ปัจจัยที่สัมพันธ์กับความเสี่ยงต่อการเสพยาบ้าซ้ำของผู้ที่มารับการรักษา ในศูนย์บำบัดยาเสพติดแห่งชาติ จังหวัดจาวาตะวันตก อินโดนีเซีย

นางสาวเกียน เนอเนียนดะ เฮนดิฮานติ

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาพยาบาลศาสตรมหาบัณฑิต
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FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN THE SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARDS IN WEST JAVA, INDONESIA

Miss Gian Nurmaindah Hendianti

A Thesis Submitted in Partial Fulfillment of the Requirements
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Thesis Title	FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN THE SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARDS IN WEST JAVA, INDONESIA
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เกียน เนอเนียนดะ เฮนดิฮานติ : ปัจจัยที่สัมพันธ์กับความเสี่ยงต่อการเสพยาบ้าซ้ำของผู้ที่มารับการรักษาในศูนย์บำบัดยาเสพติดแห่งชาติ จังหวัดจาวาตะวันตก อินโดนีเซีย (FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN THE SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARDS IN WEST JAVA, INDONESIA) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: ผศ. ดร.เพ็ญพักตร์ อุทิศ, 142 หน้า.

การวิจัยเชิงบรรยายแบบความสัมพันธ์เรื่องนี้ มีวัตถุประสงค์เพื่อศึกษาความความเสี่ยงต่อการเสพยาบ้าซ้ำ และความสัมพันธ์ระหว่างปัจจัยต่างๆ ได้แก่ การรับรู้ความสามารถแห่งตน ความคาดหวังต่อผลลัพธ์ของยาบ้า แรงจูงใจ การเผชิญความเครียด สภาวะทางอารมณ์ ความอยากยาบ้า และการสนับสนุนทางสังคม กับความความเสี่ยงต่อการเสพยาบ้าซ้ำ กลุ่มตัวอย่างจำนวน 165 คน ได้รับการคัดเลือกแบบเจาะจงตามเกณฑ์คุณสมบัติจากผู้ป่วยที่กำลังได้รับการบำบัดในระยะแรกของศูนย์บำบัดยาเสพติดแห่งชาติ จังหวัดจาวาตะวันตก อินโดนีเซีย เครื่องมือวิจัยประกอบด้วย 1) แบบบันทึกข้อมูลส่วนบุคคล 2) Drug Taking Confidence Questionnaire, 3) Stimulant Effect Expectancy Questionnaire, 4) Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for Drug, 5) Coping Strategies Inventory Short Form, 6) Positive Affect and Negative Affect Schedule, 7) Desire for Speed Questionnaire, 8) Social Support Questionnaire, และ 9) Stimulant Relapse Risk Scale เครื่องมือชุดที่ 2 – 9 ได้รับการแปลเป็นภาษาอินโดนีเซียด้วยวิธี Back translation และมีค่าความเที่ยงอัลฟาครอนบาคเท่ากับ .98, .92, .90, .90, .90, .94, .92 และ .87 ตามลำดับ วิเคราะห์ข้อมูลโดยสถิติเชิงพรรณนาและสถิติสหสัมพันธ์เพียร์สัน

ผลการวิจัยพบว่า

1. ความความเสี่ยงต่อการเสพยาบ้าซ้ำของผู้ป่วยที่มารับการรักษาในศูนย์บำบัดยาเสพติดแห่งชาติ จังหวัดจาวาตะวันตก อินโดนีเซีย อยู่ในระดับปานกลาง (mean = 56.33, SD = 10.54)

2. ความคาดหวังต่อผลลัพธ์ของยาบ้า สภาวะอารมณ์ด้านลบ สภาวะอารมณ์ด้านบวก และความอยากยาบ้ามีความสัมพันธ์ทางบวกอย่างมีนัยสำคัญทางสถิติกับความความเสี่ยงต่อการเสพยาบ้าซ้ำ ในขณะที่การรับรู้ความสามารถแห่งตนมีความสัมพันธ์ทางลบอย่างมีนัยสำคัญทางสถิติ ($r = .261, .370, .380, .509$, และ $-.316$ ตามลำดับ; $p < .01$)

3. แรงจูงใจ การเผชิญความเครียด และการสนับสนุนทางสังคม ไม่มีความสัมพันธ์กับความเสี่ยงต่อการเสพยาบ้าซ้ำ

สาขาวิชา พยาบาลศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2560 ลายมือชื่อ อ.ที่ปรึกษาหลัก .....

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GIAN NURMAINDAH HENDIANTI: FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN THE SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARDS IN WEST JAVA, INDONESIA. ADVISOR: ASST. PROF. PENPAKTR UTHIS, Ph.D., 142 pp.

The purposes of this descriptive correlational research were to describe methamphetamine relapse risk and examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk among methamphetamine users. The purposive sample of 165 who met the inclusion criteria were recruited from clients admitted to a primary phase treatment in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. The research instruments were: 1) the demographic characteristic questionnaire, 2) Drug Taking Confidence Questionnaire, 3) Stimulant Effect Expectancy Questionnaire, 4) Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for Drug, 5) Coping Strategies Inventory Short Form, 6) Positive Affect and Negative Affect Schedule, 7) Desire for Speed Questionnaire, 8) Social Support Questionnaire, and 9) Stimulant Relapse Risk Scale. The 2nd to 9th instruments were translated to Indonesian language using back translation technique. The Cronbach's alpha coefficient reliability of the 2nd to 9th instrument was .98, .92, .90, .90, .90, .94, .92 and .87 respectively. Descriptive statistic was used to analyze the data; meanwhile Pearson's product moment correlation was used to test the relationship among variables.

Major findings of this study were the methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia was in the moderate level (mean = 56.33, SD = 10.54); outcome expectancy, negative emotional state, positive emotional state and craving are significantly and positively related to relapse risk, whereas self-efficacy is significantly and negatively related to relapse risk (r = .261, .370, .380, .509, and -.316, respectively; $p < .01$); lastly motivation, coping and social support are not related to relapse risk. The nursing intervention for early detection of methamphetamine relapse risk by using standardized instrument should be conducted in rehabilitation setting treatment.

Field of Study: Nursing Science Student's Signature .....

Academic Year: 2017 Advisor's Signature .....

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CHAPTER I
INTRODUCTION

Background and Significance of the Study

Illicit drug has become a worldwide problem. The World drug report taken from United Nations Office on Drugs and Crime (UNODC, 2014) estimated that around the world in 2012 there were 162 to 324 million people aged 15-64 years old used an illicit drug at least once in a year. Among this population, 16 million to 39 million people developed a problem drug use as defied by regular drug users and those with drug use disorders or dependence. The global trends estimated prevalence of illicit drug use was slightly increased from 4.9% in 2006 to 5.2% in 2014 (UNODC, 2016). Taken from the same literature, generally the illicit drug use is more common among men than women. By overall men are three times more likely than women to use cannabis, cocaine or amphetamines (UNODC, 2016). Among these illicit drugs, the demand of worldwide amphetamine-type stimulant (ATS) had been sharply increased from 300 to nearly 800 tons for the quantities of drugs seized index in 2007 and 2014, respectively (UNODC, 2016). The increased of drug seized quantity reflected the degree of drug use problem (Willis, Anderson, & Homel, 2011).

Methamphetamine is one kind of ATS drug group that has been becoming the most used illicit drug in East and Southeast Asia since 2009 (UNODC, 2015). World drug report in 2015 found that methamphetamine in East and Southeast Asia is available in the form of crystalline methamphetamine and methamphetamine tablets. The seizure of crystalline methamphetamine increased by almost double from 8000 Kg to more than 14000 Kg, whereas for methamphetamine tablet have risen more rapidly by fivefold from 50 to more than 250 million tablets between year 2008 to 2013. Methamphetamine tablets are largely used in Thailand, Cambodia, China, Myanmar, and Vietnam, whereas crystalline methamphetamine is the main drug of concern in Indonesia, Brunei Darussalam, Cambodia, Japan, Philippines, and the Republic of Korea. (UNODC, 2016).

Amphetamine-type stimulant (ATS) is the term used for a group of drugs that are chemically have amphetamine stimulant effects include amphetamine, methamphetamine, methylphenidate, methcathinone, pseudoephedrine, fenetylline, ephedrine, and MDMA or 'Ecstasy'(WHO, 2017). Methamphetamine is a group of ATS that acts on the brain directly by inhibit dopamine reuptake in the synaptic cleft of dopamine transporter (DAT) and inducing release of dopamine and norepinephrine in the synaptic cleft of Nucleus Accumbens (NAc) provoking euphoric state, addiction, and withdrawal symptom in cessation (Robinson & Berridge, 2000; Seiden, Sabol, & Ricaurte, 1993). UNODC (2015) reported that methamphetamine can be found in the form of methamphetamine tablet and crystalline methamphetamine. In both presentations, methamphetamine basically is a salt form that can be smoked, nasally insufflated, orally ingested, and injected. Crystalline methamphetamine has much higher purity and effect than the methamphetamine tablet.

Methamphetamine use disorder is defined as the continued use of methamphetamine that leading to clinically mild to severe impairment. Diagnostic criteria for Methamphetamine use disorder is under diagnostic criteria for the Stimulant use disorder based on Diagnostic and Statistical Manual of Mental Disorder fifth edition (DSM-5) (APA, 2013). A Pattern of stimulant use leading to clinically significant impairment or distress, as manifested by at least two of the following problems that occurring within a 12-month period: taking more stimulant than intended, unsuccessful in trying to cut down of control use of stimulant, spending excessive amounts of time to activities surrounding stimulant use, craving for stimulant, failing in the obligations of home, school, or work, carrying on taking stimulant even though it lead to relationship problems, giving up or reducing important recreational, social, or work related activities because using stimulant, using stimulant in a physically hazardous way, continuing to use stimulant even while knowing that is causing a physical and physiological problem, tolerance to stimulant, and the last is experience withdrawal when stop taking stimulant (APA, 2013).

The use of methamphetamine is associated with a number of serious negative physical and psychological problems. The physical problems that arise from methamphetamine use including blood-borne virus transmission, cardio cerebra vascular pathology, and mortality (Darke et al., 2008). Blood-borne virus transmission

such as HIV and hepatitis C can increase through sexual risk behavior and sharing the injecting equipment such as needles and syringes. Methamphetamine is known as a cardio toxic which is result a heavy demands upon cardiovascular system by increasing heart rate and blood pressure that can lead to atherosclerosis. Furthermore, methamphetamine is also can induced cerebrovascular ischemic or hemorrhagic stroke. The psychological problems that arise from methamphetamine are positive symptoms, affective symptoms, and psychomotor symptoms, which aligned with a diagnosis of substance-induced psychosis and schizophrenia spectrum psychosis, with no evidence of negative syndrome (Bramness et al., 2012; Darke et al., 2008; Hides et al., 2015; McKetin et al., 2016; WHO, 2004).

The psychological problems that arise from methamphetamine use is has a higher level of substance induced psychotic disorder (SIPD) such as depression, suicide, anxiety, and violent behaviors. The severity of methamphetamine induced psychotic disorders is depend on the period of use, onset of using drug, and the quantity of drug use (Darke et al., 2008; Hides et al., 2015). Methamphetamine is a psychostimulants drug that is highly addictive and cause physiological dependence. As a result, client who stops taking it will immediately experience a withdrawal syndrome include anxiety, fatigue, severe depression, psychosis, and intense drug craving (NIDA, 2017). The sheer level of discomfort that accompanies acute stimulant withdrawal frequently leads methamphetamine users to relapse.

The numerous consequences associated with methamphetamine use are also contributed to the social economic burden. Relapse to methamphetamine use can effect to the cost of methamphetamine treatment, the excess of health care service utilization, productivity losses due to the drug use, the cost of methamphetamine related crime, child endangerment, and harm resulting from production methamphetamine (Nicosia, Pacula, Kilmer, Lundberg, & Chiesa, 2009). Moreover, the negative effect are also extend to the family on role modeling, trust, and concept of normative behavior in family, which can damage the relationship between family member (SAMHSA, 2004).

Relapse also has a negative effect to the methamphetamine treatment process. The study on cognition among methamphetamine relapse clients showed that the groups of methamphetamine relapse clients has the worst performance of episodic

memory, recall and recognition for words and pictures as well as the selective reminding task (Simon, Dacey, Glynn, Rawson, & Ling, 2004). Declined in the performance of episodic memory affected the treatment addiction process because the treatments are requires the clients in treatment attends to, comprehends, and remembers the material presented (Schuckit, 1994).

Situation assessment on ATS report from UNODC (2013) showed that drug abuse is also a serious problem in Indonesia. It was reported that cannabis has long been dominated drug abuse in Indonesia, with Aceh province of Northern Sumatera as the central. In the latter half of the 1990s, there was a substantial increase in heroin use. At the end of decade in 2000, ATS group specifically crystalline methamphetamine and ecstasy had become increasingly available and widely use in Indonesia. Later on in 2010, crystalline methamphetamine has been identified as a primary illicit drugs threat in Indonesia. Crystalline methamphetamine is commonly known as *shabu, ubas, ice, SS, or tastus*. In 2011, there were 4.7 million drug users in Indonesia with 1.2 million people among the total drug abuser were indicated use crystalline methamphetamine. In other word, about one in three people of all drug users in Indonesia used crystalline methamphetamine. Annual consumption of crystalline methamphetamine in Indonesia remains high at 10.4-40 grams per user with primary user by smoked. The highest numbers of crystalline methamphetamine users are in Java province accounted for 62% of the total crystalline methamphetamine user in Indonesia (UNODC, 2013). Therefore, this study will only focus on crystalline methamphetamine user which is becomes the main concern of drug abuse in Indonesia. Even though methamphetamine tablets are also used in Indonesia, but the use is not as much as the use of crystalline methamphetamine. Methamphetamine tablets were found in ecstasy pill in 2013 (Detiknews, 2013).

The Indonesian government has set strategies to deal with the drug abuse problem. The Indonesian Government and Parliament had enacted a new Narcotics Law to counter the drug problem. Act No. 35 Year 2009 which stated that the drug users are a victim and should be threatened in a rehabilitation facility. Based on this act, rehabilitation is defined as a treatment processes to help the addicts free from dependence. The rehabilitation period is considered as a substitute of detention. Rehabilitation is also a form of a social protection to help a former drug addicts to be

accepted in the community. There are two types of rehabilitation described in the act No. 35 Year 2009, medical rehabilitation as stipulated in the article 1 point 16 and social rehabilitation as stipulated in the article 1 point 17.

The Substance Rehabilitation Center of National Narcotics Board in West Java is a national referral of substance rehabilitation in Indonesia and has become a center of rehabilitation service, education, training, and research. It was recorded the number of clients they had worked with in the latest six years from 2011-2016 respectively were 821, 785, 797, 800, 906, and 840 clients, by which about 84.78% of them are crystalline methamphetamine users (BNN, 2011, 2014a, 2015, 2017). The average number of client's age distribution among six consecutive years, 2011-2016, that had completed the treatment course from the substance rehabilitation center of West Java were less than 15 years old (9 clients), 16-20 years old (120 clients), 21-25 years old (187 clients), 26-30 years old (212 clients), 31-35 years old (179 clients), 36-40 years old (83 clients), 41-45 years old (30 clients), and higher than 45 years old (15 clients). The data showed that age distributions among treated clients were dominated by adult. Therefore, the population in this study will be focused on adult client age between 20-65 years old as described by Erikson and Erikson (1998).

The Substance Rehabilitation Center of National Narcotics Board in West Java has set some program intervention such as Therapeutic Communities program (TC) as the core program that combined with the 12-steps treatment, religious approach, creative activity program, and music therapy. Although some intervention has been done thoroughly, National Narcotics Board or *Badan Narkotika National* (BNN, 2015) stated that in the implementation they face obstacles such as the lack of awareness from client to come voluntarily to get treatment and the number of relapse after treatment is still high. This situation makes the number of drug users showed insignificant reduce within last five years from 2007 to 2011.

Relapse among treated drug abuse clients has been the vital problem in Indonesia. By overall, about 90% of drug users experienced relapse in Indonesia (BNN, 2014b). Although, currently there is no study on drug relapse specifically to methamphetamine in Indonesia, but some studies in Asia supported the high rate of relapse in methamphetamine user population. Relapse rate of methamphetamine user in Cambodia, Laos, and Thailand were extremely high of almost 100% following

treatment (Thomson, 2010). The Northeastern region of Thailand had the highest number of methamphetamine users with a high relapse rate (Rodseeda, Ratanasiri, Kanato, Pinitsoontorn, & Chiawiriyabunya, 2010). Furthermore, another research in Thailand found that the prevalence of methamphetamine relapse in this population were high at 80-90% (Lirtmunlikaporn, 2004). Finding from western country also supported this notion and found that 61% of study sample in the United States were relapsed to methamphetamine one year after treatment discharge and 25% were relapse during years two to five (Brecht & Herbeck, 2014).

Relapse is a series of process to recover from drug problem. Witkiewitz and Marlatt (2004) defined relapse as a return to the previous problematic behavior pattern. Wilson (1992) identified methamphetamine relapse as a resumption of methamphetamine after at least six month of voluntary abstinence and/or resumption of methamphetamine after discharge from mandated treatment program. Whereas, a current study by Brecht and Herbeck (2014) defined relapse as any use of methamphetamine with time as the number of months of continuous methamphetamine abstinence after treatment discharge until relapse. Indonesian ministry of health itself defined drug relapse as a re-use of drug with similar pattern or worse than prior use in a period of abstinence after completed a formal therapy (Kemenkes, 2010). From several definitions of relapse, it can be concluded that relapse occurs and measured after the treatment completion program.

Although, relapse is an important problem which frequently found among most treated clients, waiting until this problem occurs will be useless. Currently, the researchers have been interested in preventing this problem. As such, a concept of "relapse risk" has been invented in the last decade. Ogai et al. (2007) defined relapse risk as a clinical sign and symptom precede relapse during treatment completion. The assessment of relapse risk during treatment is believed to be able to predict relapse in the next three to six month following treatment that is important for the treatment strategy of relapse prevention (Ogai et al., 2007). Furthermore, study from Ogai et al. (2007) identified five constructs of relapse risk including: anxiety and intention to use drug, emotional problem, compulsivity for drug, positive expectancies and lack control over drug, and lack of negative expectancy for the drug. Among the five construct of relapse risk, Ogai et al. (2007) found that relapse within 3 months was

significantly and positively correlated with anxiety and intention to use drug, positive expectancies and lack control over drug, and lack of negative expectancy for the drug. Similarly, relapse within 6 months was significantly and positively correlated with positive expectancies and lack control over drug and lack of negative expectancy for the drug.

The term relapse risk is also mentioned in Relapse Prevention Model (RPM) of Marlatt and Gordon in 1985. This model is one of a major theory in addiction that has been widely used for more than 20 years. It was developed to a Dynamic model of relapse by Witkiewitz and Marlatt in 2004. In the original model of relapse prevention, Marlatt and Gordon (1985) have proposed the static models of relapse risk factors and the relapse process. Factors contribute to relapse risk consists of intrapersonal and interpersonal factors. Intrapersonal factors divided by self-efficacy, outcome expectancy, motivation, coping, emotional state, and craving, while interpersonal factors including social support. The studies revealed there are relationships between those factors of relapse with the relapse risk (Marlatt & Donovan, 2005). Treatment approaches based on RPM start with assessment of the high risk situations those are associated with relapse, following by analyzing the individual response to the situations, and finally based on this examination, therapist devises strategies to target weakness in client's cognitive and behavioral, and reduce the relapse risk (Larimer, Palmer, & Marlatt, 1999). The original RPM stated that relapse is a linear processes from failed to response to high risk situation by employ an ineffective coping strategies that lead to decreased self-efficacy and positive outcome expectancies, leading to lapse, abstinence violation effect, and increased the relapse risk. Those high risk situation such as high intensity of craving, negative emotional state, lack of motivation to stay abstinence, and lack of social support are likely to lead into high risk of relapse (Marlatt & Gordon, 1985; Marlatt & Witkiewitz, 2005). Unlikely the linier path of the prior RPM, Witkiewitz and Marlatt (2004) propose the dynamic model of relapse that contains of same factors contribute to relapse as in RPM with withdrawal syndrome in addition. The different is the dynamic model of relapse views relapse as a nonlinear processes in which various factors act jointly to affect relapse timing and severity. The dynamic model of relapse can take form of sudden and unexpected returns to the previous behavior (Hendershot,

Witkiewitz, George, & Marlatt, 2011). This study currently examine the relationship between those factors in the dynamic model of relapse including self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. Withdrawal syndrome factor was excluded because of the clients in the substance rehabilitation center was not showing any withdrawal symptom again. The examination of relationship between factors in the dynamic model of relapse is important for developing treatment strategy of relapse prevention more efficient during treatment phase in rehabilitation.

Some researches about drugs relapse topic in rehabilitation setting were conducted in Indonesia before, but none of these study were evaluated the relapse risk factors specifically among methamphetamine users who are currently treating in this facility. The previous studies in Indonesia found that factors associated to relapse in rehabilitation center were explained as internal and external factors from client and recommended to include the cognitive, behavioral, social, and religious therapy into the treatment (Dewi, 2008; Syuhada, 2015); a significant positive correlation were found between coping strategy and self-efficacy among drug abuser to prevent relapse after rehabilitation treatment (Fauziannisa & Tairas, 2013); and the latest research evaluated self-efficacy training to the tendency of relapse (Rozi, 2016).

Some research regarding drugs relapse in inpatient service with stimulant user showed that low level of self-efficacy, positive outcome expectancies, lack of motivation to join in the treatment, negative coping strategies, negative emotional state, high level of craving, and the lack of social support were associated with greater relapse risk (Galloway & Singleton, 2008; Hagman, 2004; Hall, Havassy, & Wasserman, 1991; Marlatt & Donovan, 2005; McKay, Rutherford, Alterman, Cacciola, & Kaplan, 1995; McMahon, 2001; Miller & Rollnick, 2002). Even though relapse risk is very useful for screening clients who are more likely to relapse after the treatment completion, there is no study on evaluating the relapse risk specifically among methamphetamine users who are currently treating in primary phase of the Substance Rehabilitation Center of National Narcotics Board in Indonesia. It is important to study the relapse risk in a primary phase because primary phase is a set of treatment to prepare the clients before entry to after care phase in the community.

For this reason, as a psychiatric nurse, the researcher would like to explore the relapse risk situation among these particular clients. The understanding of relapse risk among methamphetamine user, the majority of illicit drug users in Indonesia, is important to see the depiction of relapse risk as the initial data in determining treatment strategy to prevent relapse. Moreover, none of the theory-based study in Indonesia has examined relapse risk factors specifically to methamphetamine comprehensively.

This study is designed to address these gaps in research by exploring methamphetamine relapse risk and examine the correlation between all factors in the dynamic model of relapse proposed by Witkiewitz and Marlatt (2004) with methamphetamine relapse risk. Although, the full version of this model has not yet studied in Indonesia before, there are some evidences to support its applicable to the ATS Indonesian clients. Currently, the Substance Rehabilitation Center of National Narcotics Board in West Java using Therapeutic Communities program (TC) as the treatment strategies that combined with the 12-steps treatment, religious approach, creative activity program, and music therapy (BNN, 2012). These set of treatment strategies are including psychoeducation, warning sign of relapse, development of coping skill, development lifestyle behavior, increased self-efficacy, and drug monitoring that integrated from the dynamic model of relapse for relapse prevention treatment strategies in clinical setting (Rawson, Obert, McCann, & Marinelli-Casey, 1993). Located in Java province, the most populous island with the highest number of methamphetamine users, the Substance Rehabilitation Center of National Narcotics Board in West Java expected to provide a wide representative sample for this study. The finding of this study will valuable to improve nursing practice in relapse prevention treatment strategy and finally reduce the prevalence of relapse after treatment.

Objectives of the Study

1. To study methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

2. To examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Research Questions

This study addresses the following research questions:

1. What are the descriptions of methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia?

2. What are the relationships between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia?

Reason and Hypothesis

This study uses the dynamic model of relapse proposed by Witkiewitz and Marlatt (2004) as the conceptual framework. The dynamic model of relapse views relapse as a complex, nonlinear process in which various components act interactively to affect relapse timing and severity. The independent variables of this study derived from all the components of the dynamic model of relapse including self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, and social support, except physical withdrawal symptom. The physical withdrawal symptom was excluded because the study taken in the primary phase of drug abuse treatment where the clients were not experiencing physical withdrawal symptom anymore after passed from detoxification phase. From the literature reviews, it was found that there are significant relationship between these selected independent variables and the relapse risk. The relationship of each variable will be discussed on the following paragraphs.

