ASSOCIATION BETWEEN SOCIAL SUPPORT AND DEPRESSION, SUICIDAL IDEATION AMONG TRANSGENDER WOMEN IN BANGKOK, THAILAND

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ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย

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Thesis Title	ASSOCIATION BETWEEN SOCIAL SUPPORT AND DEPRESSION, SUICIDAL IDEATION AMONG TRANSGENDER WOMEN IN BANGKOK, THAILAND
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ปานแก้ว ตันติรัตนกุลชัย : ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย. (ASSOCIATION BETWEEN SOCIAL SUPPORT AND DEPRESSION, SUICIDAL IDEATION AMONG TRANSGENDER WOMEN IN BANGKOK, THAILAND) อ.ที่ปรึกษาหลัก : ผศ. ดร.เนาวรัตน์ กาญจนาคาร, อ.ที่ปรึกษาร่วม : ดร.นุชนาฏ หวนนากลาง

ภาวะซึมเศร้าและความคิดฆ่าตัวตายกำลังกลายเป็นปัญหาสุขภาพจิตที่สำคัญทั่วโลกประเทศไทยเป็นที่รู้จักกันในนามสังคมที่ยอมรับกลุ่มคนข้ามเพศ แต่การศึกษาเกี่ยวกับสตรีข้ามเพศที่เกี่ยวข้องกับภาวะซึมเศร้าและความคิดฆ่าตัวตายนั้นยังคงมีจำนวนน้อย การวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาอัตราการเกิดภาวะซึมเศร้า ความคิดฆ่าตัวตายและปัจจัยที่เกี่ยวข้องของสตรีข้ามเพศในเขตกรุงเทพมหานคร โดยศึกษาจากกลุ่มตัวอย่างทั้งหมด 280 คน การเก็บรวมรวมข้อมูลโดยให้กลุ่มตัวอย่างกรอกข้อมูลด้วยตัวเอง เครื่องมือที่ใช้คือ แบบสอบถามข้อมูลทั่วไป แบบสอบถามความรู้สึกหลากหลายมิติเกี่ยวกับแรงสนับสนุนทางสังคม แบบประเมินภาวะซึมเศร้าและแบบประเมินความคิดฆ่าตัวตาย การวิเคราะห์ถดถอยโลจิสติกส์พหุกลุ่มจะนำมาวิเคราะห์เพื่อศึกษาความสัมพันธ์ระหว่างปัจจัยที่เกี่ยวข้องกับการเกิดภาวะซึมเศร้าและความคิดฆ่าตัวตาย ผลการวิจัยพบว่า อัตราการเกิดภาวะซึมเศร้าคือ 58.2% และความคิดฆ่าตัวตาย 55.0% ในการวิเคราะห์หลายตัวแปร ความไม่เพียงพอของรายได้ การดื่มเครื่องดื่มแอลกอฮอล์ 1-3 วัน/เดือนมีความสัมพันธ์กับการเกิดภาวะซึมเศร้าอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.05$ การได้รับแรงสนับสนุนทางสังคมในระดับต่ำและปานกลางมีความสัมพันธ์กับการเกิดภาวะซึมเศร้าอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.01$ นักแสดงคาบาเร่ต์มีความสัมพันธ์กับการเกิดความคิดฆ่าตัวตายอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.05$ ผู้ที่เคยสูบบุหรี่ การได้รับแรงสนับสนุนทางสังคมในระดับต่ำและปานกลางมีความสัมพันธ์กับการเกิดภาวะซึมเศร้าอย่างมีนัยสำคัญทางสถิติที่ระดับ $p<0.01$ คนข้ามเพศมีแนวโน้มที่จะประสบปัญหาสุขภาพจิตในอัตราที่สูงกว่าประชากรทั่วไป การศึกษาครั้งนี้ชี้ให้เห็นว่าการสนับสนุนทางสังคมมีความสัมพันธ์อย่างมีนัยสำคัญกับภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีเพศข้ามเพศ การสนับสนุนสุขภาพจิตของคนข้ามเพศนั้นถือเป็นการลงทุนเชิงกลยุทธ์ที่สร้างประโยชน์ระยะยาวให้กับบุคคลสังคมและระบบสุขภาพ นอกจากนี้ภาวะซึมเศร้าและความคิดฆ่าตัวตายอยู่ในระดับสูงดังนั้นการศึกษาต่อควรมุ่งเน้นไปที่การศึกษาเพื่อช่วยลดภาวะซึมเศร้าและความคิดฆ่าตัวตาย

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Pankaew Tantirattanakulchai : ASSOCIATION BETWEEN SOCIAL SUPPORT AND DEPRESSION, SUICIDAL IDEATION AMONG TRANSGENDER WOMEN IN BANGKOK, THAILAND. Advisor: Asst. Prof. NAOWARAT KANCHANAKHAN, Ph.D. Co-advisor: Nuchanad Hounnaklang, Ph.D.

