currently do not

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present a risk for relapse and have medium to high motivation, readiness for and retention in treatment, so it is fair to say that the treatment approach being utilized by the rehabilitation center has produced a positive outcome. However, it is still imperative to monitor ruled drug users for symptoms of relapse in the entirety of treatment to ensure optimal and lasting results. Use of a targeted treatment approach, where in incidence of relapse will most likely be reduced, should also be looked into as an alternative to standardized and conventional treatment programs commonly utilized by most rehabilitation centers.

C .Recommendations

Based on the results of this study, the researchers recommend the following:

- For the Department of Health (DOH) - To spread awareness in different communities about the true nature of drug addiction and possible relapses after treatment; To further improve current standard treatment approaches that will specifically address the problem of relapse, and to develop programs that will continue to look after ruled drug users even after treatment.

- For Bureau of Jail Management and Penology (BJMP) - To monitor the status of inmates who are ruled to be drug users and to conduct necessary programs and health teachings to help them cope with their situation while in jail.

- For rehabilitation centers- To conduct health teachings to its residents about Pink Cloud Syndrome and its warning signs; to assess its

residents for any signs of relapse and personalize treatment programs as deemed fit, and to help its residents develop healthy coping skills so as to prevent likely relapse.

- For communities - To help those who are in recovery regain their function in the society by providing genuine support, and to make a collaborative effort in destroying the stigma surrounding drug abuse.

- For the Academe- To increase awareness among its students and faculty about drug addiction and all it entails after recovery, and to seek partnerships and collaboration with organizations that focus on drug abuse and its treatment.

- For future researchers- to conduct similar study in other DOH-Accredited Treatment and Rehabilitation Centers and use a larger sample size; To expand the current scope of the study by identifying other factors that may affect the risk status for relapse of ruled drug users; To look into other treatment approaches that may prevent incidence of relapse and to study the level of knowledge on Pink Cloud Syndrome among drug users and health care providers.

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