Self-efficacy is a belief that one can successfully execute behaviors needed to produce a desired outcome. Self-efficacy determines the individual confidentiality and capability to perform a certain behavior in a specified context (Bandura, 1997). Self-Efficacy is predictive of improved treatment outcome for substance use. Low levels of self-efficacy are associated with poorer performance of abstinence and a higher risk of relapse, while higher level of self-efficacy is associated with improved performance of abstinence and a lower risk of relapse (Hagman, 2004; Kadden & Litt, 2011).

Outcome expectancies is an effect that individual expects will occur as a result of drug consumption (Marlatt & Donovan, 2005). Outcome expectancies have been considerate in Relapse Prevention Model as a critical mediator of dependency and relapse that should be assessed thoroughly (Marlatt & Gordon, 1985). Studies showed that the drug effect outcome expectancies correlated with the drug use desire that can increase the probability of relapse risk. The more positive of outcome expectancies that drug user expect from using drug, the bigger prevalence of relapse risk (Aarons, Brown, Stice, & Coe, 2001; Marlatt, 1990; Ogai et al., 2007; Schafer & Brown, 1991).

Motivation is the willingness and readiness of individual to change particular behavior pattern (Miller & Rollnick, 2002). Witkiewitz and Marlatt (2004) stated in the dynamic model of relapse that motivation for action toward abstinence decrease relapse risk. This motivation influences the self-efficacy and outcome expectancy that effect on the relapse risk. DiClemente and Velasquez (2002) explained that the possibility of relapse will always exist in the process of change towards abstinent. Relapse should be assumed as a learning opportunity. Therefore, increasing motivation to change in the period of treatment is important to minimize relapse risk.

Coping described as cognitive and behavioral strategies designed to manage specific demands that are appraised as exceeding the resources of the person (Lazarus & Folkman, 1984). The ability to cope with the stressful life events is associated with the risk of relapse and the periods of abstinence (Hall, Havassy, & Wasserman, 1991; Rohsenow, Monti, Martin, Michalec, & Abrams, 2000). Tobin et al. (1989) explained the hierarchical factor structure of coping strategies derived from Lazarus and Folkman (1984) and divided it into three subscale items, namely primary subscale items, secondary subscale items, and tertiary subscale items. Eight primary subscale

comprised of problem solving, cognitive restructuring, express emotion, social contact, problem avoidance, wishful thinking, self-criticism, and social withdrawal. Four secondary subscales items come from eight primary subscales which were grouped into problem focused engagement, emotional focused engagement, problem focused disengagement, and emotion focused disengagement. Furthermore, four secondary subscales were grouped into two tertiary subscales items namely engagement and disengagement coping. This study will be focused on the tertiary subscales of coping, engagement and disengagement coping. Engagement coping was an active coping that comprised of problem focused engagement and emotion focused engagement, can lower client's rates of relapse. On the contrary, disengagement coping was a negative coping which comprised of problem focused disengagement and emotion focused disengagement, can lead client to be more vulnerable of relapse (Tapert, Ozyurt, Myers, & Brown, 2004; Tobin, Holroyd, Reynolds, & Wigal, 1989).

Emotional state can be referred as a feeling state involving though, physiological changes, with visible expression or behavior. Watson (1988) defined the positive emotional state as the pleasant feel, whereas negative emotional state defined as a distress state. Marlatt and Gordon (1980) reported that the negative emotional state has to be more considerable as a relapse trigger than the positive emotional state. Moreover, Serafini et al. (2016) stated that clients who had a negative emotional affect were likely to engage in risky behaviors. Several studies supported that there was a strong relationship between negative emotional states with relapse risk. Negative emotional state increases the risk of relapse while positive emotional state decreases it (Hall et al., 1991; McKay, Rutherford, Alterman, Cacciola, & Kaplan, 1995).

Craving generally understood as a strong desire of individual to use a drug (Ogai et al., 2007). There is no doubt that craving can cause a high rate of relapse. Study in methamphetamine treatment revealed that craving predicted methamphetamine relapse in the first week immediately following the abstinence from the treatment (Galloway & Singleton, 2008; Hartz, Frederick-Osborne, & Galloway, 2001).

Social support defined as the presences of people who can become a support system for the addict to encourage abstinence and minimizes the relapse risk

(Witkiewitz & Marlatt, 2004). Social support from family member, friends, spouses, drug abstainer, and the significant others was a support system for drug users. It encourage and help drug users to stay at the treatment longer, attend the post discharge program, and finally decreased the relapse risk (Ellis, Bernichon, Yu, Roberts, & Herrell, 2004). The research have been proved that the presence of a support system of people and the quality of social support are related to the relapse risk and number of abstinence day after treatment (Dobkin, Civita, Paraherakis, & Gill, 2002; Ellis et al., 2004; McMahon, 2001).

From the reasons above, the hypotheses of this study are:

1. Self-efficacy is negatively correlated with relapse risk
2. Outcome expectancy is positively correlated with relapse risk.
3. Motivation is negatively correlated with relapse risk
4. Coping
    a. Engagement coping is negatively correlated with relapse risk
    b. Disengagement coping is positively correlated with relapse risk.
5. Emotional state
    a. Positive emotional state is negatively correlated with relapse risk
    b. Negative emotional state is positively correlated with relapse risk.
6. Craving is positively correlated with relapse risk.
7. Social support is negatively correlated with relapse risk

Scope of the Study

This study was conducted in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. The total of 165 adult clients (male and female) aged 20 to 65 years (Erikson & Erikson, 1998) who were diagnosed by methamphetamine use disorder and were treating in the primary phase of inpatient department. The dependent variable was methamphetamine relapse risk with independent variables were self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, and social support.

Operational Definition

Methamphetamine relapse risk is a perception of methamphetamine clients on clinical sign and symptom precede relapse during rehabilitation treatment. Assessment on the methamphetamine relapse risk predicts resumption of methamphetamine pattern immediately or after at least three to six month after discharge from mandated treatment program. Methamphetamine relapse risk was measured by Stimulant Relapse Risk Scale (SRRS, Ogai et al., 2007) that identified five factor structure of relapse risk including:

1) anxiety and intention to use drug (AI) is a client's action of seeking for stimulant;

2) emotionality problems (EP) is a client's feelings and moods before relapse;

3) compulsivity for drug use (CD) is client's strong desire to use stimulant represent a compulsivity that reflect craving based on the obsessive compulsive theory;

4) positive expectancy and lack of control over drug (PL) is a client's inability to resist the stimulant use;

5) lack of negative expectancy for drug (NE) is a client's perception about lack of recognition of social support that lead to stimulant use.

Self-efficacy defined as the methamphetamine client's perception degree of their feeling about confident and capable to keep abstain from using methamphetamine and also capable to use their skills to resist reuse methamphetamine in a given situation. It will be measured by the Drug Taking Confidence Questionnaire (DTCQ) developed by Sklar, Annis, and Turner (1997).

Outcome expectancies defined as a methamphetamine client's belief of methamphetamine use outcomes effect after re-consumption. The more positive outcome expectancy from use methamphetamine such as believe that methamphetamine make client feel very happy and relax, can increase the probability of relapse risk. The methamphetamine outcome expectancies will be measured by Stimulant Effect Expectancy Questionnaire (SEEQ) from Schafer and Brown (1991).

Motivation defined as the methamphetamine client's willingness and readiness to change the drug addictive behavior pattern during the drug rehabilitation treatment

process. It will be measured by The Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for drug (SOCRATES 8D) from Miller and Tonigan (1996) comprise of three scales including Recognition, Ambivalence, and Taking steps that were derived based on transtheoretical model of motivation purposed by Prochaska and DiClemente (1984).

Coping is a methamphetamine client's strategies to manage their stressful life event that consider as a high risk situation that can lead them to use drug. Coping will be divided into primary, secondary, and tertiary subscale as engagement and disengagement coping as stated by Tobin, Holroyd, Reynolds, and Wigal (1989) in the structures of coping. In the tertiary subscale of coping, engagement coping (problem focused engagement and emotion focused engagement) is an active coping strategies to control and manage the stressful life event, contrary with disengagement coping (problem focused disengagement and emotion focused disengagement) is avoidance responses to the stressful live event that make the client more vulnerable to relapse. Both of engagement and disengagement coping will be measured by Coping Strategies Inventory short form (CSI-SF) from Tobin (1995).

Emotional state defined as methamphetamine client's feeling or emotion state involving though and physical change as the underline problem to re-use methamphetamine. This study will be measured both positive and negative emotional state of client. Positive emotional state is the client's perception of experiences positive feelings or emotion such as joy, interest, and alertness, whereas negative emotional state is the client's perception of experiences negative feelings or emotion and poor self-concept such as anger, guilt, and fear. Emotional state of clients in this study was measured by Positive Affect and Negative Affect Schedule (PANAS) from Watson, Clark, and Telegan (1988).

Craving is a methamphetamine client's subjective conscious experience involving cognitively demanding that state as a strong desire or urge of using methamphetamine. Craving degree of clients was measured by Desire for Speed Questionnaire (DSQ) from James, Davis, and Willner (2004).

Social support defined as a methamphetamine client's perception and actuality that one is available for them to give physical and psychological help as a protective factor to prevent relapse. Social support source can come from family, friends,

neighbor, spouses, drug abstainer, and community member that are available for client. The number of person that give support for client and the level of support satisfaction that client get was measured by Social Support Questionnaire (SSQ6) from Sarason, Sarason, Shearin, and Pierce (1987).

Expected Benefits

The benefits of this study including:

1. The contribution to body knowledge of addiction nursing science in Indonesia.
2. The advantage of practice nurses and another health care provider' better plan and integrate intervention that meet the individual needs of drug users to prevent relapse in the future.
3. The utilization of methamphetamine relapse risk and its factors to develop future research.

CHAPTER II
LITERATURE REVIEW

This section focuses on a comprehensive literature review of major concepts of the study. The literature review consists of seven parts:

1. Illicit drug use situation and its management in Indonesia
2. Basic knowledge of methamphetamine
    2.1. The description of methamphetamine
    2.2. Methamphetamine use disorder diagnostic criteria
    2.3. The effect of methamphetamine use
3. Relapse Prevention Model
    3.1. The original relapse prevention model
    3.2. The dynamic model of relapse
4. Relapse risk
    4.1. Relapse and relapse risk
    4.2. Meaning of relapse risk
    4.3. Measurement of relapse risk
    4.4. Relapse risk in West Java, Indonesia
5. Factors related to relapse risk based on Dynamic model of relapse
    5.1. Self-efficacy
    5.2. Outcome expectancies
    5.3. Motivation
    5.4. Coping
    5.5. Emotional state
    5.6. Craving
    5.7. Social support
6. Nursing care and relapse prevention for methamphetamine user
7. Conceptual framework

1. Illicit Drug Use Situation and its management in Indonesia

Indonesia has not been a primary producer of illicit drugs, but has been used as a key transit country by transnational organized criminal groups for the trafficking of heroin and cocaine. In the middle of 1970 to the middle of 2000, large quantities of cannabis continue to be cultivated in Indonesia and played a role as a source of income for armed insurgent groups opposed to the central government at that moment. In 1990s, the country started to become a destination point for the destination of trafficking heroin, in particular injecting heroin that spread HIV. Later on the end of decade, in 2000, the country started to manufacturing crystalline methamphetamine and ecstasy for both domestic and internationally markets. Today, crystalline methamphetamine has been identified as the primary illicit drugs threat in Indonesia since 2010 (UNODC, 2013).

The National Narcotics Board Indonesia is a government institution with main function to develop and implement the policies for manage the narcotics problem in Indonesia (BNN, 2015). The National Narcotics Board or *Badan Narkotika Nasional* (BNN) has three missions, first is to strengthen the nation from the danger of drug abuse, second is to recovering the drug user and prevent relapse, and third mission is making the country to be free of the illicit drugs traffic. Indonesia has four substance rehabilitation centers for drug addiction under BNN. They are located at Lido-West Java, Baddoka-Makasar, Tana Merah-Samarinda, and Batam-Kepulauan Riau.

Substance Rehabilitation center of National Narcotics Board in Lido-West Java is the largest rehabilitation center in Indonesia and Southeast Asia. This is because the largest prevalence of drug abuse in Indonesia is located in West Java. Rehabilitation center in Lido-West Java stands on 5 hectare areas of the total area 11, 2 hectare. The total building area is 15.712 m^2 which consist of 200 beds for inpatient hospitals and rehabilitation facilities with 500 client capacity. National narcotic board of Indonesia (BNN, 2011, 2014, 2015) showed that the number of clients who had completed the treatment course from the Substance Rehabilitation Center of West Java was 821, 785, 797, 800, 906, and 840 clients in 2011 to 2016 respectively, by which about 84.78% of them are crystalline methamphetamine users. The average number of client's range age distribution among six consecutive years that had

completed the treatment course from the substance rehabilitation center of West Java in 2011-2016 were less than 15 years old (9 clients), 16-20 years old (120 clients), 21-25 years old (187 clients), 26-30 years old (212 clients), 31-35 years old (179 clients), 36-40 years old (83 clients), 41-45 years old (30 clients), and more than 45 years old (15 clients). From the total 4.949 clients in 2011 to 2016, 4.647 clients were male and 302 clients were female. The data showed that the distribution of clients in Substance Rehabilitation center of National Narcotics Board in Lido-West Java is dominated by adult male.

The National Narcotics Board Indonesia (BNN, 2012) determine several stages of drug addiction recovery in Indonesia. They are detoxification phase, primary or rehabilitation phase, and after care phase. (1). Detoxification phase start with examine the physical and mental health of drug user by doctor and then decide whether the drug user should be given a certain medication to reduce withdrawal symptoms and intoxication. The medication is depending on the severity of withdrawal symptoms and intoxication. In this phase, the doctor needs sensitivity, experience, and expertise in order to detect the symptoms of drug addiction; (2). Primary or rehabilitation phase is engaging the drug user in modification of Therapeutic Communities program (TC) as the core program that combined with the 12-steps treatment, religious approach, creative activity program, and music therapy. The rehabilitation treatment is one size fits all, means that every clients are getting the same process of therapy without concerning their age, the previous drug that were abused, and comorbid. There are seven separated rehabilitation place, they are called as entry unit, house of faith, house of hope, house of care, house of change, house of female, and re-entry unit. Entry unit is the place to prepare client before enter to primary phase. The house of faith and house of hope are designed for long term rehabilitation (6 months) whereas house of care and house of change are designed for short term rehabilitation (4 month) based on the severity of addiction and the American Society of Addiction Medicine (ASAM) patient placement criteria; Female house is the rehabilitation place particularly for female; and re-entry unit is the place to prepare client before back to their life or attendance the aftercare phase; (3). The last stage is after care that provides by the directorate of post rehabilitation in their respective region, clients are given activities accordance to their interests and talents

or going back to their daily activities to school or work under the surveillance. Each stage of drug addiction recovery processes is a continuum program that requires monitoring and continuous evaluation.

2. Basic Knowledge of Methamphetamine

1.1. The description of Methamphetamine

Refers to European Monitoring Center for Drugs and Drug Addict (EMCDAA, 2015), methamphetamine is a synthetic substance that can act as a stimulant in the central nervous system (CNS). Even though has some limited therapeutic use as the treatment of narcolepsy and ADHD, misuse of this drug can cause to the potent addiction problem. Methamphetamine known as a double methylated phenyl ethylamine that not only acts as stimulant, but also hallucinogen and entactogens. Methamphetamine breaks down into amphetamine in metabolizing and causing the same effect with amphetamine, but much more stronger and quick.

1.2. Methamphetamine Use Disorder Diagnostic Criteria

Diagnostic criteria for Methamphetamine use disorder is under diagnostic criteria for the Stimulant use disorder based on Diagnostic and Statistical Manual of Mental Disorder fifth edition (DSM-5) by American Psychiatric Association (2013). A Pattern of amphetamine-type substance, cocaine, and other stimulant use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1) The stimulant is often taken in larger amounts or over a longer period than was intended
2) There is a persistent desire or unsuccessful efforts to cut down or control stimulant use.
3) A great deal of time is spent in activities necessary to obtain the stimulant, use the stimulant, or recover from its effects.
4) Craving, or a strong desire or urge to use the stimulant.
5) Recurrent stimulant use resulting in a failure to fulfill major role obligations at work, school, or home.

6) Continued stimulant use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the stimulant.
7) Important social, occupational, or recreational activities are given up or reduced because of stimulant use.
8) Recurrent stimulant use in situations in which it is physically hazardous.
9) Stimulant use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the stimulant.
10) Tolerance, as defined by either of the following:
    a. A need for markedly increased amounts of the stimulant to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of the stimulant.

    Note: This criterion is not considered to be met for those taking stimulant medications solely under appropriate medical supervision.
11) Withdrawal, as manifested by either of the following:
    a. The characteristic withdrawal syndrome for the stimulant
    b. The stimulant (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Stimulant withdrawal diagnostic criteria:

1) Cessation of (or reduction in) prolonged amphetamine-type substance, cocaine, or other stimulant use.
2) Dysphoric mood and two (or more) of the following physiological changes, developing within a few hours to several days after Criterion 1: fatigue, vivid, unpleasant dreams, insomnia or hypersomnia, increased appetite, and psychomotor retardation or agitation.
3) The signs or symptoms in Criterion 2 cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
4) The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication or withdrawal from another substance.

Stimulant Intoxication diagnosis criteria

1) Recent use of an amphetamine-type substance, cocaine, or other stimulant.
2) Clinically significant problematic behavioral or psychological changes that developed during, or shortly after, use of a stimulant.
    a. Two (or more) of the following signs or symptoms, developing during, or shortly after, stimulant use: tachycardia or bradycardia, pupillary dilation, elevated or lowered blood pressure, perspiration or chills, nausea or vomiting, weight loss, agitation, muscular weakness, respiratory depression, chest pain, cardiac arrhythmias, confusion, seizures, dyskinesia, dystonia, and coma.

    The signs or symptoms are not attributable to another medical condition and are not better explained by another mental disorder, including intoxication with another substance.

1.3. The Effects of Methamphetamine Use

Injected and smoked methamphetamine can reaches the brain much more quickly in 3-7 seconds, snorted methamphetamine reaches the brain in 3-5 minutes, whereas swallowed methamphetamine reaches the brain in 15 minutes. Methamphetamine causes immediately effect after reached the brain such as hypertension, tachycardia, loss of appetite, with feelings of increased confidence, energy, sociability and leads to insomnia. Acute intoxication causes the cardiovascular disturbance and behavioral problem such as agitation, confusion, paranoia, impulsivity, and violence. Chronic use of this drug may leads to the neurochemical and neuroanatomical changes which effect in the ability of decision making, verbal reasoning, and memory. Some also resemble with the symptoms of schizophrenia syndrome.

Methamphetamine will be synthesized in the brain as amphetamine which produced a much stronger effect. Seiden et al. (1993) explained that amphetamine has an effect on the catecholamine system that plays a variety role in the function of peripheral symphatic and central nervous system producing a behavior problem and involved in a number of disease such as schizophrenia and feeding disorder. Furthermore, Robinson and Berridge (2000) stated that methamphetamine act on the mesolimbic dopaminergic “reward system” directly by inducing release of dopamine

in the synaptic clefts of the dopamine transporter (DAT) and the synaptic clefts of the nucleus Accumbens (NAc) resulting a euphoric state and highly potent addiction.

Despite the efforts that made by the methamphetamine as the treatment of narcolepsy and ADHD, some researches were pointed out the physical and psychological harm of methamphetamine abuse. Darke, et al. (2008) asserted from the comprehensive review that methamphetamine can contribute to the physical harms included serious cardiovascular by increasing heart rate and blood pressure that can lead to atherosclerosis, cerebrovascular pathology that can result ischemic or hemorrhagic stroke., toxicity, blood borne virus especially for they who use the methamphetamine by injection, and mortality. More than that, methamphetamine found resulted a serious psychological harms included suicidal behavior.

The uses of methamphetamine can be either induced the psychiatric problem or worsen the client who already diagnosed with psychiatric problem. Bramnes et al. (2012) stated that methamphetamine abuse is a common among client with psychiatric disorder but prolong in methamphetamine abuse can also induced symptom of psychosis that similar to the schizophrenia spectrum psychosis in a general population, without negative symptom. Hides et al. (2015) found that the prevalence of substance induced psychotic disorder is higher in the clients who use the methamphetamine in a younger age. Substance induced psychotic disorder has a higher proportion among methamphetamine users than in reverse. Furthermore, McKetin et al. (2016) confirmed the three factors loaded of methamphetamine induce psychotic disorder including positive psychotic symptoms (suspiciousness, unusual thought content, hallucinations, bizarre behavior); affective symptoms (depression, suicidality, guilt, hostility, somatic concern, self-neglect); and psychomotor symptoms (tension, excitement, distractibility, motor hyperactivity).

Methamphetamine abuse changes the brain structure and lead to the behavioral problem. Neuroscience of psychoactive substance use and dependence stated that methamphetamine has the ability to change consciousness, mood, and thoughts (WHO, 2004). Neuroimaging showed that brain structure of methamphetamine abuser has an abnormal gray and white matter integrity, deficit in monoamine neurotransmitter system, neuro inflammation, deviant pattern of brain connectivity, and neuronal integrity which is resulted a poor self-control, maladaptive decision

making and cognitive inflexibility (London, Kohno, Morales, & Ballard, 2015). Methamphetamine is a psychostimulants drug that is highly addictive that leads to the development of significant physiological dependence, client who are stop taking it will immediately experience a withdrawal syndrome include anxiety, fatigue, severe depression, psychosis, and intense drug craving (NIDA, 2017). The sheer level of discomfort that accompanies acute stimulant withdrawal grows the prevalence of relapse risk and frequently leads methamphetamine users to relapse.

3. Relapse Prevention Model

1.4. The Original Relapse Prevention Model

The Relapse Prevention Model (RP Model) has been a major of addictions theory and treatment. The first RP model developed by Marlatt and Gordon in 1985 (figure 1) provides relapse risk factors and the relapse process for understanding relapse and a set of treatment strategies designed to limit relapse likelihood and severity. The basic of their model is a cognitive behavioral model of the relapse process which is based on the high risk situation and the individual's response to the situation. The relapse process in the RP Model was described in a linear process which explicate that if the individual can cope with the high risk situation effectively and/or confidence to deal with such situation (increased self-efficacy; Bandura, 1977), the probability of relapse will decrease. The willingness to use the drug again is mediated by positive individual's outcome expectancies for the initial of substance use. Individual who decided to use the drug again is vulnerable to the AVE (Abstinence Violation Effect) which is self-blame and loss of perceived control that individuals often experience after the violation of self-imposed rules (Witkiewitz & Marlatt, 2004). RP treatment strategies designed to help patient anticipate and cope with high-risk situation, a discriminative stimuli signaling relapse risk, and self-control to reduce relapse risk by promoting positive lifestyle change (Hendershot, Witkiewitz, George, & Marlatt, 2011).

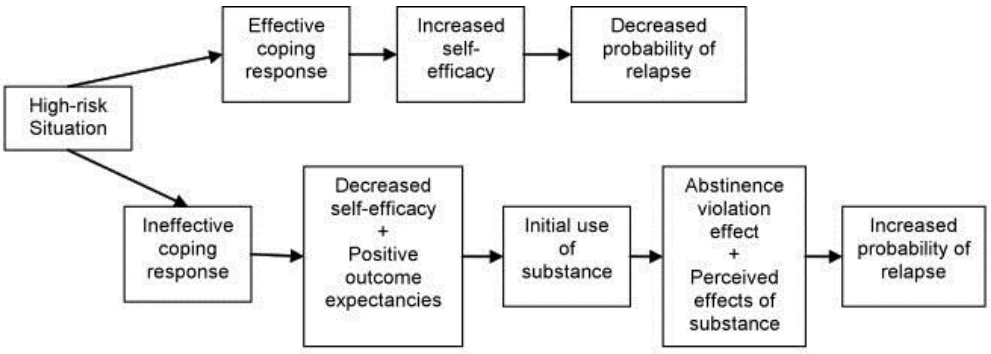

Figure 1 Relapse Prevention Model by Marlatt and Gordon, 1985

1.5. The Dynamic Model of Relapse

Hendershot et al. (2011) believed that relapse to be different from terminal event of treatment failure. Relapse is best conceptualized as a dynamic process that needs a critical implication to be considered as a temporary setback that presents opportunity for new learning to occur. The reformulated cognitive-behavioral models of relapse efforts to develop, test and refine theoretical models are critical to enhancing the understanding and prevention of relapse. A major development in this respect was the reformulation of Marlatt's cognitive-behavioral relapse model to place greater emphasis on dynamic relapse processes. Whereas most theories presume linear relationships among constructs, the reformulated model (Figure 2) views relapse as a complex, nonlinear process in which various factors act jointly and interactively to affect relapse timing and severity.

Similar to the original RP model, the dynamic model centers on the high-risk situation. Against this backdrop, both tonic (stable) and phasic (transient) influences interact to determine relapse likelihood. Tonic processes include distal risks–stable background factors that determine an individual's initial threshold for relapse such as family history, social support, and dependence. Tonic processes also include cognitive factors that show relative stability over time, such as drug-related outcome expectancies, general self-efficacy, craving, and motivation. Whereas tonic processes may dictate initial susceptibility to relapse, its occurrence is determined largely by phasic responses–proximal or transient factors that serve to actuate (or prevent) a lapse. Phasic responses include cognitive and affective processes that can fluctuate across time and contexts–such as urges/ cravings, affective state, or transient changes

in outcome expectancies, self-efficacy, or motivation. Additionally, momentary coping responses can serve as phasic events that may determine whether a high-risk situation culminates in a lapse. Substance use and its immediate consequences (e.g., impaired decision-making) are additional phasic processes that are set into motion once a lapse occurs. Tonic processes can determine who is vulnerable for relapse, whereas phasic processes determine when relapse occurs. A key feature of the dynamic model is its emphasis on the complex interplay between tonic and phasic processes. The dynamic model of relapse allow fir several configurations of distal and proximal relapse risk (Witkiewitz & Marlatt, 2004). As indicated in Figure 2, distal risks may influence relapse either directly or indirectly (via phasic processes). The model also predicts feedback loops among hypothesized constructs. For instance, the return to substance use can have reciprocal effects on the same cognitive or affective factors (motivation, affective state, and self-efficacy) that contributed to the lapse. Lapses may also evoke physiological (e.g., alleviation of withdrawal symptoms) and/ or cognitive (e.g., the abstinent violation effect) responses that in turn determine whether use escalates or desists. The dynamic model further emphasizes the importance of nonlinear relationships and timing/sequencing of events.

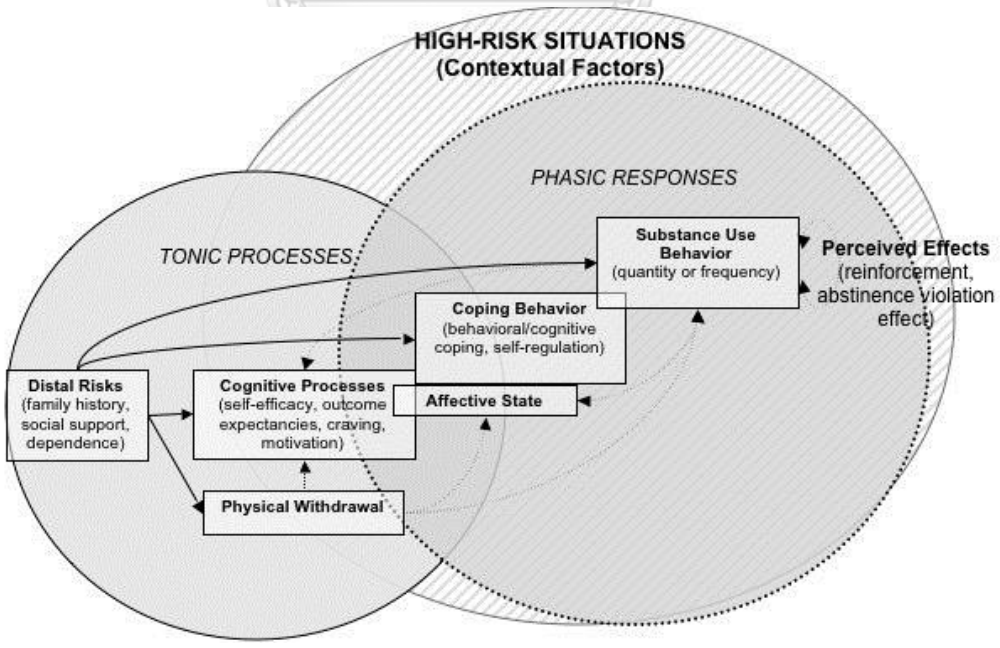

Figure 2 Dynamic Model of Relapse Witkiewitz and Marlatt (2004)

The earliest of relapse prevention model divided the factors of relapse risk into two clusters, intrapersonal factors and interpersonal factors. Intrapersonal factors are including self-efficacy, outcome expectancies, craving, motivation, coping, and emotional states, whereas from interpersonal factors including the number and quality of social support. Furthermore, Hendershot et al. (2011) added the physical withdrawal symptoms as another factor to support the recent finding of Relapse Prevention Model.

Withdrawal symptom is a group of symptom that occur after cessation or reducing in dosage of using psychoactive drug (WHO, 2016). Withdrawal symptom can become a sign of dependence. The onset and the period of withdrawal symptom are limited and specific to the type of psychoactive drug. Furthermore, study about the nature, time course, and severity of methamphetamine withdrawal within 21 inpatient clients who were undergoing the treatment for methamphetamine dependence in Thailand using cross sectional study with comparison group revealed that in the acute phase of methamphetamine withdrawal, the severity declined from a high initial peak within 24 hours lasting to the first week of the last use of drug following by sub-acute phase that can be lasting for 2 weeks (McGregor et al., 2005). The population of this study was taken from clients in primary phase of rehabilitation treatment setting which has passed the detoxification phase and not show any withdrawal symptom again. Therefore, withdrawal symptom was excluded from the selected independent variable of the study.

4 .Relapse Risk

1.6. Relapse and relapse risk

Relapse Prevention Model is an influential cognitive behavior approach for treatment of addictions. The treatment strategies derived from Relapse Prevention Model are intended to decrease the relapse risk by promoting positive lifestyle change (Hendershot et al., 2011). Several studies mentioned relapse as a state of re-use methamphetamine and measured the relapse after the treatment completion program. Witkiewitz and Marlatt (2004) defined relapse as a return to the previous problematic behavior pattern. Wilson (1992) measured methamphetamine relapse after the person has experienced relapse that signed by back to pattern of drug resumption again

within six month of voluntary abstinence day or resumption of drug again after discharge of mandated program therapy. Study by Brecht and Herbeck (2014) defined relapse as any use of methamphetamine with time as the number of months of continuous methamphetamine abstinence after treatment discharge until relapse. Indonesian ministry of health itself defined drug relapse as a re-use of drug with similar pattern or worse than prior use in a period of abstinence after completed a formal therapy (Kemenkes, 2010).

Relapse is a major problem among most treated clients. This study currently interested in preventing this problem by examines the relapse risk. Rather than wait until relapse occurs, a set of relape risk treatment plan can be settled in order to prevent relapse after treatment. A concept of "relapse risk" has been invented in the last decade. Ogai et al. (2007) defined relapse risk as a clinical sign and symptom precede relapse during treatment completion. The assessment of relapse risk during treatment is believed to be able to predict relapse in the next three to six month following treatment that is important for the treatment strategy of relapse prevention.

Relapse Prevention Model has been tested as the most use based theory of addiction treatment strategies. The Relapse Prevention Model has been integrated into numerous relapse prevention treatment strategies such as psychoeducation, identification of high risk situations and warning signs for relapse, development of coping skill, development of new lifestyle behaviors, increased self-efficacy, dealing with relapse, and drug monitoring (Rawson, Obert, McCann, & Marinelli-Casey, 1993). However, relapse prevention model strategies were mostly used as outpatient aftercare strategies for the substance abuse treatment setting and evaluated the relapse following treatment (Rawson et al., 1993). The strategies have provided a clear guide and protocol to provide the client in the outpatient setting. Furthermore, Rawson et al. (1993) suggested using relapse prevention treatment strategies and evaluation for the treatment in the inpatient setting.

Other study from Ogai et al. (2007) found that the existence treatment for stimulant drug abuser in inpatient setting were focused on the medical treatment that targeted the immediate psychotics symptoms from stimulant such as hallucination and delusion as a main concern of treatment, whereas the symptom of relapse which is

significantly correlated to the dependence and relapse after treatment has not been assessed adequately.

Measurement of relapse currently measured the incidence of relapse over the course of three to six month of voluntary abstinence or post mandated treatment. For example, The Advance warning of relapse (Aware) was a self-report questionnaire designed as a measurement of the warning signs of relapse following outpatient treatment for substance abuse (Gorski & Miller, 1982) and the timeline follow back (TLFB) presented the client with a calendar to recall their daily basis use of drugs to described day of substance use and day of abstinence prior to first use (Robinson, Sobell, Sobell, & Leo, 2014).

This study currently measure the relapse risk described as a clinical sign and symptom precede relapse during drug rehabilitation treatment that predict resumption of methamphetamine pattern following treatment. Methamphetamine relapse risk was measured using the Stimulant Relapse Risk Scale (Ogai et al., 2007). This scale was made based on the Marijuana Craving Questionnaire added with various cognitive and behavioral signs of relapse risk which based on the clinical experience that precede relapse assessed by three psychiatrists who involved in the treatment of drug abuse actively. Furthermore, this stimulant relapse risk scale was used to assess a various cognitive and behavioral signs and symptom precede relapse that showed by drug abuser during rehabilitation treatment completion. The assessment of relapse risk during treatment is believed to be able to predict relapse in the next three to six month following treatment that is important for the treatment strategy of relapse prevention.

1.7. Meaning of relapse risk: Relapse risk consists of two syllables, relapse and risk. Relapse defined as a return to a previous problematic behavior pattern which is in methamphetamine relapse means resumption of methamphetamine after at least six month of voluntary abstinence and/or resumption of methamphetamine after discharge from mandated treatment program (Wilson, 1992; Witkiewitz & Marlatt, 2004). Risk in a medical term means the probability that an event will occur or the possibility of adverse consequence over a specified time period (Medical dictionary, 2012). Therefor relapse risk can described as the probability to resumption methamphetamine after at least six month of voluntary abstinence and/or after discharge from mandated treatment program. Relapse risk in this study described as

the clinical sign and symptom precede relapse during drug rehabilitation treatment that predict resumption of methamphetamine pattern following treatment.

1.8. Measurement of relapse risk: Relapse Risk Index (RRI) was employed to measure relapse risk among alcohol drinker and drug user to compare the perception of relapse risk between clients and counselors (Walton, Blow, & Booth, 2000). RRI is a part of relapse prevention interview that was administered during the first month of treatment. RRI assess confidence in abilities across four relapse domains, containing skills training, social support, leisure activities, and resources such as housing, transportation, child care, education, employment, or medical care. The remaining four items assess interest in receiving services in each of the four domains. The RRI was not employed to measure the relapse risk in this study because RRI assess the relapse risk generally for drug user, not specified to any kind of drug. This study aimed to measure the relapse risk among methamphetamine user. Methamphetamine relapse risk in this study will be measured by Stimulant Relapse Risk Scale by Ogai et al. (2007). A schematic flow of the development of Stimulant Relapse Risk Scale were derived from four factors Marijuana Craving Questionnaire including compulsivity, emotionality, expectancies, and purposefulness; added with psychiatrist discussion that highlighted six categories including patient's search for stimulant, common feeling and mood before relapse, recall of stimulant craving and negative mood, lack of resistance to inductive stimuli, lack of recognition of social support, and insight into mental health condition, and the last was patient's expression. The result was a questionnaire with 43 items of 5 initial concepts of relapse risk and 5 items of insight into mental condition. These questionnaires then administered to 100 subjects of inpatient, outpatient, and non-patient with a history of stimulant drug abuse mainly involving methamphetamine. Each of the 48 items were rated using three Likert scale with a score ranging 1 to 3 based on the subject's agreement to the statement. Thirty of the 43 items were classified to the 5 subscales including anxiety and intention to use drug (AI), emotionality problems (EP), compulsivity fir drug use (CD), positive expectancies and lack of control over drug (PL), and lack of negative expectancies for drug use (NE).

The 30 items of SRRS comprised of five subscales, as follow: anxiety and intention to use drug (8 items); emotional problem (8 items); compulsivity for drug (4 items), positive expectancies and lack control over drug (6 items); lack of negative expectancy for the drug (4 items). The value of Cronbach's alpha for each subscale and all items were .82, .80, .73, .79, .55, and .86, respectively. The responses using 3 point Likert scale which is 1 (strongly disagree and disagree), 2 (neither agree nor disagree), and 3 (strongly agree and agree) and reversely for reversal items. The higher total mean score indicate higher of relapse risk predictive in the 3 to 6 month following treatment.

4.4. Methamphetamine Relapse risk in West Java, Indonesia

In the article of the research finding and clinical direction treatment for methamphetamine abuse (2003) reviewed the reasons of initiating using methamphetamine are to deal with emotional problems, to deal with family problems, to be more productive, to improve their strength, to lose weight, have a family member who use methamphetamine, curiosity, and the availability of methamphetamine. Furthermore, the person which aged between 18 to 25 years old were moderately likely to use methamphetamine than the older aged group (Cretzmeyer, Sarrazin, Huber, Block, & Hall, 2003). This finding supported the situation of drug abuse in West Java Province based on the demographic characteristic.

West Java Province is located in Java Island, the populous island in Indonesia. It is the central for government services and economic growth. Java Island is home to around 60% of entire Indonesian population. Even though currently there was no specific data about methamphetamine relapse prevalence in West Java, these explanations can describe the methamphetamine use situation in West Java. The result of Indonesia ATS assessment by UNODC (2013) recorded that among 1.1 to 1.3 million crystalline methamphetamine users in Indonesia, 62% of user is in Java. The National Narcotics Board identified crystalline methamphetamine as the primary substance of concern for the first time in Indonesia. Nowadays, the country has played a substantial role on producing, trafficking, and also market place for crystalline methamphetamine, specifically in Java Island. From 2006 through 2011, 135 of crystalline methamphetamine laboratories were seized in Java Island.

Moreover, there were 598.248 grams of average methamphetamine seized between years 2008 to 2011. Total methamphetamine seized showed the availability of this drug in Java. Characteristic of methamphetamine user in West Java in 2011 were dominated with male user, aged between 20-29 years old, mostly has education level in high school and higher education, occupation as student, and single. Some of methamphetamine user said that they are use methamphetamine because the needs of its effect that make them stay alert in longer duration to support them to work in longer period, increase their confidence, more active without losing control of their self, and they can easily get the small package of methamphetamine with a cheap price (Pradita, 2016).

5.. Factors related to relapse risk based on Relapse Prevention Model

This study uses the dynamic model of relapse purposed by Witkiewitz and Marlat (2004) as the conceptual framework. The dynamic model of relapse has explained the factors of relapse risk and relapse processes in the dynamic process. The independent variables of this study derived from all the factors in the dynamic model of relapse including interpersonal and intrapersonal factors. Interpersonal factors including self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, and physical withdrawal, while intrapersonal factor including social support. Physical withdrawal syndrome was excluded from the study because the sample will be taken from inpatient clients in primary phase who were no longer experience physical withdrawal syndrome anymore.

The definition, relationship to relapse risk, and measurement of each factor will be explained in the following paragraph. The empirical supported data to prove the relationship between factors with the relapse risk are derived from several study related to stimulant drugs (e.g. Amphetamine, Methamphetamine, and Cocaine).

1.9. Self-efficacy

1.9.1. Definition: Based on social cognitive theory, self-efficacy described as an individual confidentiality and capability to perform a certain behavior in a specified context (Bandura, 1997). From social learning theory, self-efficacy

described as a reflection of individual's understanding of what skills that he/she obtained through observation, imitation, and modelling that can be used for interaction in a group setting (Ormrod, 1999).

1.9.2. Relationship to relapse risk: Ibrahim and Kumar (2009) found that self-efficacy has the most contribution to influence the relapse among 400 addiction clients in eight drug rehabilitation center Malaysia. Consist with a previous study from Hagman (2004) stated that there was an inverse correlation between levels of self-efficacy with the number of abstinent day up to 90 days following treatment. There was a significant difference in the mean total perceived self-efficacy score between those who remain abstinent and those who do not remain abstinent. Client who has a high self-efficacy tend to be protected from the risk of relapse so that they can follow the treatment well. This study was in line with the recent literature reviewed of self-efficacy in the substance abuse field including methamphetamine by Kadden and Litt (2011) found that self-efficacy has a strong predictive relationship to the outcome of substance use disorder treatment. Self-efficacy is a mediator between a substance use disorder treatment and the outcome. Enhancement of self-efficacy is a central of the relapse prevention treatment. Person with high self-efficacy has more control to prevent relapse.

1.9.3. Measurement: Relapse prevention model has widely used as a theory and intervention based among alcoholic population in the first. There are several instrument made based on the Marlatt and Gordon (1980) relapse risk taxonomy to measure the level of self-efficacy , such as Situational Confidence Questionnaire (SCQ; Annis & Davis, 1988), Drug and Alcohol Abuse Self-Efficacy Scale (DAASE; DiClemente, Carbonari, Montgomery, & Hughes, 1994), The Drink Refusal Self-Efficacy Questionnaire (Young, Oei, & Crook, 1991), and the Self-efficacy for Drinking Control Scale (Sitharthan, Sitharthan, Hough, & Kavanagh, 1997). Regarding measurement of self-efficacy among substance abuser they are two instruments can be used such as the Drug Avoidance Self-Efficacy Scale (DASES, Martin, Wilkinson, & Poulos, 1995) and the Drug Taking Confidence Questionnaire (DTCQ, H. Annis & Martin, 1985). The DASES demonstrated a high value of validity and reliability to measure a self-efficacy, although its use has been restricted to multiple drug users in a young population. Due to the population

restricted of DASES, The DTCQ was utilized in this study to measure the level of self-efficacy of drug abuser. This instrument constructed based on the relapse risk taxonomy by Marlatt and Gordon (1980). DTCQ will be used to measure the self-efficacy among methamphetamine population (Lirtmunlikaporn, 2004) and suitable with in general population (Ramo, Myers, & Brown, 2008; Sklar, Annis, & Turner, 1997, 1999).

1.10. Outcome expectancies

1.10.1. Definition: Expectancies have been learned in a learning theory, social psychology, and experimental psychology. In the addiction literature, outcome expectancies has been concluded as the organized memories with varying level of accessibility through the learning process that can act to link with stimuli, behavior, and consequences that guide to voluntary and involuntary behavior of substance use (Brown, 1993). Outcome expectancies is an effect that individual expects will occur as a result of drug consumption (Marlatt & Donovan, 2005).

1.10.2. Relationship to relapse risk: Marlatt and Gordon (1985) explained that outcome expectancies have been considerate in relapse prevention model as a critical mediator of dependency and relapse that should be assessed thoroughly. With the concern to the positive outcome expectancies that associated to the relapse risk in influencing client's decision to use the drug. The process started through the exposure to the drug cues that often followed by decrease in self-efficacy and coping linked in with the positive outcome expectancies triggers to relapse risk (Marlatt, 1990). Furthermore, review of the cognitive and behavioral strategies for changing substance use expectancies by Brown (1993) concluded the outcome expectancies is a learning experience process that link the stimuli, behavior, and consequences related to drug use, retained it as a memories, and resulting both voluntary and involuntary behavior in a given situation. Positive outcome expectancies in drug use area are more associated with the relapse risk following treatment than negative outcome expectancy. Another study explained that drug effect expectancies were associated with drug preference and drug use patterns over two years (Aarons, Brown, Stice, & Coe, 2001). In association to drug use patterns, negative outcome expectancies are related with drug cessation and prevent the tendency to relapse. This finding is aligned with the Schafer and Brown (1991) stated that high negative outcome

expectancies of using drug tend to be a protective factor for client and forestalling relapse. With regard in this study, Ogai et al. (2007) included outcome expectancies as one of the cues of relapse risk in stimulant user. Positive outcome expectancies associated with anticipation of positive outcomes after drug use that can lead into the lack of control over drug use and increase the relapse risk, while negative outcome expectancies restraining relapse risk due to the anxiety of getting negative outcome after drug use and acknowledgement of social support.

1.10.3. Measurement: There were a number of instruments designed to assess substance use outcome expectancies, measures for cigarettes (Copeland, Brandon, & Quinn, 1995), alcohol (Baer, Kivlahan, Fromme, & Marlatt, 1989; Brown, Christiansen, & Goldman, 1987). Specifically for methamphetamine in this study will be used Stimulant Effect Expectancy Questionnaire (SEEQ) from Schafer & Brown (1991). The SEEQ has generally good psychometric properties for using in adult population with Cronbach's alpha .86 to 0.45.

1.11. Motivation

1.11.1. Definition: Motivation is refers to the biological, social, and cognitive involved process that initiates, guides, and maintains goal-directed behaviors (Nevid, 2012). Another stated that motivation is a theoretical construct that used to explain a certain direction of behavior as a reason for individual action, desires, and needs (Elliot & Covington, 2001). In the substance abuse field, motivation described as the willingness of individual to change particular behavior, especially to change in the addiction behavior (Miller & Rollnick, 2002).

1.11.2. Relationship to relapse risk: Witkiewitz and Marlatt (2004) stated in their relapse prevention model that there were two possibility ways of motivation affects the relapse risk. First motivation for positive behavior change toward abstinence and the second motivation for engage in the problematic behavior to continue abusing drug. The ambivalence of these motivations affected the risk of relapse through the influence to the self-efficacy and outcome expectancies of client. Furthermore, Miller and Rollnick (2002) captured that the ambivalence between these motivations influence client in attempting to change the current negative behavior.

Prochaska and DiClemente (1984) purposed the Transtheoretical model of motivation which explains the five stages of readiness to change, including: precontemplation, contemplation, preparation, action, and maintenance. Each stage represents the different level of motivational readiness to change. Precontemplation is the lowest level of readiness which client still ignore to their problem, contemplation is when client start to thinking about change, preparation is the stage when client ready to change, action is the stage when client are making a change, and finally maintenance stage is to keep the client stay on track. DiClemente and Velasquez (2002) explained that there is always a possibility to relapse in the moving process through the stages of change. They also recognized that the relapse shouldn't be assumed as a failure but as a learning opportunity. Therefore, increasing the motivation to change in the period of treatment is important to minimize relapse risk.

1.11.3. Measurement: Several instruments were developed to capture the level of readiness to change of client in the substance abuser population. The University of Rhode Island Change Assessment (URICA, DiClemente & Hughes, 1990) is a self-report to captured the client current state regarding readiness to change but there is no cut-off norms established to determine what constitute level in particular stage of change (Carroll et al., 2006). With regards to assess the level of motivation to change, this study will be used the Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for using in drug user (SOCRATES 8D) by Miller and Tonigan (1996). The instrument of SOCRATES 8D previously utilized among methamphetamine abuser (Lirtmunlikaporn, 2004; Matsumoto et al., 2014; Miller, Yahne, & Tonigan, 2003; Millere et al., 2014).

1.12. Coping

1.12.1. Definition: In the psychological term, coping means to spend own consciousness effort to deal with problems, in order to try mastering or tolerate stress and conflict (Weiten & Lloyd, 2008). Coping described as a constantly changing of cognitive and behavioral strategies designed to manage specific demands that are appraised as exceeding the resources of the person (Lazarus & Folkman, 1984).

1.12.2. Relationship to relapse risk: Coping is important in preventing relapse. A prospect study of 104 cocaine abuser by Hall, Havassy, and Wasserman (1991) found that client who use more frequent of coping strategies to cope with their

stressful life event tend to stay abstinence in a longer period time. This finding also indicates a stronger relationship between coping strategies with a decreased risk of relapse among the stimulant groups user. Furthermore, clients with maladaptive coping response to the stressful life event are more vulnerable to relapse even though they have a high cognitive functioning level (Tapert, Ozyurt, Myers, & Brown, 2004). In another study, Hagman (2004) stated that coping and self-efficacy were together in contributing the relapse risk during the first few critical months following substance abuse treatment completion. Coping itself showed a significant correlation with the number of abstinence day. Similar with the research from Fauziannisa and Tairas (2013) stated that there was a significant positive correlation between coping strategy and self-efficacy in drugs abusers during recovery in rehabilitations. Tobin et al. (1989) explained engagement coping comprised of problem focused engagement (problem solving and cognitive restructuring) and emotion focused engagement (social contact and express emotion) that lower client's rates of relapse in result, whereas disengagement coping comprised of problem focused disengagement (problem avoidance and wishful thinking) and emotion focused disengagement (social withdrawal and self-criticism) that lead client to be more vulnerable of relapse.

1.12.3. Measurement: The variety of coping measurement exists to measure the client's coping strategies to use in some circumstances. There are two general coping strategies: problem and emotion focused engagement versus problem and emotion focused disengagement by (Folkman & Lazarus, 1980) and active versus avoidant coping (Holahan & Moos, 1987). The Ways of Coping (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986) is an inventory to scale the specific ways clients cope with the stressful event. The respond of client indicate the degree of which they have utilized each particular coping method to deal with. Eight distinct coping strategies emerged in The Ways of Coping inventory, they are: Confrontative Coping, Seeking Social Support, Planful Problem-Solving, Self-Control, Distancing, Positive Appraisal, Accepting Responsibility, and Escape/Avoidance.

The Coping Strategies Inventory Short Form (Tobin, 1995) is use to investigate the way of client to handle the stressful life circumstances. Client will be asked to describe high-risk situations they had encountered and coping strategies they employed. Clients have to give response to a 32 items checklist comprised of

emotional, behavioral and cognitive abilities. The structure of coping was identified in three levels included eight primary subscale (problem solving, cognitive restructuring, emotional expression, social support, problem avoidance, wishful thinking, self-criticism, and social withdrawal), four secondary subscale (problem focused engagement, emotion focused engagement, problem focused disengagement, and emotion focused disengagement), and two tertiary subscale (engagement and disengagement) (Tobin, Holroyd, Reynolds, & Wigal, 1989). The questionnaire of CSI-SF were chosen to describe clients coping mechanism in this study because the subscale of CSI-SF explained more detail to difference between positive and negative coping which are further describe as engagement and disengagement coping. In this study, client will be asked to describe a high-risk situation that they have encountered which can lead them to use drug. This study will measure coping strategies of client using tertiary factors in the structure of coping: engagement and disengagement coping. Engagement coping decrease relapse, while disengagement coping will increase the relapse risk in result.

1.13. Emotional State

1.13.1. Definition: Emotional state and affective state are used interchangeably like synonym (Shouse, 2005). This was explained by Ekkekakis (2013) that in the earlier 1992 in general psychology, the terms of affect, mood, and emotion are used interchangeably without any attempt at conceptual differentiation. Even though these terms are considerably the same, these words deserve a precise definition because of the mental and physiological they caused. Affective state is neurophysiological state consciously accessible as a simple primitive non reflective feeling most evidence in mood and emotion but always available to consciousness. Affect can be a component of emotion and mood. Emotion is the manifestation reaction to those affective conditions that move us to some kind of action. Emotions are characterized by a sudden disruption of the affective balance (Ekkekakis, 2013).

1.13.2. Relationship to relapse risk: Watson (1988) defined positive affect as the extent to which client feels pleasantly alert, whereas negative affect is defined as a state of significant distress. Higher level of a positive affect predict continues of abstinence which lowering a relapse risk, while negative affect states lead to a greater

relapse risk (Hall, Havassy, & Wasserman, 1991). Olsson, Cooper, Nugent, and Reid (2016) found from a formal review of the literature indicated the relationship between affect and substance use outcomes. There was also support for addressing Negative Affect within substance use treatment to improve Negative Affect over the course of treatment, as well as to prevent relapse. Furthermore, Serafini, Malin-Mayor, Nich, Hunkele, and Carroll (2016) in the study also reflected that negative affect positively correlated with high risk to relapse, while higher Positive Affect was associated with approach-oriented coping, abstinence-related action tendencies, and abstinence-specific social support that can become a protective factor to prevent relapse after treatment. Although several studies were concern to the negative mood as a prior to the relapse risk, McKay, Rutherford, Alterman, Cacciola, and Kaplan (1995) stated that the positive moods together with the pleasant social experience are also leads to the relapse risk as well.

1.13.3. Measurement: The early emotion scale were developed to use in psychiatric field is Profile Of Mood State (POMS, McNair, Lorr, & Droppleman, 1971) is a tool to assess a transient mood states in six factors including tension-anxiety, depression-dejection, anger-hostility, vigor-activity, fatigue-inertia, and confusion-bewilderment. The Positive Affect and Negative Affect Schedule (PANAS, Watson, Clark, & Tellegen, 1988) will be used measure client's emotional state in this study. The PANAS consists of words that describe different emotions of client. PA represent the extent that individual experience pleasurable with the environment whereas NA represent subjective distress and unpleasable environment. Example of the emotion that represent high PA such as enthusiastic and alert, whilst upset and guilty are the emotion that represent of high NA. Serafini et al. (2016) confirmed the psychometric properties of using PANAS to scale the affect among substance abuser population.

1.14. Craving

1.14.1. Definition: Craving is a subjective motivational state that expressed as a desire, intention, expectancy, anticipation, and compulsivity, that were activated by the trigger from previous stimuli associated with drug use and persist well beyond cessation (Tiffany & Conklin, 2000). Another research conclude craving as an intense desire or irresistible urge leads to drug seeking or drug taking that can become a

contributor of relapse (Galloway & Singleton, 2008). In the development of relapse risk for stimulant, craving generally understood as a strong desire to use drugs (Ogai et al., 2007).

1.14.2. Relationship to relapse risk: Hartz, Frederick Osborn, and Galloway (2001) found that among the methamphetamine user may have the difficulty to maintain abstinence longer than a week due to the continued of craving. The levels of craving for methamphetamine use determine the tendency of relapse risk during and after treatment. Consistence with the finding from Galloway and Singleton (2008) stated that craving predicted methamphetamine use in the first week immediately following treatment. The probability of methamphetamine use after client reported craving state raised for each week follow up. Therefore, the level of craving is appropriate for use as a baseline mark for methamphetamine treatment. Current study from Lopez, Onyemekwu, Hart, Ochsner, & Kober (2015) supported the finding that craving predict methamphetamine use and relapse following abstinence, while the level of craving itself depend on the client's methamphetamine route of administration. The methamphetamine smoker can reduced the craving level by implementing cognitive strategies to control over craving.

1.14.3. Measurement: Craving has been believed as an important contributor of relapse in addiction field that makes the measurement of craving become important. To measure the craving state among smoker, Questionnaire on Smoking Urge (QSU, Tiffany & Drobes, 1991) was developed to measure four different areas relevant to cigarette craving: desire to smoke, anticipation of positive outcomes, anticipation of relief of negative affect or withdrawal, and intention to smoke in 32 items questions. The Desire for Alcohol Questionnaire (DAQ, Love, James, & Willner, 1998) developed to measure craving among alcoholic using 36 items questions based on four theoretically conceptualizations of urges for alcohol including anticipation of positive reinforcement, anticipation of relief of negative affect, intentions to drink, and desires to consume alcohol. Craving state of stimulant drug in this study will be measured by the Desire for Speed Questionnaire that was designed by James, Davies, and Willner (2004).

1.15. Social support

1.15.1. Definition: In the linking health communication and social support (Mattson & Hall, 2011), social support defines as any type of interactive communication that provide client with help that reduce the uncertainty situation and enhanced control over the situation. Besides that, social support also emphasize as the network of the people who are available for helping client to provide support including physical, psychological, and financial support. In the field of drug addiction, social support is understood as the presences of people who can become a support system for the addict to encourage abstinence and minimizes the relapse risk (Witkiewitz & Marlatt, 2004).

1.15.2. Relationship: Jhonsen and Herringer (1993) found that although attitude and coping ability of client is important to prevent relapse, the external social support from family and significant others can also be a valuable resources in reduce a relapse risk after treatment. Particularly, the study examined three factors in social support including involvement with community based self-help groups (such as Narcotic Anonymous meeting), aftercare, and family participation in the client's treatment. Among clients who participated in inpatient program for the treatment of chemical dependency, study found that there was a significant relationship between all of these three social support activities with the relapse after treatment. Furthermore, McMahon (2001) added the perceived of the social support quality that client received is also matter in the relapse related treatment outcomes. The result reported client who relapse after treatment were experienced less perceived support quality during three month prior to relapse. While client with adequate perceived social support quality during treatment and after treatment discharge showed a longer period of abstinence. Dobkin et al. (2002) added that higher social support accounts for reduction in the severity of drug abuse, participated in the treatment program for a longer period, and lowering the relapse risk following treatment. Social support can be obtained from family member, friends, spouses, another substance abuser, and significant others around client that getting along and helping each other during treatment and post discharge significantly decreased relapse risk (Ellis, Bernichon, Yu, Roberts, & Herrell, 2004).

1.15.3. Measurement: Social Support Questionnaire (SSQ6) from Sarason, Sarason, Shearin, and Pierce (1987) will be used to identify the number of supportive individuals and the global perceptions of perceived available support. The value of Cronbach's alpha for the SSQ6 is from .93 to .90 for the number of supportive individuals and satisfaction score of support. SSQ6 has been used to assessed the role of unsupportive social interaction in the process of recovery from substance abuse with the internal consistency reliability score for the number of supportive individual was .93 and the satisfaction score of social support scale was .92 (Schmitt, 2003) and has been used to evaluate social support of web based treatment among cocaine abuser (Schaub et al., 2015).

6. Nursing Care and Relapse Prevention for Methamphetamine User

The rehabilitation treatment efforts for stimulant dependent clients, such as those who use methamphetamine, should incorporates behavioral, cognitive, and psychological techniques that are primarily emphasized during the period immediately following cessation of acute withdrawal from methamphetamine and accomplish three major goals: (1) helping an individual develop and maintain high motivation for abstinence (usually including educational lectures informing individuals of the dangers of stimulants and ways to avoid common justifications used to rationalize substance use); (2) strategies for avoiding use; and (3) relapse prevention (Schuckit, 1994). The Principles of Drug Addiction Treatment, published by the National Institute on Drug Abuse (2012), describes current research regarding the factors that underlie successful treatment outcomes. The first principle is that no single form of treatment is appropriate for all individuals. Treatment success requires that the specific problems and needs of each individual are adequately addressed. Thus the current cognitive status of each individual being treated must be taken into consideration. An individual who is not capable of understanding or remembering the material presented will not be able to profit from it.

Addiction is both physical and psychological health issues that need psychiatric nurse role in helping clients undergoing drug rehabilitation, monitor the progress, help the clients to adjust their life without drugs, and teach them how to maintain their sobriety after leaving rehabilitation treatment. Psychiatric nurse need

training in general physical care, especially physical symptom that result from addiction such as withdrawal syndrome. They also need to understand the psychological issues that contribute to addiction so they can help patients work through these problems and reduce the risk of relapse. These practice is aligned with psychiatric and mental health nursing scope and standards of practice that include nursing care plan, coordination of care, coordinate milieu therapy, giving psychotherapy and psychoeducation for clients regarding the effect of drug abuse and treatment option (APNA, 2007).

The substance rehabilitation center of National Narcotics Board in West Java, Indonesia provide treatment service program that fits for all clients without concerning type of drug they use, stage of use, and the background problem of client. The National Narcotics Board Indonesia (BNN, 2012) determines three stages of drug addiction recovery including detoxification phase, primary phase, and aftercare phase. Nursing care for each of stages will be discussed as follow paragraph:

1.16. Detoxification phase

Detoxification phase is the first step in the treatment of addiction. It takes two weeks treatment before clients proceed to the next phase. The aim of detoxification is to remove the methamphetamine from the client's body. The main concern in this phase is to help client faces intoxication and withdrawal symptom. Acute methamphetamine intoxication begins with a high feeling followed by the physiological development of the symptoms such as affective blunting, anxiety, anger, stereotyped behavior, talkativeness, feeling great, and impaired judgement. Whereas physical sign and symptom of methamphetamine intoxication are tachycardia or bradycardia, dilated pupils, heavy sweating, wakefulness, increased stamina, nausea or vomiting, increased libido. The higher dose of using methamphetamine in a longer period can affect confusion, impaired memory and coordination, severe shaking, repetitive movements, clumsiness, agitation, suspiciousness, hallucination, paranoia, aggressiveness, and coma (Raki, 2010; Townsend, 2014).

The clinical guidelines for withdrawal management of drug dependence (Dolan, 2010) described methamphetamine withdrawal symptoms are begin within 24 hours after last use of methamphetamine and last for 4-5 days. Symptoms include

agitation, fatigue, irritability, depression, muscle aches, and increased sleeping and appetite. The management of stimulant withdrawal is using symptomatic medication and supportive care that need to observe and monitor regularly. Clients who are severe from psychotic symptom due to the large amount of methamphetamine use can be managed using anti-psychotic medication. Follow up the withdrawal symptoms phase to 1-2 months by provide client with the psychological therapy that focuses enhance clients with skill to keep abstinence.

Common nursing diagnose and interventions for clients in detoxification phase is risk for injury that is defined as a result of internal or external environmental conditions interacting with the individual's adaptive and defensive resources (NANDA, 2012). This diagnose can be related to the methamphetamine intoxication and withdrawal symptom. The short-term goal of the treatment plan is the client's condition will be stabilized within 72 hours and the long-term goal is client will not experience physical injury. Interventions with selected rational for diagnose risk for injury are as follows:

1) Assess client's level of disorientation to determine specific requirements for safety. *Knowledge of client's level of functioning is necessary to formulate appropriate plan of care.*
2) Obtain a drug history to determine type of substance use, time of lasting and amounted of consumed, length and frequency of consumption, and amount consumed on a daily basis.
3) Obtain urine sample for laboratory analysis of substance content. *Subjective history is often not accurate. Knowledge regarding substance ingestion is important for accurate assessment of client condition.*
4) Place client in quiet, private room. *Excessive stimuli increase client agitation.*
5) Institute necessary safety precautions (Client safety is a nursing priority):
    a. Observe client behaviors frequently; assign staff on one to one basis if condition is warranted; accompany and assist client when ambulating; use wheelchair for transporting long distances.
    b. Be sure that side rails are up when client is in bed.
    c. Pad headboard and side rails of bed with thick towels to protect client in case of seizure.

d. Use mechanical restraints as necessary to protect client if excessive hyperactivity accompanies the disorientation.

6) Ensure that smoking materials and other potentially harmful objects are stored away from client's access. *Client may harm self or others in disoriented state.*
7) Frequently orient client to reality and surroundings. *Disorientation may endanger client safety if he or she unknowingly wanders away from safe environment.*
8) Monitor client's vital signs every 15 minutes initially and less frequently as acute symptoms subside. Vital signs provide the most reliable information about client condition and need for medication during acute detoxification period.
9) Follow medication regimen, as ordered by physician. Common medical intervention for detoxification from the stimulant intoxication usually begins with minor tranquilizers such as chlordiazepoxide (Librium) and progresses to major tranquilizers such as haloperidol (Haldol). Antipsychotics should be administered with caution because of their propensity to lower seizure threshold. Repeated seizures are treated with intravenous diazepam. Withdrawal treatment is usually aimed at reducing drug craving and managing severe depression. The client is placed in a quiet atmosphere and allowed to sleep and eat as much as is needed or desired. Suicide precautions may need to be instituted. Antidepressant therapy may be helpful in treating symptoms of depression.

The outcome criteria of the interventions are client is no longer exhibiting any signs or symptoms of substance intoxication or withdrawal and client shows no evidence of physical injury obtained during substance intoxication or withdrawal.

1.17. Primary Phase

Primary phase is a non-medical treatment in rehabilitation center of National Narcotics Board in West Java, Indonesia. The rehabilitation center is applying modification of Therapeutic Community (TC) as the main program in a primary phase to all clients without considering the diversity of client conditions such as types of drugs they use, the severity of addiction, and previous efforts to stop using drugs. Clients will be given an initial knowledge regarding the primary phase in entry unit for two weeks. The purpose of entry unit is to prepare clients in order to follow the program well. Primary phase will be finished within four month or six month based

on the ASAM placement criteria. After completion of primary phase, clients get into re-entry unit for one month in order to be prepared for the next after care phase. For relapse prevention program, the rehabilitation adopted Cognitive behavioral and relapse prevention strategies (UNODC, 2007) with focus on the maintenance stage of addictive behavior change that has two main goals: to prevent the occurrence of initial lapses after a commitment to change has been made and to prevent any lapse that does occur from escalating into a full-blow relapse. The rehabilitation only set relapse prevention program in the primary phase.

Jenner and Lee (2008) described some of interventions in the treatment for methamphetamine user. Counselling such as cognitive behavioral approaches should be provided by psychiatric mental health advanced practice registered nurse who have trained before on these approaches like Cognitive Behavioral Therapy (CBT), Motivational Interviewing (MI), Mindfulness-Based Cognitive Therapy (MBCT), and Acceptance-Commitment Therapy (ACT). Behavioral approaches can be used together in counselling approaches to help clients alter their lifestyles. The best programs provide a combination of therapies and other services to meet an individual patient's needs (NIDA, 2012; Noel, 2009).

Residential rehabilitation is a structured program that provides an appropriate environment is another intervention to help client abstinence from drug dependence (Jenner & Lee, 2008). Involve client in a self-help or mutual support group such as Narcotic Anonymous (NA) based on 12-steps approach which promote client to recovery from drug dependence. Psychiatric mental health advanced practice registered nurse can use their prescription authority to prescribe medication to ease the symptom of intoxication and withdrawal, maintenance therapy, and to treat the comorbid with mental or physical health problems. Nurses can also provide client with other support and complimentary therapies such as suggesting a good diet, regular exercise to alleviates a symptom of depression, regulate sleep, and mood, meditation to reduce stress and help concentration, and massage to promotes relaxation.

Common nursing diagnose and interventions for clients in primary phase is ineffective denial that is defined as conscious or unconscious attempt to disavow the knowledge or meaning of an event to reduce anxiety/fear, leading to the detriment of

health or other aspects of the individual's life (NANDA, 2012). This diagnose of ineffective denial can be related to low self-esteem, underdeveloped ego, underlying fears and anxiety that evidenced by several factors such as denies addiction, denies that substance use creates problems, keep using substance in physically hazardous situations, use of rationalization and projection to explain maladaptive behaviors, and unable to admit impact of the disorder on life pattern. The short-term goal of the treatment plan is client will divert attention away from external issues and focus on behavioral outcomes associated with addictive disorder, whereas in the long-term goal is client will verbalize acceptance of responsibility for own behavior and acknowledge association between substance use and personal problems. Interventions with selected rational for diagnose risk for injury are as follows:

1) Begin by working to develop a trusting nurse-client relationship. Be honest. Keep all promises. *Trust is the basis of a therapeutic relationship.*
2) Convey an attitude of acceptance to the client. Ensure that he or she understands, "It is not you but your behavior that is unacceptable." *An attitude of acceptance promotes feelings of dignity and self-worth.*
3) Provide information to correct misconceptions about the substance use behavior. Client may rationalize his or her behavior with statements such as, "I'm not addicted" or "I only use drug to relax before class. So what? I know lots of people who do". *Many myths abound regarding addictions. Factual information presented in a matter-of-fact, nonjudgmental way explaining what behaviors constitute addictive disorders may help the client focus on his or her own behaviors as an illness that requires help*.
4) Identify recent maladaptive behaviors or situations that have occurred in the client's life, and discuss how use of substances use behavior may have been a contributing factor. *The first step in decreasing use of denial is for client to see the relationship between substance use and personal problems.*
5) Use confrontation with caring. Do not allow client to fantasize about his or her lifestyle. *Confrontation interferes with client's ability to use denial; a caring attitude preserves self-esteem and avoids putting the client on the defensive.*
6) Do not accept the use of rationalization or projection as client attempts to make excuses for or blame his or her behavior on other people or situations.

Rationalization and projection prolong the stage of denial that problems exist in the client's life because of substance use.

7) Encourage participation in group activities. *Peer feedback is often more accepted than feedback from authority figures. Peer pressure can be a strong factor as well as the association with individuals who are experiencing or who have experienced similar problems.*

8) Offer immediate positive recognition of client's expressions of insight gained regarding illness and acceptance of responsibility for own behavior. *Positive reinforcement enhances self-esteem and encourages repetition of desirable behaviors.*

The outcome criteria of the interventions are client verbalizes understanding of the relationship between personal problems and the use of substances behaviors, acceptance of responsibility for own behavior, and understanding of substance addiction as an illness requiring ongoing support and treatment.

1.18. Aftercare phase

Drug addiction recovery process doesn't stop when the treatment period ends. The main focus of aftercare phase is engage clients in several activities to maintain client in a drug free behavior. Aftercare phase is a type of continue treatment that provide by the directorate of post rehabilitation under national narcotics board in the client's respective region. Unfortunately, after care phase often times cannot be evaluated properly due to the lost contact with clients who are not willing to attend the program anymore.

Relapse prevention program is a continuum program that needs evaluation in every treatment phase. Marlatt and Gordon (1985) proposed Relapse Prevention Model as a cognitive-behavioral model of relapse process and a set of strategic interventions for maintenance of change. Rasool (1997) stated in the relapse prevention and nursing intervention that there is no single approach that can fit with the entire client with substance use disorder. Therefore, treatment matching hypothesis that client has to be treated with a particular treatment according to the client needs to improve the outcome. The treatment matching allows nurses to make a comprehensive nursing assessment and case management to determine the suitable treatment to work with client based on shared principal with multidisciplinary

perspective. The degree of client's vulnerability will dictate the intensity of treatment needed. The objective tools such as questionnaire and routine blood tests can be used as a clinical judgement.

Relapse Prevention strategies is a part of tertiary level of prevention and harm reduction in addiction that aim to restore the individual to the optimum level of functional (Rassool, 2010). In the nursing implementation, nurses help clients to identify clients high risk situation that lead client to the previous maladaptive pattern behavior and promote client to learn and practice skill to prevent relapse. Relapse prevention can be delivered in an individual or group sessions through face-face sessions or information material such as self-help manual, work book, phone call, and videos in the counseling session (Witkiewitz & Marlatt, 2004). Since there is no standardization of Relapse Prevention Model into practice, these ten points checklist of relapse prevention ingredient can be utilized as a guidance of practice as follow:

1. Identification of high-risk situations and classically conditioned cues (triggers) for craving.
2. Initially, development of strategies to limit exposure to high-risk situations.
3. Development of skills to successfully endure cravings and other painful affects.
4. Development of skills to deal with other high-risk situations that could be peculiar to the individual.
5. Learning to cope with lapses.
6. Learning how to challenge and/or better manage maladaptive thoughts about substance use.
7. Learning how to avoid use when one is in an otherwise unavoidable high-risk situation.
8. Generating a basic emergency plan for coping with a high-risk situation when other skills are not working.
9. Learning how to detect various ways in which one is 'setting oneself up' to use substances.
10. Generating pleasurable sober activities and relationships to offset feelings of emptiness and loss after removal of substance use.

Common nursing diagnose and interventions for clients in aftercare phase is ineffective coping that is defined as inability to form a valid appraisal of the stressors, inadequate choices of practiced responses, and/or inability to use available resource (NANDA, 2012). This diagnose of ineffective coping can be related to inadequate support system, inadequate coping skills, dysfunctional family system, negative role modelling, and personal vulnerability that evidenced by several factors such as alteration in societal participation, inappropriate use of defense mechanisms, low frustration tolerance, and manipulative behavior. The short-term goal of the treatment plan is client will express true feelings associated with the use of substances as a method of coping with stress, whereas the long-term goal is client will be able to verbalize adaptive coping mechanisms to use, instead of substance abuse in response to stress. Interventions with selected rational for diagnose risk for injury are as follows:

1) Establish trusting relationship with client (be honest; keep appointments; be available to spend time). *The therapeutic nurse-client relationship is built on trust.*
2) Set limits on manipulative behavior. Be sure that the client knows what is acceptable, what is not, and the consequences for violating the limits set. Ensure that all staff maintains consistency with this intervention. *Client is unable to establish own limits, so limits must be set for him or her. Unless administration of consequences for violation of limits is consistent, manipulative behavior will not be eliminated.*
3) Encourage client to verbalize feelings, fears, and anxieties. Answer any questions he or she may have regarding the disorder. *Verbalization of feelings in a nonthreatening environment may help client come to terms with long-unresolved issues.*
4) Explain the effects of substance abuse on the body. Emphasize that prognosis is closely related to abstinence. *Many clients lack knowledge regarding the deleterious effects of substance abuse on the body*.
5) Explore with client the options available to assist with stressful situations rather than resorting to use of substances. *Client may have persistently resorted to addictive behaviors and thus may possess little or no knowledge of adaptive responses to stress.*

6) Provide positive reinforcement for evidence of gratification delayed appropriately. *Positive reinforcement enhances self-esteem and encourages client to repeat acceptable behaviors.*
7) Encourage client to be as independent as possible in own self-care. Provide positive feedback for independent decision making and effective use of problem-solving skills.

The outcome criteria of the interventions are client verbalizes adaptive coping strategies as alternatives to use of addictive behaviors in response to stress and able to verbalize the names of support people from whom he or she may seek help when the desire to use substances is intense.

7. Conceptual Framework

The objectives of this study is to study methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia and to examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia as illustrated in figure 3.

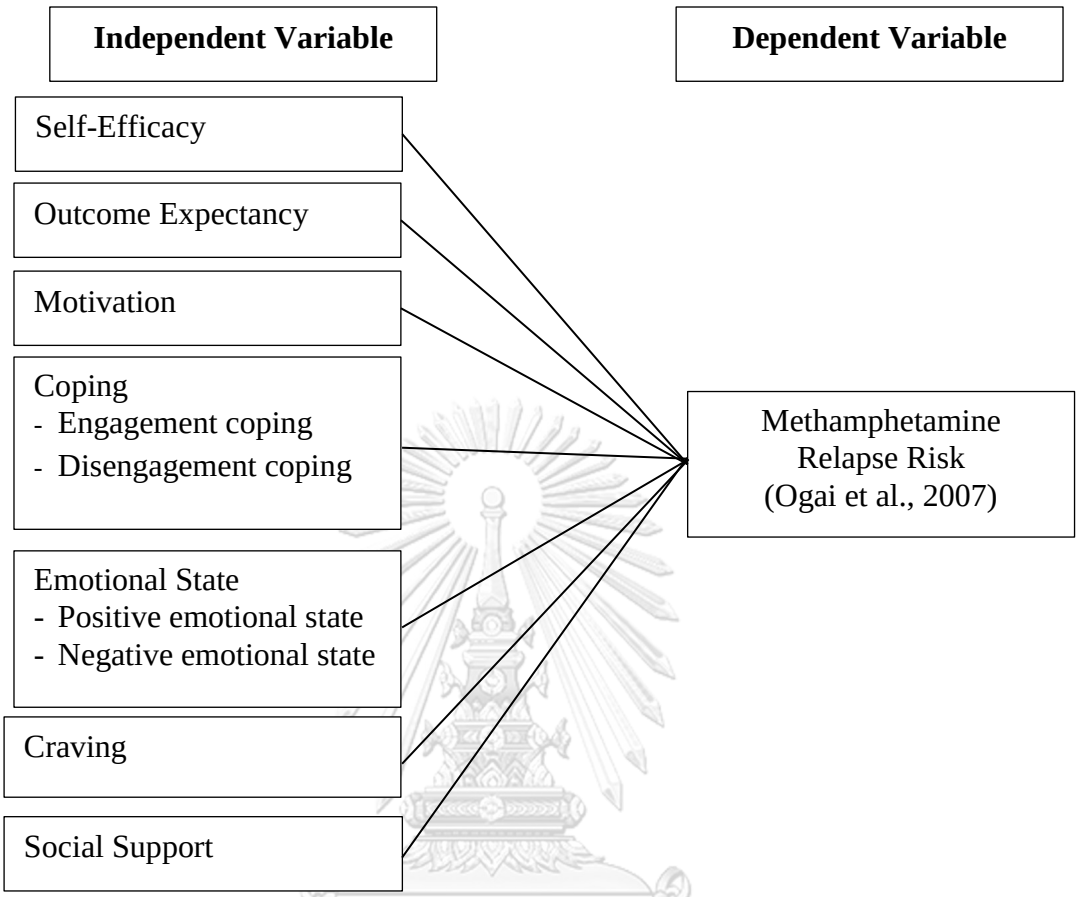

Figure 3 Conceptual Framework

CHAPTER III
METHODOLOGY

Research Design

This descriptive correlational research aims to study methamphetamine relapse risk and examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Setting

West java province is the most populous provinces in Indonesia. The territory is located at the Java Island. This study was conducted at The Substance Rehabilitation Center of National Narcotics Board in West Java that is fully funded by the government of Indonesia. It has claimed as the biggest rehabilitation center in Southeast Asia with 5 Hectare of area. As a national referral of substance rehabilitation in Indonesia, this place has become a center of rehabilitation service, education, training, and research that has been worked with 821, 785, 797, 800, 906, and 840 clients who had completed the treatment course in 2011 until 2016 respectively with 84.78% of the clients was methamphetamine users. The clients were come from several regions in Indonesia, but mostly were come from region of Java. The Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia expected to provide a wide representative sample for this study.

Population and Sample

Population: The population that participates in this study was clients in Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Sample: A subset of clients from primary phase who has fulfilled the inclusion criteria as a representative of the population.

Sample size: Thorndike method (1978) was used to calculate the sample size as follows: $N \geq 10(k) + 50$ (where N was sample size, k is the number of variables). This study has ten variables. Therefore, the sample size should be at least 150 participants. Furthermore, to overcome the missing data, 10% was added. So, 15 clients were added become 165 participants in total for data collection. According to Burns and Grove (2009), the sampling size should be large enough to identify relationship among variables or determine between groups in the research.

Sample technique: A purposive sampling technique was applied to select the sample. A purposive sampling technique is a method of sampling where the researcher deliberately chooses the sample based on the criteria that were set before to provide a necessary data of study (Burns & Grove, 2009). A purposive sampling technique was considered suitable for this study because it focused on those adult clients who diagnosed with methamphetamine use disorder. Clients who were eligible were purposively chosen to be participated in study.

Sample selection: participants were recruited from clients in a primary phase of Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia that divide into several wards namely entry unit, re-entry unit, house of faith, house of hope, house of care, and house of female.

The following criteria were used to recruit the participants:

1. Male and female adult aged 20-65 years old (Erikson & Erikson, 1998) who meets the criteria for methamphetamine use disorder based on stimulant-related disorder criteria in DSM-5.
2. No cognitive impairment evidenced by MMSE score greater or equal to 24 points out of 30 points (Folstein, Folstein, & McHugh, 1975).
3. No limitation of communication in both written and spoken Indonesian language.
4. Willing to participate in the study.

Among two hundreds clients in a primary phase of Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia, 184 clients were met the inclusion criteria, but only 165 clients were recruited as participants of this study. The change of a sampling error can be decrease by included a large sample size into research (Marshall, 1996). In this study, even though there were 184 clients met the inclusion criteria, but 19 persons were refused to participate or were having an

appointment meeting with their doctor. However, the study included all 165 clients based on calculated sample size which can minimum the sampling error. The total number of clients on each ward, the number of clients who were meets the inclusion criteria, and the number of clients included in the study were described in the table 1.

Table 1 The number of clients in the ward, number of clients that met criteria, number of clients included in the study, and number of clients excluded from study

Ward's name	Total number of client in the ward	Total number of client that met criteria	Total number of client included in the study
Entry Unit	30	25	17
Re-entry Unit	35	33	31
House of Faith	43	36	30
House of Hope	38	37	37
House of Care	35	35	32
House of Female	19	18	18
Total Client	200	184	165

Research Instruments

Data were collected using a set of questionnaires as follows:

1. Demographic Characteristic Questionnaire

Demographic characteristic questionnaire was developed by the researcher to elicit information about participants. The questionnaire was a self-reported questionnaire which consists of closed-ended questions and open-ended questions including age, gender, level of education, occupation, register process, relapse experience, legal problem status, and duration of drug use.

2. Drug Taking Confidence Questionnaire (DTCQ)

The Drug Taking Confidence Questionnaire (H. Annis & Martin, 1985) was used in this study. This questionnaire contents of 50 items question that assist the clients to report how confident they are in resist the urge of using drug. The test employs a Likert scale response ranging in 20-point increments from 0-100% (100 for

100% confident right now that you can resist the urge to use this drug, 80 for 80% confident, 60 for 60% confident, 40 for 40% confident when you are more unconfident than confident, 20 for 20% confident, and 0 for no confidence at all about the given situation). The score was calculated by totaling respond client point for each item question divided by the total questions. The possible range score was from 0 to 100. The higher the score indicates the better the self-efficacy to resist the urge to use methamphetamine in the given situation.

The questionnaire is grounded in Bandura's theory of self-efficacy (1977) to obtain a profile of client's self-efficacy across eight categories classification of relapse-prevention precipitants (Marlatt & Gordon, 1985) that relate to two major types of situation, such as personal states and situations involving others. Personal states refer to situations that involve drug taking in response to an event that is primarily psychological or physical in nature, including unpleasant emotions (10 items: 1, 4, 11, 14, 21, 24, 31, 34, 41, and 44), physical discomfort (5 items: 2, 12, 22, 32, and 42), pleasant emotions (5 items: 3, 13, 23, 33, and 43), testing personal control (5 items: 5, 15, 25, 35, and 45), and urges and temptations to use (5 items: 6, 16, 26, 36, and 46). Situations involving other people refer to situations that involve a significant influence of another person or other people are involved, including conflict with others (10 items: 7, 10, 17, 20, 27, 30, 37, 40, 47, and 50), social pressure to use (5 items: 8, 18, 28, 38, and 48), and pleasant times with others (5 items: 9, 19, 29, 39, and 49).

The questionnaire have a good reliability with Cronbach's alpha coefficient for each subscales ranged from .95 to .79 (Sklar et al., 1997). From literature review, it was found that the previous studies used this measurement in stimulant drug user such as cocaine, amphetamine, and methamphetamine as well. The Drug Taking Confidence Questionnaire has been utilized to assessing the self-efficacy for abstinence among Thailand methamphetamine user in boot camp with the Cronbach's alpha of the DTCQ's pre and posttest were .98 and .96 and subscale's alphas ranged from .71 to .90 (Lirtmunlikaporn, 2004). Another study found the utilized of DTCQ were equally applicable among alcohol and cocaine abuser across the eight sub scale of DTCQ with a high degree of stability and provides additional validity evidenced (Sklar et al., 1999).

3. Stimulant Effect Expectancy Questionnaire (SEEQ)

The Stimulant Effect Expectancy Questionnaire was employed to assess client belief of methamphetamine use outcomes effect. SEEQ was first derived from Cocaine effect expectancy questionnaire from Schafer and Brown (1991) with adaptation to use in stimulant, such as cocaine including crack and amphetamine including crystal methamphetamine and speed (Aarons et al., 2001). The 46 items of SEEQ comprise 5 following scales: global positive effects (10 items: 2, 10, 22, 23, 25, 28, 37, 44, 45, and 46), global negative effects (14 items: 3, 8, 9, 27, 29, 32, 33, 34, 35, 36, 38, 39, 40, and 43), general arousal (8 items: 6, 12, 14, 15, 17, 20, 21, and 42), anxiety (8 items: 1, 4, 5, 13, 16, 18, 19, and 41), and relaxation and tension reduction (4 items: 7, 11, 24, and 31). Items 26 and 30 are not scored.

Each items scored using Likert scale from 1 to 5 (1 for disagree strongly, 2 for disagree somewhat, 3 for uncertain, 4 for agree somewhat, and 5 for agree strongly). The score for each scale is calculated by totaling the items scores and dividing by number of items in scale. The possible range score was from 46 to 220. The higher the score of global positive effect expectancy, general arousal, and relaxation and tension reduction indicates the more positive effect of using methamphetamine believed by client (Aarons et al., 2001). The SEEQ has generally good psychometric properties for using in adult population with Cronbach's alpha .86 to 0.45 (Schafer & Brown, 1991).

4. Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for Drug (SOCRATES 8D)

Motivation was measured using the Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for using in drug user by Miller and Tonigan (1996). SOCRATES 8D was derived based on transtheoretical model of motivation purposed by Prochaska and DiClemente (1984). The 19 items of SOCRATES 8D comprise of three scales including Recognition (7 items: 1, 3, 7, 10, 12, 15, and 17), Ambivalence (4 items: 2, 6, 11, and 16), and Taking steps (8 items: 4, 5, 8, 9, 13, 14, 18, and 19). Each item score using Likert scale from 1 to 5 (1 for strongly disagree, 2 for disagree, 3 for unsure, 4 for agree, and 5 for strongly agree). The score was calculated by totaling a raw score from client respond for each scale item question with a possible

range score from 7 to 35 for recognition, 4 to 20 for ambivalence, and 8 to 40 for taking step. The interpretations of score in each scale are divided into very low, low, medium, high, and very high. The SOCRATES 8D has generally good psychometric properties with Cronbach's alpha .96 to .60 (Miller & Tonigan, 1996).

5. Coping Strategies Inventory Short Form (CSI-SF)

The way of client to handle the stressful life circumstances was measured using the CSI-SF by Tobin (1995). The CSI-SF is a 32 items checklist comprised of emotional, behavioral and cognitive abilities that consist of three subscales including eight primary subscale (problem solving, cognitive restructuring, emotional expression, social support, problem avoidance, wishful thinking, self-criticism, and social withdrawal), four secondary subscale (problem focused engagement, emotion focused engagement, problem focused disengagement, and emotion focused disengagement), and two tertiary subscale (engagement and disengagement). Support for the constructs of problem-focused and emotion-focused coping hypothesized by Lazarus and Folkman (1984) was obtained as the secondary level of coping hierarchy (Tobin et al., 1989). CSI-SF were used to measure coping strategies among cocaine abuser with excellent internal consistency overtime (Buckley, 2017).

The 32 items of CSI-SF are measured on a 5 point Likert scale from 1 to 5 (1 for not at all, 2 for a little, 3 for somewhat, 4 for much, and 5 for very much) with Cronbach's alpha average .70, .80, and .90 for primary, secondary, and tertiary subscale respectively (Tobin, 1995). The primary subscale items consist of social contact (item 4,12, 20, and 28); express emotion (item 3, 11, 19, and 27); problem solving (item 1, 9, 17, and 25); cognitive restructuring (item 2, 10, 18, and 26); avoidance of the stressor (item 5, 13, 21, and 29); wishful thinking (item 6, 14, 22, and 30); social withdrawal (item 8,16, 24, and 32); and self-criticism (item 7, 15, 23, and 31). To calculate the secondary and tertiary subscale scores, simply add together the primary scales that make up that subscale. The possible range score of primary, secondary, and tertiary subscale was from 4 to 20, 8 to 40, and 16 to 80 respectively. The secondary subscale items consist of emotion focused engagement that measures dealing with a stressor through social contact and express emotion; the problem focused engagement scale indicate that client cope by active problem solving and

cognitive restructuring; the problem focused disengagement scale measures avoidance of the stressor and wishful thinking; and the emotion focused disengagement scale indicate that client cope using social withdrawal and self-criticism. The last, tertiary subscale consists of engagement coping that comprised of problem focused engagement and emotion focused engagement, while disengagement coping comprised of problem focused disengagement and emotion focused disengagement. The score was calculated by totaling client respond to only one subscale items (primary/secondary/tertiary subscale) in a time. High scores on the subscale indicate coping strategies that client employ.

6. Positive Affect and Negative Affect Schedule (PANAS)

The PANAS developed by Watson, Clark, and Tellegan (1988) was employed to measure the client's emotional state in this study. This scale consists of a number of words that describe different feelings and emotions of client. The emotional states of clients were divided into positive affect (PA) and negative affect (NA) that describe below:

Positive affect represents the extent to which client experiences pleasurable engagement with the environment. It consist of 10 items question (items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19) that serve as interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active. The responses using 5 point Likert scale from 1 to 5 (1 for very slightly or not at all, 2 for a little, 3 for moderately, 4 for quite a bit, and 5 for extremely). The score was calculated by totaling the client respond for PA. Scores can range from 10 – 50, with higher scores representing higher level of positive affect.

Negative affect represents the extent to which client experiences subjective distress and unpleasable engagement with the environment. It consist of 10 items question (items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20) that serve as distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid. The responses also using 5 point Likert scale from 1 to 5 (1 for very slightly or not at all, 2 for a little, 3 for moderately, 4 for quite a bit, and 5 for extremely). The score was calculated by totaling the client respond for NA. Scores can range from 10 – 50, with higher scores representing higher level of negative affect.

The alpha reliabilities are all acceptable high, ranging from .90 to .86 for PA and from .87 to .84 for NA. The reliability of the scales is clearly unaffected by the time instruction used (Watson et al., 1988). A comprehensive psychometric analysis of using PANAS among drug abuser including five drug types (benzodiazepines, marijuana, cocaine, methamphetamine, and opiates) showed an excellent internal consistency with Cronbach's alpha .90 for positive affect and .91 for negative affect (Serafini, Malin-Mayor, Nich, Hunkele, & Carroll, 2016).

7. Desire for Speed Questionnaire (DSQ)

The DSQ was designed by James, Davies, and Willner (2004) to measure the craving of stimulant drug. This questionnaire developed based on Desire for Alcohol Questionnaire (Love et al., 1998). The 24 items of DSQ comprised of four subscales, as follow: expectancy of positive and negative reinforcement (8 items: 2, 7, 10, 14, 18, 20, 22, and 24), strong desires and intentions to use (10 items: 4, 6, 8, 9, 11, 16, 17, 19, 21, and 23), mild desires and intentions to use (4 items: 1, 12, 13, and 15), and control (2 items: 3 and 5). Cronbach's alphas were identified as .92, .93, .89, and .64 for the scales of factors 1, 2, 3, and 4 respectively (James, Davies, & Willner, 2004). The client prompted on a Likert scale with scores ranging between 1 and 7 as to how strongly they agreed with each statement. The score was calculated by totaling each client respond for every question. The possible range score was from 24-168. The higher the score indicates the stronger client feel craving.

8. Social Support Questionnaire (SSQ6)

The six items short form of the SSQ6 is a measurement of global perceptions of perceived available support. The questionnaire divided into two parts. In the first part client will be asked to write the initials of individuals that the client can depend on in times they need in a variety situations. The client can mention no more than nine individuals for each list situation. The second part is a client's satisfaction perception score of support that they received in the given situation. The scores are using 6 points Likert scale: 1 = very dissatisfied; 2 = fairly dissatisfied; 3 = a little dissatisfied; 4 = a little satisfied; 5 = fairly satisfied; and 6 = very satisfied. The value of Cronbach's alpha for the SSQ6 is from .93 to .90 for the number of supportive individuals and

satisfaction score of support (Sarason, Sarason, Shearin, & Pierce, 1987). Total number of support and satisfaction will be obtained by calculating the mean across the number of support and satisfaction ratings. A maximum total mean for the number of support is 9 and 6 for the total satisfaction. The higher the mean score of support number and the total satisfaction indicates the better social support that client have.

9. Stimulant Relapse Risk Scale (SRRS)

Relapse risk as a dependent variable in this study was measured using SRRS created by Ogai et al. (2007). This questionnaire originally developed based on the Marijuana Craving Questionnaire (Heishman, Singleton, & Liguori, 2001) with discussion again among three psychiatrists to adjusted the questionnaire for use in stimulant drug user. The 30 items of SRRS comprised of five subscales, as follow: anxiety and intention to use drug (AI) (8 items: 1, 2, 5, 10, 18, 22, 28, and 30); emotional problem (EP) (8 items: 3, 4, 6, 9, 12, 15, 19, and 21); compulsivity for drug (CD) (4 items: 7, 23, 26, and 29), positive expectancies and lack control over drug (PL) (6 items: 14, 16, 20, 24, 25, and 27); and lack of negative expectancy for drug (NE) (4 items: 8, 11, 13, and 17). The value of Cronbach's alpha for each subscale and all items were .82, .80, .73, .79, .55, and .86, respectively. The responses using 3 point Likert scale which is 1 (strongly disagree and disagree), 2 (neither agree nor disagree), and 3 (strongly agree and agree) and reversely for reversal four items under subscale lack of negative expectancy for drug (NE). The score was calculated by totaling each client's respond to each question. The possible range score was from 30 to 90. The higher total score indicate higher of relapse risk.

Predictive validity of SRRS showed that the scores for anxiety and intention to use drug (AI), positive expectancies and lack of control over drug (PL), lack of negative expectancy for drug use (NE), and total SRRS were correlated with relapse within 3 months with coefficient correlation .418, .414, and .320 respectively. Moreover, the scores for positive expectancies and lack of control over drug (PL) and lack of negative expectancy for drug use (NE) were correlated with relapse within 6 months with coefficient correlation .353 and .328. These results indicated that the higher these scores, higher the risk of relapse within three and six month.

Instruments Translation Process

All instruments used in this study, except the demographic characteristic questionnaire, were translated to Indonesian language. The process of translation of instruments that were used in this study was conducted by Back-Translation technique. The DTCQ, SEEQ, SOCRATES 8D, CSI-SF, PANAS, DSQ, SSQ6, and SRRS were translated from English version to Bahasa Indonesia by two bilingual translators who were good both in English and Bahasa Indonesia. The translation process was described as follow:

Step 1: one translator translated English version of instruments to Bahasa Indonesia

Step 2: the experts compare the Bahasa Indonesia translated instrument and the English version of instruments in order to get better version of Bahasa Indonesia

Step 3: the other translator were asked to translate the Bahasa Indonesia version of the instruments back into English version

Step 4: the experts compare the original English version of the instruments with the English translated version of the instruments. The final versions of Bahasa Indonesia instruments were produced. The final Bahasa Indonesia version instruments were tested for validity and reliability.

Psychometric testing

Validity and reliability of instruments

In this study, eight instruments were translated into Bahasa Indonesia using Back translation technique and checked both validity and reliability testing, such as DTCQ, SEEQ, SOCRATES 8D, CSI-SF, PANAS, DSQ, SSQ6, and SRRS. For validity testing, the researcher performed Content Validity Index at the item level (I-CVI) and the scale level (S-CVI) or Average. I-CVI computed by totaling the number of experts giving a rating of either 3 or 4, divided by the number of experts, whereas S-CVI computed by totaling I-CVI for each item on the scale and then calculate the average I-CVI across items. The acceptable minimum value for I-CVI is .78, whereas the acceptable minimum value for S-CVI is .80 (Polit & Beck, 2008; Polit, Beck, & Owen, 2007). The items that do not achieve an acceptable minimum score were revised until acceptable minimum score of CVI are achieved. The kappa coefficient of

agreement is also recommended as a supplement of CVI to increase confidence in the content validity of the instrument (Sousa & Rojjanasrirat, 2011).

Content related validity of the eight questionnaires was performed using I-CVI and S-CVI by asked five experts in psychiatric and mental health field in Indonesia to rate their agreements on the translated version of the instruments. The experts consist of four psychiatric doctors and one psychiatric nurse who have expertise in drug addiction. Experts were asked to evaluate each item of questions by rating scale from 1 (not agree), 2 (somewhat agree), 3 (quite agree), and 4 (strongly agree) including comment and possible revision. List of the experts in this study are presented in Appendix D. Having reviewed by the experts, all of the eight instruments in this study showed acceptable score of S-CVI and I-CVI because all of the score were exceed the minimum acceptable score. The results of content validity index were summarized in Table 2.

Table 2 Content Validity Index of research instruments

Instruments	S-CVI/Ave	I-CVI
1. DTCQ	.84	.60-1.00
2. SEEQ	.84	.60-1.00
3. SOCRATES 8D	.93	.80-1.00
4. CSI-SF	.84	.60-1.00
5. PANAS	.90	.80-1.00
6. DSQ	.88	.60-1.00
7. SSQ	.93	.80-1.00
8. SRRS	.83	.60-1.00

Table 2 showed that majority experts agreed with the instruments of DTCQ, SEEQ, SOCRATES 8D, CSI-SF, PANAS, DSQ, SSQ6, and SRRS. Most of them suggested the more appropriate and understandable translated words to increase the comprehension of clients with methamphetamine use disorder in Indonesia.

The reliability testing of the instruments was performed in 30 clients in one of inpatient ward namely “House of change” in primary phase of the substance rehabilitation center of National Narcotics Board in West Java, Indonesia, with

similar characteristic and meet inclusion criteria of the study. Clients were asked by nurse to get their permission to invite researcher to meet with them and collect data for research purposes. The clients were informed about their right to decide, whether or not they wanted to participate in this pilot study. All of the information related to the clients is confidential. The result of the pilot study showed that the time spent on completion of the questionnaires took about 90 minutes. The findings showed that all of the tested instruments had acceptable reliability because the acceptable level of Cronbach's Alpha for the instruments is at least .70. According to Burn and Grove (2009) the acceptable level of Cronbach's Alpha for newly developed psychosocial instruments is of .70 and is of .80 for well-developed instruments. The reliabilities of the instruments were summarized in table 3.

Table 3 Reliability of the pilot study (n=30) and current study (n=165)

Instruments	Item	Cronbach's Alpha (n=30)	Cronbach's Alpha (n=165)
1. DTCQ	50	.98	.97
2. SEEQ	46	.92	.92
3. SOCRATES 8D	19	.87	.90
4. CSI-SF	34	.91	.90
5. PANAS	20	.90	.90
6. DSQ	24	.95	.94
7. SSQ	12	.89	.92
8. SRRS	30	.86	.87

Summary of instruments

The instruments that were used in this study are presented in Appendix G. Eight instruments were translated into Bahasa Indonesia by using Back-Translation technique, such as DTCQ, SEEQ, SOCRATES 8D, CSI-SF, PANAS, DSQ, SSQ6, and SRRS. Personal information sheet was developed by the researcher. All of the translated instruments showed satisfactory validity and reliability.

Protection of human subjects

Ethical permission is one of the important parts of the research that put human as a sample. In order to convince that the participants are safe and the process of research is not endangered their lives, the researcher has to get ethical permission before start collecting data. This study was conducted in Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia, so the ethical permission was gathered from the Institutional Review Board (IRB) of Indonesia. The institution is called Komite Etik Penelitian Kesehatan-Fakultas Kedokteran Universitas Padjadjaran (KEPK-FK Unpad) or Ethical Committee of Health Research-Medical Faculty of Padjadjaran University. The written informed consent for participants finished before data collection was started in Indonesia. The informed consent form explained the purpose of the study, benefits, risk, and the questionnaires that needed to be completed by the participants (Appendix F). The approval Letter is attached in appendix B.

The participants were informed about their rights in the study by the researcher, such as refused to participate in the study and withdraw from the study at any time without any penalty, if they did not want to answer the questionnaires. In order to ensure confidentiality, the names of participants were not entered in data base. The code number was used to represent the participants of the study. Having participated in this study, the participants were not asked for any payment and also there was no harm for their participation. However, after completing the questionnaires, the snack was presented to the participants as appreciation for their participation in the study.

Data Collection

The data were collected from the participants after having approved by the Institutional Review Board (IRB) from Komite Etik Penelitian Kesehatan-Fakultas Kedokteran Universitas Padjadjaran (KEPK-FK Unpad) or Ethical Committee of Health Research-Medical Faculty of Padjadjaran University and having permission for data collection from Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. Data were gathered from 4-15 September 2017. The processes of data collection in this study were as follow:

1. After the study was approved by the IRB from the Komite Etik Penelitian Kesehatan-Fakultas Kedokteran Universitas Padjadjaran (KEPK-FK Unpad) or Ethical Committee of Health Research-Medical Faculty of Padjadjaran University, a letter requesting permission to collect data from Faculty of Nursing Chulalongkorn University was sent to the Director of Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.
2. The researcher met the Director of Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia to inform about the objectives, the importance, and the data collection processes of this study.
3. The appointment was made with the nurses of each ward to determine which clients that met the inclusion criteria to be participated in the study and make a time contract to set the time of data collection. The researcher also explained to the nurses about the questionnaires.
4. Nurse staff in each wards asked clients for a permission to invite researcher to meet with them and collect data for research purposes.
5. Later after researcher permitted by clients to meet with them, questionnaires was handed to the clients who were agree to be participated in this study at the appointment time. The researcher explained about the participant's right in the study, the benefit of participation, no harm in the study, and ensure the participants to not write any information about their self on the questionnaires set for the confidentiality. The participants were suggested to read all the information and the instructions given on the questionnaires. Any unclear information regarding questionnaires was explained again if the participants do not understand. Participants were accompanied by researcher and nurses during the responses until all questionnaires are completed.
6. After the questionnaire completion, the researcher examined if any incomplete of data. Participants were asked to complete any missing data.
7. To appreciate their contribution in this study, snacks were presented to the participants.

Data Analysis

The descriptive statistic was performed to describe demographic characteristics and relapse risk of the rehabilitation clients. The level of significance of the study was set at $\alpha = .05$. Pearson's product moment correlation was tested to examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Normality testing

In the current study, there were ten variables that needed to be investigated for normal distribution such as self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and relapse risk. The test of normal distribution was conducted by using Kolmogorov-Smirnov showed that all variables were normally distributed.

CHAPTER IV
RESULTS

This descriptive correlational research aimed to 1) study methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia; 2) examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

The sample of this study was 165 clients in a primary phase of Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. The results of this study will be presented as follow:

Part I Demographic characteristic of the clients.

Part II Descriptive data of relapse risk (dependent variable) and independent variables among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Part III The relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

Part I Demographic characteristic of the clients

A total of 165 clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia who met the inclusion criteria were participated in this study. Demographic characteristics of the sample are presented in table 4 below.

Table 4 Frequency and percentage of clients classified by demographic characteristics (n = 165)

Demographic Characteristics	Frequency	Percentage (%)
Age (Years Old)		
20-29	103	62.4
30-39	49	29.7
40-49	13	7.9
$\overline{X}$ = 27.99, SD = 6.97		
Gender		
Female	18	11
Male	147	89
Education		
No Education	1	0.6
Primary School	6	3.6
Junior High School	13	7.9
Senior High School	105	63.6
Vocational Degree	7	4.2
Bachelor Degree	33	20
Occupation status		
Working	98	40.6
Not working	67	59.4
Involvement of Legal issue		
Yes	21	12.7
No	144	87.3
Register Process		
Voluntary	76	46.1
Compulsory	89	53.9
Substance Use among Relative		
Yes	61	37
No	104	63

Demographic Characteristics	Frequency	Percentage (%)
Substance Use duration (Years)		
1-5	83	50.3
6-10	50	30.3
11-15	14	8.48
16-20	16	9.7
21-22	2	1.21
$\overline{X}$ = 6.95, SD = 5.24		
Relapse Experience		
Yes	165	100
No	-	-
Number of support		
$\overline{X}$ = 2.10, SD = 0.93		

Based on table 4, two third of the participants were aged between 20 to 29 years. The majority of the participants were male (89%). The level of education was mostly senior high school (63.6%). More than a half of participants (59.4%) were unemployed. The majority of them (87.3%) were not involved in illegal issue. One third of participants have relative who use Methamphetamine. More than a half of the participants have been using methamphetamine for 1-5 years (mean= 6.95, SD= 5.24). Eighty nine participants were come to the rehabilitation center compulsory (53.9 %), and all of the participants were experienced relapse. The mean score of support number that clients had is 2.10 (SD= 0.93).

Part II Descriptive Data of Relapse Risk (Dependent variable) and Independent variables among Clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia.

The dependent variable of this study is relapse risk. The descriptive statistic including mean, standard deviation, and possible range of dependent variables in the study are present in the table 5. Relapse risk was measured by Stimulant Relapse Risk Scale (SRRS). The 30 items of SRRS comprised of five subscales: anxiety and intention to use drug (AI), emotional problem (EP), compulsivity for drug (CD), positive expectancies and lack control over drug (PL), and lack of negative

expectancy for the drug (NE). The total score was rated by average score of five subscale score with a possible range score from 30 to 90. Higher score for total items indicate higher relapse risk of client.

Table 5 Possible score, range score, mean, and SD of Relapse risk (n = 165)

Variable	Possible score	Range score	Mean score	SD
Overall relapse risk	30 – 90	34 - 80	56.33	10.54
Relapse risk subscales				
- Anxiety and intention to use drug (AI)			15.76	3.36
- Emotional problem (EP)			15.62	3.71
- Compulsivity for drug (CD)			6.25	2.21
- Positive expectancies and lack of control (PL)			11.29	3.57
- Lack of negative expectancies for drug (NE)			7.40	2.03

Table 5 shows that the possible score for relapse risk scale is from 30 to 90, range score of the clients in this study is from 34 to 80, and mean score of relapse risk in this study was 56.33 (SD= 10.54). Furthermore, relapse risk subscales show that anxiety and intention to use drug has the highest mean score 15.76 (SD = 3.36), follows by emotional problem with mean score 15.62 (SD = 3.71), positive expectancies and lack of control with mean score 11.29 (SD = 3.57), lack of negative expectancies for drug with mean score 7.40 (SD = 2.03), and the last compulsivity for drug with mean score 6.25 (SD = 2.21).

A strategy clinical cut off are often based on population distribution. Moderate could be within one standard deviation of the mean, high is more than one standard deviation above mean, and low is one standard deviation below mean. The percentages of methamphetamine relapse risk levels are present in table 6.

Table 6 The Percentages of Methamphetamine Relapse Risk Levels

Level of methamphetamine relapse risk	%
- High	20.6
- Moderate	63
- Low	13.9

Table 6 shows that 63% of clients were have moderate methamphetamine relapse risk, 20.6% of clients were have high methamphetamine relapse risk, and 13.9% of clients were have low methamphetamine relapse risk.

The independent variables in this study are self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, and social support. The dependent variable in this study is relapse risk. Descriptive statistic of the dependent and dependent variables are presented by mean and standard deviation (SD) as shown below:

Table 7 Standard Deviation, and Range of Independent Variables (n = 165)

Variables	Possible score	Range score	Mean score	SD
Self-efficacy	0 – 100	0 – 100	61.33	22.96
Outcome expectancies	44 – 220	44 – 209	154.98	28.09
Global positive effects		10 – 50	37.32	8.00
Global negative effects		14 – 69	46.55	10.82
General arousal		8 – 39	30.36	6.12
Anxiety		8 – 40	28.47	5.49
Relaxation and tension reduction		4 – 20	12.26	3.06
Motivation				
Recognition	7 – 35	9 – 35	29.17	4.92
Ambivalence	4 – 20	7 – 20	15.35	2.82
Taking steps	8 – 40	10 – 40	32.06	5.20
Coping				
Engagement coping	16 – 80	23 – 75	54.18	10.27
Disengagement coping	16 – 80	24 – 78	54.90	10.63
Emotional state				
Positive emotional state	10 – 50	10 – 50	27.73	9.59
Negative emotional state	10 – 50	10 – 50	27.09	9.17
Craving	24 – 168	24 – 149	60.69	29.65
Social support				
Satisfaction of support	6 – 36	6 – 36	31.74	5.21

Table 7 presents descriptive statistic including mean, standard deviation, and possible range of independent variables in the study.

Self-efficacy was measured by Drug Taking Confidence Questionnaire (DTCQ). The score was calculated by totaling the items score and dividing by number of items with a possible range score from 0 to 100 indicated 0 to 100% confidence of clients that they could resist the urge to use drug. The higher the mean score indicates

the better the self-efficacy of client to resist the urge to use methamphetamine in the given situation. The mean score of the respondent was 61.33 with SD was 22.96.

Outcome expectancy was measured by Stimulant Effect Expectancy Questionnaire (SEEQ). The 46 items of SEEQ comprise 5 following scales: global positive effects (10 items), global negative effects (14 items), general arousal (8 items), anxiety (8 items), and relaxation and tension reduction (4 items). Items 26 and 30 are not scored. The score was calculated by totaling the items score and dividing by number of items in scale with a possible range score from 1 to 5. The mean score of global positive effects was 37.32 (SD = 8.00). The mean score of global negative effects was 46.55 (SD = 10.82). The mean score of general arousal was 30.36 (SD = 6.12). The mean score of anxiety was 28.47 (SD = 5.49). The mean score of relaxation and tension reduction was 12.26 (SD = 3.06).

Motivation was measured by Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for Drug (SOCRATES 8D). The 19 items of SOCRATES 8D comprise of three scales including Recognition (7 items), Ambivalence (4 items), and Taking steps (8 items). The score was calculated by totaling a raw score from client respond for each scale item question with a possible range score from 7 to 35 for Recognition, 4 to 20 for Ambivalence, and 8 to 40 for Taking steps. The mean score of Recognition was 29.17 (SD = 4.92). The mean score of Ambivalence was 15.35 (SD = 2.82). The mean score of Taking Steps was 32.06 (SD = 5.20).

Coping was measured by Coping Strategies Inventory Short Form (CSI-SF). The 32 items checklist comprised of engagement and disengagement coping. The score was calculated by totaling the item score in the subscale with possible range from 16 to 90. The mean score of engagement coping was 54.18 (SD = 10.27). The mean score of disengagement coping was 54.90 (SD = 10.63).

Emotional state was measured by Positive Affect and Negative Affect Schedule (PANAS). The 20 items questions consists of 10 items questions for assess positive affect (PA) and another 10 items questions for assess negative affect (NA). The score was calculated by totaling the clients respond for PA and NA with the possible range score from 10 to 50. The mean score of PA was 27.73 (SD = 9.59). The mean score of NA was 27.09 (SD = 9.17).

Craving was measured by Desire for Speed Questionnaire (DSQ). The 24 items of DSQ comprised of four subscales, as follow: expectancy of positive and

negative reinforcement, strong desires and intentions to use, mild desires and intentions to use, and control. The score was calculated by totaling the respond from client point for each item question with a possible range score from 24 to 168. The mean score of craving was 60.69 (SD = 29.65).

Social support was measured by Social Support Questionnaire (SSQ6). The questionnaire was measured the satisfaction rating of support that client received. The score of satisfaction rating of support that client received was calculated by totaling the items score with a possible range score from 6 to 36. The mean score for satisfaction rating was 5.25 (SD = 0.95).

Part III The Relationship between Self-Efficacy, Outcome Expectancy, Motivation, Coping, Emotional State, Craving, Social Support, and Methamphetamine Relapse Risk

Pearson product moment correlation was executed to examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk. The degree of relationship was determined by the following criteria: $r < .30$ = low relationship, $.30 > r < .50$ = moderate relationship and $r > .50$ = high relationship (Burn & Grove, 2009). The results of the correlation coefficients of the variables are presented in table 7.

Table 8 Correlation Coefficients of Independent Variables and Dependent Variable

Variables	Correlation Coefficients	p-value
Self-efficacy	-.316 **	.000
Outcome expectancy	.261**	.001
Motivation	.073	.352
Coping		
Engagement coping	-.014	.854
Disengagement coping	.099	.208
Emotional state		
Positive emotional state	.380**	.000
Negative emotional state	.370**	.000
Craving	.509**	.000
Social support	.030	.706

**Correlation is significant at the level 0.01 (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed).

Table 8 showed that there was negative relationship between self-efficacy and relapse risk at a moderate level ($r = -.316$, $p < .01$). There was positive relationship between outcome expectancy and relapse risk at a low level ($r = .261$, $p < .01$). There were positive relationship between positive emotional state, negative emotional state, and relapse risk at a moderate level ($r = .380$, $p < .01$ and $r = .370$, $p < .01$, respectively). There was positive relationship between craving and relapse risk at a moderate level ($r = .509$, $p < .01$). Motivation, coping, and social support had no correlation to relapse risk.

Further study on the primary subscale of coping, it was found that express emotion and social withdrawal were had a positive relationship at a low level with relapse risk. Correlation coefficient of subscale coping and relapse risk are presented in table 9.

Table 9 Correlation Coefficients of Subscale Coping and Relapse Risk

Primary subscale	r / p-value	Secondary subscale	r / p-value	Tertiary subscale	r / p-value
Problem solving	-.077 / .328	Problem focused engagement	-.091 / .249	Engagement coping	-.014 / .854
Cognitive restructuring	-.077 / .330				
Social contact	-.055 / .484	Emotion focused engagement	.065/ .405		
Express emotion	.173* / .026				
Problem avoidance	.103 / .188	Problem focused disengagement	.062 / .426	Disengagement coping	.099 / .208
Wishful thinking	.000 / .998				
Social withdrawal	.226** / .004	Emotion focused disengagement	.117 / .134		
Self-criticism	-.047 / .553				

**Correlation is significant at the level 0.01 (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

CHAPTER V
CONCLUSION AND DISCUSSION

The result of this research are concluded and discussed in this chapter. Furthermore, the limitation of research and the implications for nursing practice are proposed. Eventually, the recommendations of the study are addressed.

Conclusion

The purpose of this descriptive correlational research was to study methamphetamine relapse risk and examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. A purposive sampling technique was used to recruit 165 participants from the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia. Data were collected on September 2017 with the IRB approval from Medicine Faculty of Padjadjaran University.

The instrument used in this research were demographic characteristic questionnaire, Drug Taking Confidence Questionnaire (DTCQ), Stimulant Effect Expectancy Questionnaire (SEEQ), Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for Drug (SOCRATES 8D), Coping Strategies Inventory Short Form (CSI-SF), Positive Affect and Negative Affect Schedule (PANAS), Desire for Speed Questionnaire (DSQ), Social Support Questionnaire (SSQ6), and Stimulant Relapse Risk Scale (SRRS). Eight instruments were translated from English language to Indonesian language using back translation technique. The instruments were tested for validity testing by using item and scale Content Validity Index testing (CVI) and reviewed by five experts. The reliability test was performed among 30 clients in one of inpatient ward namely “House of change” in primary phase of the substance rehabilitation center. All instruments demonstrated satisfactory validity and reliability. Descriptive statistic and Pearson’s product moment correlation were employed to analyze the data.

The results showed that methamphetamine relapse risk among clients in the rehabilitation center of national narcotics board in West Java was in moderate level with mean score 56.33 (SD = 10.54). Outcome expectancy, positive emotional state, negative emotional state, and craving were has positive and significant correlation with relapse risk. In addition, self-efficacy was has negative and significant correlation with relapse risk. Lastly, motivation, coping, and social support were had no correlation with relapse risk.

Discussion

The discussion of this research was organized into two parts according to the objectives of the study.

1. To Study Methamphetamine relapse risk among Clients in Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia

Methamphetamine relapse risk in this research defined as a perception of clients on clinical sign and symptom precede relapse during rehabilitation treatment completion. The result showed that methamphetamine relapse risk among clients in the substance rehabilitation center was in moderate level (mean = 56.33, SD = 10.54). Methamphetamine were popular among productive age population because of its cheap price, readily available, and initial effect of methamphetamine such as feeling powerful and confident, endless energy, increased productivity, enhanced sexual performance, and reduced appetite (Buxton & Dove, 2008). The finding from Buxton and Dove (2008) were aligned with the admission of methamphetamine user in Indonesia. The demographic characteristic of the participants can explain this study finding. Even though 59.4% of the participants were currently unemployed during the drug related treatment processes, about two third of participants were in a productive aged between 20 to 29 years old. More than a half of the participants in this study were have low level of education, 63.6% were graduated from senior high school. The participants had been use the methamphetamine for long term duration with the average duration of using drug were 6.95 years (SD = 5.24).

The report of situation assessment on ATS in Indonesia (UNODC, 2013) stated the key reason for the growth of methamphetamine use in Indonesia was because of the perceived that methamphetamine as not being harmful to their health

and they are not aware of the risk associated with methamphetamine use. The former methamphetamine user admitted that they depend on methamphetamine because this drug make them stay alert on work, long effect of methamphetamine even from little dose of use, increase confidence, and easy to get the drug. Moreover, they also admit that the reason they could not stay abstinent to use is because methamphetamine were sold in the form of smaller packages that are cheaper. (Pradita, 2016).

The assessment of relapse risk during rehabilitation treatment is believed to be able to predict relapse following rehabilitation treatment that is important for the prevention of relapse. Predictive validity of the SRRS by Ogai et al. (2007) showed that relapse within 3 months was significantly and positively correlated with AI, PL, and NE. Similarly, relapse within 6 months was significantly and positively correlated with PL and NE. Among five factors of relapse risk, anxiety and intention to use drug (AI) has the highest score with mean score 15.76 (SD = 3.36), follows by emotional problem (EP) with mean score 15.62 (SD = 3,71), positive expectancies and lack of control over drug (PL) with mean score 11.29 (SD = 3.57), lack of negative expectancies for drug (NE) with mean score 7.40 (SD = 2.03), lastly compulsivity for drug (CD) with mean score 6.25 (SD = 2.21).

The result of SRRS measurement in this study showed that the clients have the highest mean score on AI, EP, and NE subscale. Highest mean score of AI and NE indicates that clients have a tendency to relapse within 3 months after rehabilitation treatment. Relapse was operationally defined as a resumption of methamphetamine after discharge from mandated treatment program and was judged from clients self-report and/or their psychiatrist in charge. Even though EP were not significantly correlated with relapse, EP showed a significantly correlation with depression scale and others factors score of SRSS which indicates that EP factor have indirect effect in increase the subjective desire for drug and thus the relapse risk.

2. Correlation between Selected Factors and Methamphetamine Relapse Risk among Clients in Rehabilitation Center of National Narcotics Board in West Java, Indonesia

The results revealed that self-efficacy was has negative and significant correlation with relapse risk. Outcome expectancy, negative emotional state, and craving were has positive and significant correlation with relapse risk. The findings are consistent with the hypotheses. In contrast, there was positive relationship between positive emotional state and relapse risk, while motivation, coping, and social support had no correlation to relapse risk.

Self-efficacy was negatively correlative with relapse risk ($r = -.316$, $p < .01$), indicating that the increasing self-efficacy of clients to resist drug use can decrease relapse risk following treatment. Even though this study showed the moderate correlation between self-efficacy and relapse risk, prior study found that self-efficacy has the most contribution to influence the relapse in drug rehabilitation center (Ibrahim & Kumar, 2009). The reason is because self-efficacy can become a protective factor for client. Client who has a higher self-efficacy tend to be protected from the risk of relapse and can follow the treatment well (Hagman, 2004). Self-efficacy is a mediator between the treatment and the outcome of treatment (Kadden & Litt, 2011). Person with high self-efficacy has more control to prevent relapse. Self-efficacy that proposed in relapse prevention model was taken from Bandura (1977) defined as a beliefs of capacity that held by the individuals to successfully meet a behavior challenge. The development of self-efficacy in identified high-risk situations for relapse during treatment in the rehabilitation should result in the acquisition of alternate behaviors to substance use and improved outcomes (Annis & Davis, 1988; Marlatt & Gordon, 1985). Moreover, maintenance of self-efficacy during the treatment up to over an extended time frame seems to contribute to outcome. The previous study found that there was negative, strong and significant relationship between self-efficacy with relapsed addiction. These results gave the impression that low self-efficacy factor can give negative effect to the addicts in order for them to continue to be free from drugs, especially when they facing life challenges and their surroundings after they were released from drug rehabilitation centers (Ibrahim, Kumar, & Abu Samah, 2011).

Outcome expectancy was positively correlative with relapse risk ($r = .261$, $p < .01$) indicating that as the outcome expectancy increase, relapse risk will increase. The outcome expectancy in this study defined as an effect that client expects will occur as a result of drug consumption (Marlatt & Donovan, 2005). Outcome expectancy was measured using SEEQ that comprise of five scales, such as: global positive effects, global negative effects, general arousal, anxiety, and relaxation and tension reduction. The higher score on global positive effect expectancy; general arousal; and relaxation and tension reduction indicates the more positive effect of using methamphetamine believe by client (Aarons et al., 2001). The result showed mean score of global positive effect expectancy, general arousal, and relaxation and tension reduction was 37.32 (SD = 8.00), 30.36 (SD = 6.12), 12.26 (SD = 3.06) respectively. Whereas the mean score of global negative effect and anxiety was 46.55 (SD = 10.82) and 28.47 (SD = 5.49) respectively. The possible range score was 1 to 5. The total mean of global positive effect expectancy, general arousal, and relaxation and tension reduction were not much higher than the mean of global negative effect and anxiety indicating that clients were aware of the harmful effects of drug use, but can't afford to deny that they were still expects of the good effects occur as a result of drug consumption. This condition can result a relapse following treatment because client still have expectancy that drug have a positive effect to use.

Emotional state in this study was measured by Positive Affect and Negative Affect Schedule (PANAS) that assessed positive affect (PA) for positive emotional state and negative affect (NA) for negative emotional state. It was found that negative emotional state was positively correlative with relapse risk ($r = .370$, $p < .01$) indicating that as the negative emotional state increase, relapse risk will increase. It was generally accepted that negative emotional state contributes to the high risk of drug use relapse and the outcome of treatment (Olsson, Cooper, Nugent, & Reid, 2016). This finding supported by the previous study that negative emotional state positively correlated with high risk after treatment (Serafini et al., 2016). Furthermore, negative emotional state is a state of significant distress that leads to a greater relapse risk following treatment (Hall et al., 1991). The reason is because the negative emotional state is an interpersonal factors that arising from inability to resist temptation or impulse to take drug, to test their personal control, and face

interpersonal conflict. Negative emotional state such as upset, guilty, scare, hostile, ashamed, and afraid were a difficult emotion that the clients was not able to manage successfully and was thus led to the use of drug to relief these unpleasant emotions or as a means to self-healing.

In contrast with the hypothesis of this study, finding from this study revealed that positive emotional state was also positively correlative with relapse risk ($r = .380$, $p < .01$) indicating that as the positive emotional state increase, relapse risk will increase. The finding was not supported by the prior study stated that positive emotional state was associated with approach-oriented coping, abstinence-related action tendencies, and abstinence-specific social support that can become a protective factor to prevent relapse after treatment (Serafini et al., 2016). Another study was found that the majority of positive emotions were only connected with the continuation of the treatment. A client who has more positive emotion state tend to have more satisfaction of the treatment, recognition of problem, and the steps toward change as the factors that exert a positive influence for stay until the end of residential treatment (Flora & Stalikas, 2015). Although several studies were concern to the negative mood as a prior to the relapse risk, some study support that positive emotional state can also led to the relapse risk following treatment in certain ways. Positive emotional state together with pleasant social experience was led to the relapse (McKay et al., 1995). Positive emotional states were related to celebration, exposure to drug stimuli or cues, testing personal control and non-specific cravings also were identified as a high risk situation that could precipitate relapse (Larimer et al., 1999). This finding aligned with the report from situation assessment on ATS in Indonesia (UNODC, 2013) stated that methamphetamine in Indonesia is widely use to enhance work and as a party drug. The result of descriptive statistic showed that the mean scores between PA and NA were not too much different. The mean score of PA was 27.73 (SD = 9.59) while the mean score of NA was 27.09 (SD = 9.17). It is important for addressing both of Negative and positive emotional state within substance abuse treatment to improve over the course of treatment, as well as to prevent relapse.

Craving was positively correlative with relapse risk ($r = .509$, $p < .01$) indicating that as the craving level increase, relapse risk will increase. The finding supported the hypotheses and previous related studies. Galloway and Singleton (2008) was conclude craving as an intense desire or irresistible urge leads to drug seeking or drug taking that can become contributor of relapse. The previous related study among methamphetamine user was found that the level of craving determine the tendency of relapse risk during and after treatment (Hartz et al., 2001). Another study stated that craving predicted methamphetamine use and relapse in the first week immediately following treatment (Galloway & Singleton, 2008; Lopez, Onyemekwu, Hart, Ochsner, & Kober, 2015). Craving was the most often researched because of its large role causing immediately relapse after abstinence. The reason is craving were primarily caused by drug related stimuli in the environment such as drug paraphernalia, physiological withdrawal symptom, intrusive thought in a form of verbal thought or image fragment activate the drug related information in memory which increases the likelihood of experiencing drug use, negative emotional state attributed to lack of drug use, having family, friends, or acquaintance who use the same drug, and location where the drug abuse occurred (Andrade, 2013). Moreover, study about time to relapse following treatment for methamphetamine use mentioned that risk factor for shorter time to relapse included having family member with drug use problems (Brecht & Herbeck, 2014). One third of the participants (37%) in this study were having a family member who uses the same drug can lead clients to have more craving and relapse. From descriptive statistic result showed the mean score of craving was 60.69 (SD = 29.65) with a possible range score from 24 to 168. The higher the score indicates the stronger client feel craving.

Motivation, coping, and social support had no correlation to relapse risk. These finding were not supported the hypothesis in this neither study nor previous related study. Motivation was understood as the willingness of individual to change particular behavior (Miller & Rollnick, 2002). Regarding this study, motivation defined as the willingness and readiness to change the drug addictive behavior of client. The possible reason for this finding is more than a half of participants was come to the rehabilitation center compulsory (53.9 %), taken by their family member or send by the police officer. Clients who were compulsory come to the rehabilitation

center were having less motivation to take the treatment. Furthermore, clients who enrolled to the voluntary treatment system had higher scores on resilience to amphetamine relapse than those in compulsory system. Motivation in this study was measured by The Stage of Change Readiness and Treatment Eagerness Scale version 8.0 for drug (SOCRATES 8D, Miller & Tonigan, 1996) that comprised of three scales including recognition, ambivalence, and taking steps, derived from transtheoritical model of motivation (Prochaska & DiClemente, 1984). The result showed mean score for recognition was 29.17 (SD = 4.92) is in a low level, mean score for ambivalence was 15.35 (SD = 2.82) is in a medium level, and mean score for taking steps was 32.06 (SD = 5.20) is in a medium level. Recognition represents the level of awareness of clients about their drug problem. Low level in recognition means that the clients were deny that abusing drug is causing them serious problem, reject diagnostic labels such as drug addict, and do not express a desire for change. Ambivalence represents the internal conflict associated with doing something about it. Ambivalence level should be interpreted in relation to the recognition level. Medium level in ambivalence means that the clients were not sure about their drug use behavior. Taking steps represents the activities the person engages in to change the problem behavior. Medium level in taking steps mean that clients were in a planning to do something to change their drug use behavior but still no real action. It may take time to moving process through the stage of change (recognition, ambivalence, to taking steps) over the course of treatment. There always the possibility to relapse in the moving process through the stage of change (DiClemente & Velasquez, 2002).

Coping in this study were divided into tertiary subscale including engagement coping and disengagement coping. Whereas client who cope with engagement coping tend to have lower relapse risk than the clients who were cope with disengagement coping. Prior study approved that engagement coping has a correlation with the positive improvement after treatment such as increasing in self-efficacy and lead to the lower relapse risk after treatment completion and number of abstinence day (Fauziannisa & Tairas, 2013; Hagman, 2004; Hall et al., 1991; Tapert et al., 2004). Both of engagement and disengagement coping in this study was measured by Coping Strategies Inventory short form (CSI-SF). CSI-SF was developed to categorize coping responses based on coping target and directionality of response. Clients were asked to

quantify the degree to which each strategy is generally employed to solve problem they had encountered. This study revealed that there were no correlation between both of engagement coping and disengagement coping to relapse risk. The study found that the mean score between engagement coping and disengagement coping was about the same on 54.18 (SD = 10.27) and 54.90 (SD = 10.63), respectively. Clients can not differentiate which coping strategies are effective to solving their problems. Engagement coping is an active coping strategies to manage the stressful life event such as dealing with stressor through social contact, express emotion, active problem solving, and cognitive restructuring. Contrary with disengagement coping is avoidance responses to the stressful life event, wishful thinking, social withdrawal, and self-criticism. Further study on the primary subscale of coping, it was found that express emotion and social withdrawal were had a significant correlation with relapse risk. Express emotion is under the emotion focused engagement subscale; whereas social withdrawal is under the emotion focused disengagement subscale.

Social Support was measured by social support questionnaire (SSQ6) where clients can mention people who give them support and score the satisfaction perception of support they had. The result showed that there was no correlation between social supports with relapse risk. This finding was not coherent with the hypothesis and the prior study. The quality of social support is an interpersonal factor that contributes to relapse in the Relapse Prevention Model (Witkiewitz & Marlatt, 2004). The higher the score of support number and the total satisfaction indicates the better social support that client have built a support system for client by giving encouragement and helping each other to stay at the treatment longer, attend the post discharge program, and finally decreased the relapse risk (Dobkin et al., 2002; Ellis et al., 2004; McMahon, 2001). One of the reason is even though the result of satisfaction perception score was remain high (mean 5.25 out of 6 point with SD = 0.95), the number of support clients had were low (mean 2.10 out of 9 point with SD = 0.93). Most of clients were only written their family member such as spouses and parents who were giving them support. Social support will be effective if include three factors including involvement with community based self-help groups such as NA meeting, aftercare in community, and family participation in client's treatment (Johnsen & Herringer, 1993). Another thing that has to be considered is about stigma and labeling

that leading to low self-esteem client in the community. The term “drug addict” evoked images of disoriented, unhealthy, and low-class individuals with behavioral problems and were viewed as dangerous, unpredictable, and difficult to communicate with (Dean & Rud, 1984). The personal impact of labeling and stigma has been associated with depression, low self-esteem, disrupts social interaction, communication difficulties, and impair social and occupational functioning (Link, Struening, Rahav, Phelan, & Nuttbrock, 1997). The majority of drug users manage stigma by being selective disclosure, involving secrecy, and cover-up (Goffman, 1975; Semple, Grant, & Patterson, 2005).

Implication for nursing practices

There are some implications based on the findings of the study, including:

1. The study revealed that methamphetamine relapse risk among client in Substance Rehabilitation Center of National Narcotics Board Indonesia in West Java was in moderate level with the mean score 56.33 (SD = 10.54) with the possible range of score from 30 to 90. The nursing intervention for early detection of methamphetamine relapse risk by using standardized instrument should be conducted in every phase of rehabilitation treatment processes.

2. Psychiatric nurse should give attention to set different intervention focused on each variable of relapse risk to increasing self-efficacy and decreasing outcome expectancy, negative emotional state, positive emotional state, and craving level in order to decline relapse risk among clients in the rehabilitation center. Furthermore,

3. psychiatric nurse should be open to variety of evidence-based treatment modalities that tailored to the individually clients need such as types of drugs they use, the severity of addiction, previous efforts to stop using drugs that can also influence a treatment approach. The best programs provide a combination of therapies and other services to meet an individual patient’s needs (NIDA, 2012; Noel, 2009). Relapse Prevention Therapy (RPT) should be implemented in the integration of Therapeutic Communities program (TC) in primary phase and after care phase up to over an extended time frame as a continuum program in order to achieved better result of treatment and lower relapse prevalence.

4. Although this study revealed that there were no significant correlation between motivation, coping, and social support with relapse risk, these variables cannot diminish of the treatment focuses due to the importance of these variables that has been approved by the prior study in the prevention of relapse.

Recommendation for future research

Based on the research findings, the recommendations for future research are presented below:

1. The replication of study in other rehabilitation center under National Narcotics Board of Indonesia such as in Baddoka-Makasar, Tana Merah-Samarinda, and Batam-Kepulauan Riau with combination of clinical and community setting in order to give us another perspective of relapse risk among clients with methamphetamine use disorder.

2. A predictive study to investigate which factor from independent variables that has more effect to the relapse risk among clients should be promoted. The major purpose is to set specific intervention based on specific variable which has more effect than any other variables.

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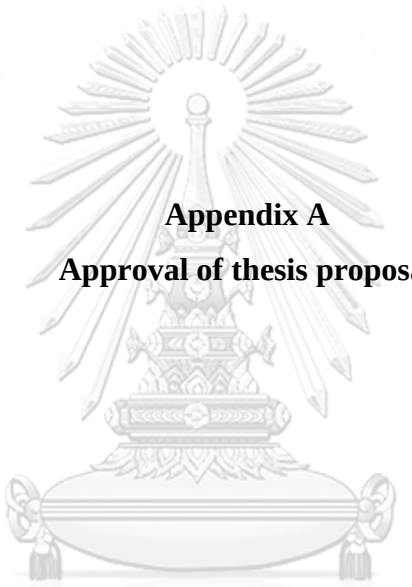
APPENDIX



Appendix A

Approval of thesis proposal

ประกาศ

(Announcement)

คณะพยาบาลศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

(Faculty of Nursing, Chulalongkorn University)

เรื่อง การอนุมัติหัวข้อวิทยานิพนธ์

(Proposal Approved)

ครั้งที่ 21/2559 ประจำปีการศึกษา 2559

(No. 21/2559, Academic year 2016)

นิสิตผู้ทำวิจัยและอาจารย์ที่ปรึกษาวิทยานิพนธ์

รหัสนิสิต (ID)	5877156136
ชื่อ-นามสกุล	นางสาวเกียน นอเนียนดะ เฮนดิแอนติ
(Name)	*Ms. Gian Nurmaindah Hendianti*
สาขาวิชา	พยาบาลศาสตร์ (การพยาบาลจิตเวชและสุขภาพจิต)
(Academic Program)	*Master of Nursing Science Program in Nursing Science (Psychiatric and Mental Health Nursing)*
ประธานกรรมการสอบ	รองศาสตราจารย์ ดร. จินตนา ยูนิพันธุ์
(Chairperson)	*Assoc. Prof. Dr. Jintana Yunibhand*
อาจารย์ที่ปรึกษาหลัก	ผู้ช่วยศาสตราจารย์ ดร. เพ็ญพักตร์ อุทิศ
(Major-advisor)	*Asst. Prof. Dr. Penpaktr Uthis*
ผู้ทรงคุณวุฒิภายนอก	ผู้ช่วยศาสตราจารย์ ดร. รุ้งนภา ผาณิตรัตน์
(External Examiner)	*Asst. Prof. Dr. Rungnapa Panitrat*
ชื่อหัวข้อวิทยานิพนธ์	ปัจจัยที่สัมพันธ์กับความเสี่ยงต่อการเสพยาบ้าซ้ำของผู้ที่มารับการรักษาในศูนย์บำบัดยาเสพติดแห่งชาติ จังหวัดจาวาตะวันตก อินโดนีเซีย
(Title of Thesis)	*FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN THE SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARDS IN WEST JAVA, INDONESIA*
ครั้งที่อนุมัติ	21/2559
(Announcement No.)	
ระดับ	ปริญญาโท
(Level)	*Master degree*

จากมติคณะกรรมการบริหารคณะพยาบาลศาสตร์ ครั้งที่ 6/2560 วันที่ 2 พฤษภาคม 2560

(Approval by Faculty Board No. 6/2017, May 2, 2017)

ประกาศ ณ วันที่ 4 พฤษภาคม พ.ศ. 2560

(Announce date May 4, 2017)

(รองศาสตราจารย์ ดร. สุรีพร ธนศิลป์)

(Sureeporn Thanasilp, D.N.S.)

คณบดีคณะพยาบาลศาสตร์

Associate Professor and Dean

Appendix B

Approval of ethical clearance

KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
UNIVERSITAS PADJADJARAN FAKULTAS KEDOKTERAN
KOMISI ETIK PENELITIAN KESEHATAN
HEALTH RESEARCH ETHICS COMMITTEE
Jl. Prof. Eyckman No. 38 Bandung 40161
Telp. & Fax. 022-2038697 email: kepk.fk.unpad@gmail.com, website : kepk.fk.unpad.ac.id

No. Reg.: 0417060783

PERSETUJUAN ETIK
ETHICAL APPROVAL

No: 889/UN6.C.10/PN/2017

Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Padjadjaran Bandung, dalam upaya melindungi hak asasi dan kesejahteraan subjek penelitian kesehatan dan menjamin bahwa penelitian yang menggunakan formulir survei/registrasi/surveilens/Epidemiologi/Humaniora/Sosial Budaya/Bahan Biologi Tersimpan/Sel Punca dan non klinis lainnya berjalan dengan memperhatikan implikasi etik, hukum, sosial dan non klinis lainnya yang berlaku, telah mengkaji dengan teliti proposal penelitian berjudul:

The Health Research Ethics Committee Faculty of Medicine Universitas Padjadjaran Bandung, in order to protect the rights and welfare of the health research subject, and to guaranty that the research using survey questionnaire/registry/surveillance/epidemiology/humaniora/social-cultural/archived biological materials/stem cell/other non clinical materials, will carried out according to ethical, legal, social implications and other applicable regulations, has been throughly reviewed the proposal entitled:

"FACTORS RELATING TO METHAMPHETAMINE RELAPSE RISK AMONG CLIENTS IN SUBSTANCE REHABILITATION CENTER OF NATIONAL NARCOTICS BOARD IN WEST JAVA, INDONESIA"

Nama Peneliti Utama *Principal Researcher*	:	Gian Nurmaindah Hendianti,S.Kep.,Ners
Pembimbing/Peneliti Lain *Supervisor/Other Researcher*	:	Assistant Proffesor Dr. Penpaktr Uthis
Nama Institusi *Institution*	:	Master Science Of Nursing Faculty Of Nursing Chulalongkorn University

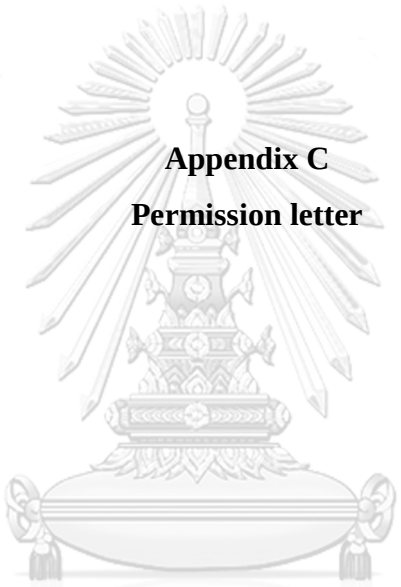
proposal tersebut dapat disetujui pelaksanaannya.
hereby declare that the proposal is approved.

Ditetapkan di : Bandung
Issued in
Tanggal : 22-08-2017
Date

Ketua,
Chairman,

Prof. Dr. Firman F. Wirakusumah, dr.,SpOG-K
NIP. 19480115 197302 1 001

Keterangan/*notes*:
Persetujuan etik ini berlaku selama satu tahun sejak tanggal ditetapkan.
This ethical clearance is effective for one year from the due date.
Pada akhir penelitian, laporan pelaksanaan penelitian harus diserahkan ke Komisi Etik Penelitian Kesehatan.
In the end of the research, progress and final summary report should be submitted to the Health Research Ethics Committee.
Jika ada perubahan atau penyimpangan protokol dan/atau perpanjangan penelitian, harus mengajukan kembali permohonan kajian etik penelitian.
If there be any protocol modification or deviation and/or extension of the study, the Principal Investigator is required to resubmit the protocol for approval.
Jika ada kejadian serius yang tidak diinginkan (KTD) harus segera dilaporkan ke Komisi Etik Penelitian Kesehatan.
If there are Serious Adverse Events (SAE) should be immediately reported to the Health Research Ethics Committee



Appendix C

Permission letter

BADAN NARKOTIKA NASIONAL REPUBLIK INDONESIA
BALAI BESAR REHABILITASI
Jalan Mayjen H. R. Edi Sukma Km. 21 Desa Wates Jaya
Kecamatan Cigombong Kabupaten Bogor
Telepon : (62-251) 8220928, 8220375
Faksimili : (62-251) 8220875, 8220949
e-mail :info@babesrehab-bnn.info website: www.babesrehab-bnn.info

Nomor : B/297.A/VIII/KB/BB.00.02/2017/BALAI BESAR Bogor, 29 Agustus 2017
Klasifikasi : Biasa
Perihal : Persetujuan Izin Penelitian

Kepada :
Yth. Chulalongkorn University Thailand
di
Thailand

1. Rujukan:
   a. Kegiatan Balai Besar Rehabilitasi BNN TA. 2014;
   b. Peraturan Kepala Badan Narkotika Nasional Nomor 15 Tahun 2014 tentang Perubahan Atas Peraturan Kepala Badan Narkotika Nasional Nomor 2 Tahun 2013 Tentang Organisasi dan Tata Kerja Balai Besar Rehabilitasi BNN.

2. Sehubungan dengan rujukan di atas, Kami informasikan bahwa Balai Besar Rehabilitasi BNN pada prinsipnya setuju dengan rencana Penelitian Mahasiswa dari Chulalongkorn University Thailand sebagai berikut :

Nama	: Gian Nurmaindah Hendianti
Tempat/Tgl Lahir	: Sumedang, 11 Mei 1990
NIM	: 5877156136
Perguruan Tinggi	: Chulalongkorn University Thailand
Judul Penelitian	: *Factors Relating to Methamphetamine Relapse Risk Among Client in Substance Rehabilitation Center of National Narcotics Board in West Java Indonesia*

3. Informasi lebih lanjut terkait teknis pelaksanaan dapat menghubungi Sdri. Agrippina Decila Putri, S.I.Kom no. kontak 081284637202.

4. Demikian untuk menjadi maklum.

a.n. Kepala Balai Besar Rehabilitasi BNN
Kabag Umum

Etty Miharti

Appendix D

List of experts

List of experts in this study were as follows:

1. Dr. Adhi Wibowo Nurhidayat, Sp.Kj., MPH.

   PhD Candidate University of Amsterdam. Senior scientist at institute of Mental Health Addiction and Neuroscience, Addiction Psychiatrist at Dr. Soehato Herdjan Mental Health Hospital West Java.

2. Dr. Iman Firmansyah, Sp. Kj.

   Addiction Psychiatrist at National Narcotics Board (NNB) Rehabilitation Center, Researcher at Institute of Mental Health Addiction and Neuroscience.

3. Dr. Hari Nugroho., MD.

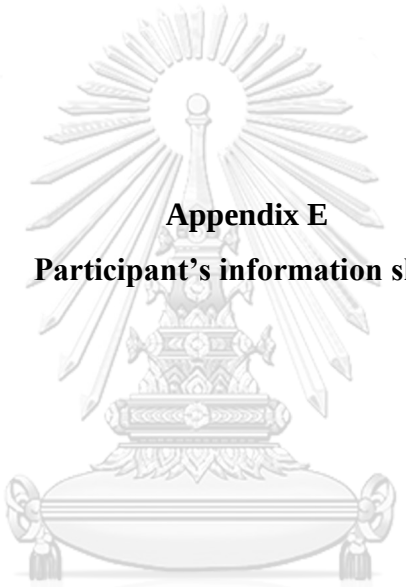
   Chief of Medical Services, Medical Rehabilitation Division NNB Rehab Center, Researcher at Institute of Mental Health Addiction and Neuroscience.

4. Dr. Danang N. Adiwibawa

   Addiction Psychiatrist at Mataram Mental Health Hospital Indonesia

5. Iyus Yosep., S. Kep., M.Sc.

   Lecturer at Department of Psychiatric and Mental Health, Faculty of Nursing, Padjadjaran University, Indonesia.



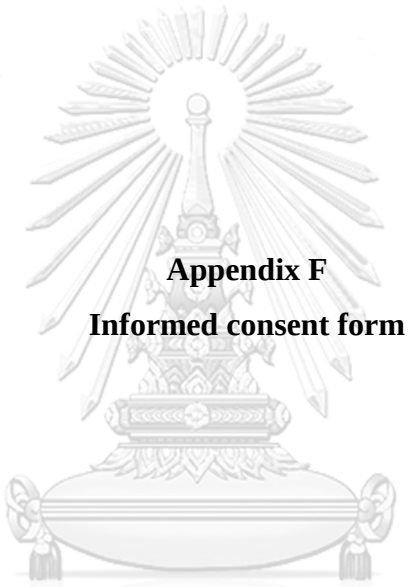
Appendix E

Participant's information sheet

Participant's Information Sheet

1. **Title of research project**: Related Factors to Methamphetamine Relapse Risk among Clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia
2. **Researcher's name**: Gian Nurmaindah Hendianti
3. **Office Address**: Chulalongkorn University, Bangkok – Thailand.
4. **Home Address**: Jl. Raya Tanjungsari, Jatinangor. Komplek Panorama Blok A21 Rt 1 Rw 12 Tanjungsari, Kab. Sumedang, 45363 Jawa Barat.
5. **Cell phone**: +6282183578993
6. **Email**: gian.nurmaindah@gmail.com
7. You are being invited to take part in a research project. Before you decide to participate, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully and do not hesitate to ask if anything is unclear or if you would like more information.
8. Objectives of the research
    a) To study methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia
    b) To examine the relationship between self-efficacy, outcome expectancy, motivation, coping, emotional state, craving, social support, and methamphetamine relapse risk among clients in the Substance Rehabilitation Center of National Narcotics Board in West Java, Indonesia
9. The benefits of this research
    a) The contribution to body knowledge of addiction nursing science in Indonesia.
    b) The advantage of practice nurses and another health care provider' better plan and integrate intervention that meet the individual needs of drug users to prevent relapse in the future.
    c) The utilization of methamphetamine relapse risk and its factors to develop future research.

10. The participants of this study are inpatient adult client aged 20-65 years old who meet the criteria of methamphetamine use disorder based on the DSM-5, willing to participate in the study, and no limitation of communication in both written and spoken Indonesian language.
11. The researcher explains the way to answer the questionnaires. When the subjects understand the method, the subject will answer all the questionnaires by themselves. When the questionnaires are handed back, the researcher will check that all the information will be completed. If any item are incomplete, the researcher will ask the subject to fill out the missing items.
12. There will be no harm for the participants in this study.
13. Protect the right of the individuals who volunteered as subjects by having each sign a consent form, which includes an explanation of the purpose of the research, assurance of confidentiality, informs about the questionnaire destruction when finishing the study as well as the option to withdraw from this study at any time with no consequence at all.
14. Information will include 'if you have any question or would like to obtain more information, the researcher can be reached at all time. If the researcher has new information regarding benefit on risk/harm, participants will be informed as soon as possible.' This practice will provide an opportunity for participants to decide whether to stay/not stay within the project.
15. Information will include "Information related directly to you will be kept **confidential.** Results of the study will be reported as total picture. Any information which could be able to identify you will not appear in the report.



Appendix F

Informed consent form

Informed Consent Form

Date ……...

Participant's Code Number ……..

I was informed by the researcher named Gian Nurmaindah Hendianti, Master in Nursing Science student, Faculty of Nursing, Chulalongkorn University.

I am willing to take part in this researcher study, which helps nurses, health care provider, and future researcher understand the methamphetamine relapse risk factors in the rehabilitation setting. The responses will take about 120 minutes.

I have been told that I can take a break whenever I feel uncomfortable or tired. I know that I am strictly voluntary in this study, or I can drop out of the study at any time without penalty. Whenever I am in the study or not, there will be no affected on my health, or expenditure.

I understand that during the study I can contact the researcher by calling Gian Nurmaindah Hendianti at cell phone +6282183578993, or by email: gian.nurmaindah@gmail.com

Signature	Signature	Signature
Gian Nurmaindah H.	(……..)	(……..)
Researcher	Participant	Witness

Appendix G

Research instruments

Factors relating to methamphetamine relapse risk among clients in substance rehabilitation center of National Narcotics Board in West Java, Indonesia

Instructions

1. Please complete the set of questionnaires honestly and to the best of your ability. There is no right or wrong answer. The questionnaire divided into 10 sections:
   - Section 1 : Demographic data
   - Section 2 : Drug Taking Confidence Questionnaire (50 items)
   - Section 3 : Stimulant Effect Expectancy Questionnaire (46 items)
   - Section 4 : Stage of Change Readiness and Treatment Eagerness Scale for Drug (19 items)
   - Section 5 : Coping Strategies Inventory Short Form (32 items)
   - Section 6 : Positive Affect and Negative Affect Schedule (20 items)
   - Section 7 : Desire for Speed Questionnaire (24 items)
   - Section 8 : Social Support Questionnaire (6 items)
   - Section 9: Stimulant Relapse Risk Scale (30 items)
2. Do not write your name or other personal information on any of the pages.
3. Once you complete the packet of questionnaires please seal it in the envelope and turn it in to designate counselor to receive a packet of souvenir.
4. Remember to keep the Informed Consent Form and that you checked YES that you read and agreed to participate in the study (Items 1 and 2 on the sociodemographic questionnaire).

Thank you for your time and effort in helping to improve service and care to individuals with substance abuse addictions.

Section 1: Sociodemographic questionnaire

Please complete the following questionnaire.

1. Did you read the Informed Consent? Yes __ No___
2. Do you understand and agree with the Informed Consent? Yes __ No___
3. How old you are? _____
4. What is your gender? Female __ Male __
5. Are you in treatment voluntarily? Yes__ No__
6. What is your educational level? _____
7. Are you currently employed? Yes __No__
8. Do you have any current legal problems? Yes __No __
9. Do you have family members that use drugs? Yes __ No __
10. How long is your addiction history? _____
11. Have you experienced relapse? Yes __No__

Section 2: Drug Taking Confidence Questionnaire (DTCQ)

To be completed by the client:
Type of drug:
(check one)
Is this your main substance of abuse?
Or
Your second substance of abuse?
Or
Your third substance of abuse?

Listed below is a number of situation or event in which some people use Methamphetamine

---

Imagine yourself as you are right now in each of these situations.

Indicate on the scale provided how confident you are that you would be resisting the urge to use Methamphetamine in this situation.

Circle 100 if you are 100% confident right now that you could resist the urge to use this drug; 80 if you are 80% confident; 60 if you are 60% confident. If you are more unconfident than confident, circle 40 to indicate that you are only 40% confident that you could resist the urge to use this drug; 20 for 20% confident; 0 if you have no confidence at all about that situation.

No.	**I would be able to resist the urge to use methamphetamine**	**Not at all confident**				**Very confident**	
		0	**20**	**40**	**60**	**80**	**100**
1.	If I were depressed about things in general						
2.	If I felt shaky, sick or nauseous						
3.	If I were happy						
4.	If I felt there was nowhere left to turn						
5.	If I wanted to see whether I could use this drug in moderation						
6.	If I were in a place where I had used or bought this drug before						
7.	If I felt tense or uneasy in the presence of someone						

No.	I would be able to resist the urge to use methamphetamine	Not at all confident				Very confident	
		0	20	40	60	80	100
8.	If I were invited to someone's home and felt awkward about refusing when the offered me this drug						
9.	If I met some old friends and we wanted to have a good time						
10.	If I were unable to express my feelings to someone						
11.	If I felt that I had let myself down						
12.	If I had trouble sleeping						
13.	If I felt confident and relaxed						
14.	If I were bored						
15.	If I wanted to prove to myself that this drug were not problem for me						
16.	If I unexpectedly found some of this drug or happened to see something that reminded me of this drug						
17.	If other people rejected me or didn't seem to like me						
18.	If I were out with friends and they kept suggesting we go somewhere and use this drug						
19.	If I were with an intimate friend and we wanted to even closer						
20.	If other people treated me unfairly or interfered with my plans						
21.	If I were lonely						
22.	If I wanted to stay awake, be more alert, or to be more energetic						

No.	I would be able to resist the urge to use methamphetamine	Not at all confident				Very confident	
		0	20	40	60	80	100
23.	If I felt excited about something						
24.	If I felt anxious or tense about something						
25.	If I wanted to find out whether I could use this drug occasionally without getting hooked						
26.	If I have been drinking and thought about using this drug						
27.	If I felt that my family was putting a lot of pressure on me or that I couldn't measure up to their expectations						
28.	If others in the same room were using this drug and I felt that they expected me to join in						
29.	If I were with friend and wanted to increase my enjoyment						
30.	If I were not getting along well with others at school or at work						
31.	If I started to felt guilty about something						
32.	If I wanted to lose weight						
33.	If I were feeling content of my life						
34.	If I felt overwhelmed and wanted to escape						
35.	If I wanted to test out whether I could be with drug-using friends without using this drug						
36.	If I heard someone talking about their past experiences with this drug						
37.	If there were a fight at home						
38.	If I were pressured to use this drug and felt that I couldn't refuse						

No.	I would be able to resist the urge to use methamphetamine	Not at all confident				Very confident	
		0	20	40	60	80	100
39.	If I wanted to celebrate with a friend						
40.	If someone was dissatisfied with my work or I felt pressured at school or on the job						
41.	If I were angry at the way things had turn out						
42.	If I were in headache or was in physical pain						
43.	If I remembered something good that had happened						
44.	If I felt confused about what should I do						
45.	If I wanted to test out whether I could be in places where this drug was being used without using any						
46.	If I began to think how good a rush or a high had left						
47.	If I felt that I needed courage to face up to someone						
48.	If I were with a group of people and everyone was using this drug						
49.	If I were having a good time and wanted to increase my sexual enjoyment						
50.	If I felt that someone was trying to control me and I wanted to feel independent						

Section 3: Stimulant Effect Expectancy Questionnaire (SEEQ)

The following pages contain statements about the effects of stimulants, including cocaine and amphetamines (crystal meth, speed). Read each statement carefully and respond according to your own personal thoughts, feelings, and beliefs about stimulants now. We are interested in what you think about stimulants, regardless of what other people might think.

Whether or not you have had actual experiences with stimulants yourself, you are to answer in terms of your beliefs about stimulants. It is important that you respond to every question. There are no rights or wrong answers.

A. Which stimulant drug do you have the most experience with or knowledge about? (check a box)

[ ] COCAINE (including crack)

[ ] AMPHETAMINES (including crystal meth and speed)

Please fill out the following questions according to your beliefs about the stimulant drug you know best. PLEASE BE HONEST. REMEMBER, YOUR ANSWERS ARE CONFIDENTIAL. RESPOND TO THESE ITEMS ACCORDING TO WHAT YOU PERSONNALLY BELIEVE TO BE TRUE ABOUT A MODERATE AMOUNT OF STIMULANTS - HOWEVER YOU DEFINE MODERATE.

Check the box which shows how much you agree or disagree with each item:

(1) DISAGREE STRONGLY
(2) DISAGREE SOMEWHAT
(3) UNCERTAIN
(4) AGREE SOMEWHAT
(5) AGREE STRONGLY

No	Statement	1	2	3	4	5
1.	Stimulants make me less hungry.					
2.	Stimulants increase my sex drive.					
3.	I say things that I don't mean when I am on stimulants.					
4.	I find the effects of stimulants are not similar to those of alcohol.					
5.	I am anxious or tense when I am on stimulants.					

No	Statement	1	2	3	4	5
6.	Stimulants speed me up.					
7.	Stimulants make me feel dreamy and mellow.					
8.	Stimulants make me shaky.					
9.	I can get paranoid when I am on stimulants.					
10.	When I am on stimulants I feel as though everything is right in the world.					
11.	I do not become impatient and agitated when I am on stimulants.					
12.	Stimulants make me "hyper" (overactive, over-talkative, etc.).					
13.	Stimulants give me an uncomfortable feeling inside my stomach.					
14.	Stimulants give me a "rush," or a sudden sense of being "swept away."					
15.	Stimulants increase my activity level.					
16.	I grind my teeth when I am on stimulants.					
17.	Stimulants make my heart beat faster and cause the blood to rush around inside my body.					
18.	I become numb on stimulants					
19.	I go to the bathroom more when I am on stimulants.					
20.	I become awake and alert when I am on stimulants.					
21.	I get a tingly feeling when I am on stimulants.					
22.	I am more capable of getting things done when I am on stimulants.					
23.	Stimulants make me feel more important.					
24.	I am not easily frustrated when I am on stimulants.					

No	Statement	1	2	3	4	5
25.	Stimulants make me feel as though I am on top of things.					
26.	Stimulants do not make me light-headed or dizzy.					
27.	I am less sensitive to other people when I am on stimulants.					
28.	Stimulants make me feel like I can do anything.					
29.	I have difficulty focusing on one thing at a time when I am on stimulants.					
30.	Stimulants do not make things seem clear.					
31.	Stimulants do not make me sweat.					
32.	After the stimulant "high" is over, I become depressed or "burned out."					
33.	Stimulants decrease my sexual performance.					
34.	Stimulants make me do the same thing over and over again.					
35.	I am never satisfied when I am on stimulants - I always want more.					
36.	I am less aware of reality when I am on stimulants.					
37.	Stimulants give me a sense of being in control.					
38.	Stimulants cause hallucinations.					
39.	Stimulants cause me to lose interest in what I am doing.					
40.	Stimulants make my judgment worse.					
41.	I am able to drink a lot more without getting drunk when I am on stimulants.					
42.	I am more talkative when I am on stimulants.					

No	Statement	1	2	3	4	5
43.	I become fearful on stimulants.					
44.	Stimulants make me aggressive and dominating.					
45.	Parties are more fun when I am on stimulants.					
46.	Stimulants make me feel very happy.					

Section 4: Stage of Change Readiness and Treatment Eagerness Scale for Drug (SOCRATES 8D)

INSTRUCTIONS:

Please read the following statements carefully. Each one describes a way that you might (or might not) feel about your drug use. For each statement, circle one number from 1 to 5, to indicate how much you agree or disagree with it right now. Please circle one and only one number for every statement.

No	Statement	1	2	3	4	5
		NO! Strongly Disagree	No Disagree	? Undecided or Unsure	Yes Agree	YES! Strongly Agree
1.	I really want to make changes in my use of drugs					
2.	Sometimes I wonder if I am an addict					
3.	If I don't change my drug use soon, my problems are going to get worse.					
4.	I have already started making some changes in my use of drugs					
5.	I was using drugs too much at one time, but I've managed to change that.					
6.	Sometimes I wonder if my drug use is hurting other people.					
7.	I have a drug problem					
8.	I'm not just thinking about changing my drug use, I'm already doing something about it.					
9.	I have already changed my drug use, and I am looking for ways to keep from slipping back to my old pattern.					
10.	I have serious problems with drugs					
11.	Sometimes I wonder if I am in					

No	Statement	1	2	3	4	5
		NO! Strongly Disagree	No Disagree	? Undecided or Unsure	Yes Agree	YES! Strongly Agree
	control of my drug use.					
12.	My drug use is causing a lot of harm					
13.	I am actively doing things now to cut down or stop my use of drugs					
14.	I want help to keep from going back to the drug problems that I had before.					
15.	I know that I have a drug problem.					
16.	There are times when I wonder if I use drugs too much					
17.	I am a drug addict					
18.	I my working hard to change my rug use					
19.	I have made some changes in my drug use, and I want some help to keep from going back to the way I used before.					

Section 5: Coping Strategies Inventory Short Form (CSI-SF)

The purpose of this questionnaire is to find out the kinds of situations that trouble people in their day-to-day lives and how people deal with them.

Take a few moments and think about an event or situation that has been very stressful for you during the las month. By stressful we mean a situation that was troubling you, either because it made you feels bad or because it took effort to deal with it. It might have been with your family, with school, with your job, or with your friends.

In the space below, please describe this stressful event. Please describe what happened and include details such as the place, who was involved, what made it important to you, and what you did. The situation could be one that is going on right now or one that has already happened. Don't worry about making it into essay. Just put down the things that come to you. Continue writing on the back if necessary.

Once again, take a few minutes to think about your chosen event. As you read through the following items please answer them based on how you handled your event.

Please read each item below and determine the extent to which you used it in handling your chosen event. Please do not mark on this inventory. Please use the provided answer sheet in the following manner:

1. Not at all
2. A little
3. Somewhat
4. Much
5. Very much

No	How you handle your problem:	1	2	3	4	5
1.	I worked on solving the problems in the situation					
2.	I looked for the silver lining, so to speak; I tried to look on the bright side of things					
3.	I let out my feelings to reduce the stress					
4.	I found somebody who was a good listener					
5.	I went along as if nothing were happening					
6.	I hoped a miracle would happen					
7.	I realized that I was personally responsible for my difficulties and really lectured myself					
8.	I spent more time alone					
9.	I made a plan of action and followed it					
10.	I looked at things in a different light and tried to make the best of what was available					
11.	I let my feelings out somehow					
12.	I talked to someone about how I was feeling					
13.	I tried to forget the whole things					
14.	I wish that the situation will go away or somehow be over with					
15.	I blamed myself					

No	How you handle your problem:	1	2	3	4	5
16.	I avoided my family and friends					
17.	I tackled the problem head on					
18.	I asked myself what was really important and discovered that things weren't so bad after all					
19.	I let my emotions out					
20.	I talked to someone that I was very close					
21.	I didn't let it go to me; I refused to think about it too much					
22.	I wished that the situation had never started					
23.	I criticized myself for what happened					
24.	I avoided being with people					
25.	I know what had to be done, so I doubled my efforts and tried harder to make things work					
26.	I convinced myself that things aren't quite as bad as they seem					
27.	I got in touch with my feelings and just let them go					
28.	I asked a friend or relative I respect for advice					
29.	I avoided thinking or doing anything about the situation					
30.	I hoped that if I waited long enough, things would turn out OK					
31.	Since what happened was my fault I really chewed myself out					
32.	I spent some time by myself					

Section 6: Positive Affect and Negative Affect Schedule (PANAS)

Instruction:

Please read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way that make you wanted to use the drug.

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

_____	1. Interested	_____	11. Irritable
_____	2. Distressed	_____	12. Alert
_____	3. Excited	_____	13. Ashamed
_____	4. Upset	_____	14. Inspired
_____	5. Strong	_____	15. Nervous
_____	6. Guilty	_____	16. Determined
_____	7. Scared	_____	17. Attentive
_____	8. Hostile	_____	18. Jittery
_____	9. Enthusiastic	_____	19. Active
_____	10. Proud	_____	20. Afraid

Section 7: Desire for Speed Questionnaire (DSQ)

In this questionnaire we are interested in what you are thinking or feeling about methamphetamine right now as you complete the questionnaire. That is, we want to know what your cravings are like right at this moment. They may be somewhat mild, or they may be stronger, or they may differ depending on how you get a chance to describe them.

In order to describe what you are thinking or feeling about methamphetamine, we would like you to rate each of the following sentences. Read each sentence and then put a checkmark in one of the spaces between strongly disagree and strongly agree that tells us how much you agree or disagree with the sentence at that moment. The closer you place your checkmark to one end or the other indicates the strength of your disagreement or agreement. For example, use the middle space like this:

To show that you don't really agree or disagree with the sentence; you feel kind of neutral about it:

Strongly Disagree ___:___:___:_X_:___:___:___: Strongly Agree

If you agree a little with the sentence, you can move your check one over to the "agree" side like this:

Strongly Disagree ___:___:___:___:_X_:___:___: Strongly Agree

OR If you feel that you strongly Disagree with the sentence, then check this space here like this:

Strongly Disagree _X_:___:___:___:___:___:___: Strongly Agree

Please read each question carefully. You need to pay close attention because some of the sentences might be turned around.

No	Statement
1.	I would accept some speed if it was offered to me now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
2.	It would feel as if the bad things in my life had completely disappeared if I took some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
3.	I could easily limit how much speed I would take if I started taking some now. Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
4.	I need some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
5.	If I had a week's supply of speed, it would last me for the full week Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
6.	My desire for speed now seems overwhelming Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
7.	Even major problems in my life would not bother me now if I took some speed Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
8.	I am making plans to take some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
9.	I would do almost anything to take some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
10.	Taking speed now would make the bad things in my life seem less bad Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
11.	I crave some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
12.	I would consider taking some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
13.	I might like some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
14.	If I took some speed now the small daily hassles would feel less important Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree

15.	If I had the chance to use speed now, I think I would Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
16.	I have an urge to take speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
17.	I want some speed so much I can almost feel it Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
18.	I would probably feel less worried about my daily problems if I took some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
19.	I am thinking of ways to get speed Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
20.	Taking speed now would make me feel less stressed Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
21.	I will have some speed now whatever gets in the way Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
22.	Taking speed now would make things seem just perfect Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
23.	I am going to have some speed as soon as I possibly can Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree
24.	All my tension would completely disappear if I took some speed now Strongly Disagree ___:___:___:___:___:___:___: Strongly Agree

Section 8: Social Support Questionnaire Short Form (SSQ6)

Instruction:

The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the persons initials, their relationship to you (See example). Do not list more than one person next to each of the numbers beneath the question.
For the second part, circle how satisfied you are with overall support you have.
If you have had no support for a question, check the words "No One", but still rate your level of satisfaction.
Do not list more than nine persons per question.
Please answer all questions as best you can. All responses will be kept confidential.
Example:
Who do you know whom you can trust with information that could get you in trouble?

No one	1. T.N (brother)	4. T.N (father)	7.
	2. L.M (friend)	5. L.M (employer)	8.
	3. R.S (friend)	6.	9.

How satisfied?

6	5	4	3	2	1
Very satisfied	Fairly satisfied	A little satisfied	A little dissatisfied	Fairly dissatisfied	Very dissatisfied

1.	Whom can you really count on to be dependable when you need help? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
2.	How satisfied? 6-Very satisfied 5-Fairly satisfied 4-A little satisfied 3-A little dissatisfied 2-Fairly dissatisfied 1-Very dissatisfied
3.	Whom can you really count on to help you feel more relaxed when you are under pressure or tense? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
4.	How satisfied? 6-Very satisfied 5-Fairly satisfied 4-A little satisfied 3-A little dissatisfied 2-Fairly dissatisfied 1-Very dissatisfied
5.	Who accepts you totally, including both your worst and your best points? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
6.	How satisfied? 6-Very satisfied 5-Fairly satisfied 4-A little satisfied 3-A little dissatisfied 2-Fairly dissatisfied 1-Very dissatisfied
7.	Who can you really count on to care about you, regardless of what is happening to you? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
8.	How satisfied?
9.	Who can you really count on to help you feel better when you are feeling generally down in the dumps? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
10.	How satisfied? 6-Very satisfied 5-Fairly satisfied 4-A little satisfied 3-A little dissatisfied 2-Fairly dissatisfied 1-Very dissatisfied
11.	Who can you count on to console you when you are very upset? No one 1. 4. 7. 2. 5. 8. 3. 6. 9.
12.	How satisfied? 6-Very satisfied 5-Fairly satisfied 4-A little satisfied 3-A little dissatisfied 2-Fairly dissatisfied 1-Very dissatisfied

Section 9: Stimulant Relapse Risk Scale (SRRS)

Instruction:

Please describe your state during the past week. For each statement below, please circle one answer that best describes you. For the word “drug” that appears in the statements, think about the drug you currently abuse.

No	Statement	Strongly Disagree and Disagree	Neither Agree nor Disagree	Strongly Agree and Agree
1	The feeling I used to have while using the drug sometimes comes back			
2	There are times I want to use the drug			
3	I feel a constant need to put something in my mouth			
4	I am annoyed by words from others.			
5	I am anxious about reusing the drug			
6	I am irritated			
7	I would do almost anything in order to use the drug			
8	I feel easier than before			
9	I am not motivated to do anything			
10	Thinking about my family, I can no longer use the drug			
11	I am afraid of hallucinations due to drug use			
12	I feel lonely			
13	I would not be able to control			

No	Statement	Strongly Disagree and Disagree	Neither Agree nor Disagree	Strongly Agree and Agree
	myself if I use the drug			
14	If someone holds the drug under my nose, I would not be able to refuse it			
15	I am anxious about my future			
16	I would use the drug if I am alone			
17	If I use the drug, it would badly influence my job			
18	If my friend gives me the drug, I would use it even in the hospital			
19	I cannot control my feeling			
20	If the drug is placed in front of me, I would use it			
21	I feel tired due to impatience			
22	If I have a large sum of money, I want to buy the drug.			
23	I would do anything to get money for the drug			
24	If I use the drug, I would be less nervous			
25	If I use the drug, I would feel everything is going well.			
26	I want the drug even if I have to steal			
27	If I use the drug, I would feel invigorated			
28	I will use the drug in near future			

No	Statement	Strongly Disagree and Disagree	Neither Agree nor Disagree	Strongly Agree and Agree
29	I want to obtain the drug even by working illegally			
30	Even though I know I will be arrested, I would use the drug			

VITA

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After I graduated from Bachelor of Nursing, I have working experiences as a general nurse in Muhammadiyah Hospital from 2013-2014 and become assistant lecturer in Faculty of Nursing, Padjadjaran University from 2014-2015. During I am as an assistant lecturer, I took some responsibilities at Faculty of Nursing Padjadjaran University as a study case leader for students group discussion, journal reviewer for national accreditation of Padjadjaran Nursing Journal, and a secretary in a national seminar Evidence-Based Holistic Nursing Approach To Challenge Latest Mental Health 2015.

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