Depression and suicidal ideation are becoming a major mental health problem globally. Thailand is known as the accepting society for transgender but the available study on transgender women dealing with depression is scarce. This study aims to describe the rate of depression and suicidal ideation among transgender women in Bangkok and to explore the associated factors. A cross-sectional study was conducted among 280 transgender women in Bangkok, Thailand on May 2019. Data were collected through self-administered. The measurement tools including socio demographic characteristics, Multidimensional Scale of Perceived Social Support (MSPSS), The Center for Epidemiological Studies-Depression Scale (CES-D) and The Columbia–Suicide Severity Rating Scale (C-SSRS). Multivariate regression analysis was conducted to explore the associated factors of depression and suicidal ideation. The rate of depression and suicidal ideation among transgender women in this study was 58.2% and 55.0% respectively. In multivariate logistic regression analysis, depression was significantly associated with insufficient income, drinking alcohol 1-3 time/month in the past 12months (p-value <0.05). Low perceived social support and moderate perceived social support showed strongly statistically significant associations (p-value <0.01). For suicidal ideation, cabaret actress showed statistically significant association (p-value< 0.05). Ex-smoker, low perceived social support and moderate perceived social support showed strongly statistically significant associations (p-value <0.01). Transgender tend to experience higher rates of mental health problems than the general population. This study suggested that social support was significantly associated with depression and suicidal ideation in transgender women. Supporting the mental health of transgender people should be seen as a strategic investment which creates many long-term benefits for individuals, societies and health system. Moreover, depression and suicidal ideation rate was high therefore, further studies should focus on intervention study to reduce depression and suicidal ideation.

Field of Study:	Public Health	Student's Signature .....
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Pankaew Tantirattanakulchai

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ACRONYMS

APA	American Psychiatric Association
CDC	Centers for Disease Control and Prevention
CES-D	Center for Epidemiologic Studies Depression Scale
C-SSRS	Columbia-Suicide Severity Rating Scale
DSM-V	The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
GnRH	Gonadotropin releasing hormone
HIV	Human Immunodeficiency Virus
IOC	Item Objective Congruence
LGBTQ	lesbian, gay, bisexual, transgender and queer
HRT	Hormone replacement therapy
MSPSS	Multi-dimensional Scale of Perceived Social Support
MTF	Male - to - Female
NIMH	National Institute of Mental Health
PTSD	Post-traumatic stress disorder
r-T-MSPSS	Revised-Thai version of Multi-dimensional Scale of Perceived Social Support
SRS	Sex reassignment surgery
WHO	World Health Organization
YLD	Years lived with disability

CHAPTER I

INTRODUCTION

1.1 BACKGROUND AND RATIONALE

Transgender is an umbrella term used to describe a group of people in society that do not identify nor feeling comfortable in expressing their gender of birth. This group has a diverse representation across all segments of society, countries and worldwide (Sari L Reisnerr, 2016). In Thailand, they have developed into specific cultural groups. They are referred to by many terms. Some of these terms are used to describe different types of gender. Today, Kathoey or a second type of woman (*sao praphet song) (Centers for Disease Control and Prevention, 2004)* is commonly used by the Thai society to identify them (Winter, 2006).

Among lesbian, gay, bisexual, transgender and queer the mental health disorder is still one of the most greatest areas of clinical concern (Cochran SD, 2003). People with gender identity disorder is normally connected with severe stress, depression and social isolation. (Wallien MS, 2007). Transgender women are thought to be at the highest risk in the LGBTQ communities for mental health problems. One of the major mental health problems among transgender population is depression. It is important to stress that depression is seldom caused by identifying as a transgender (Bockting WO, 2013).

Depression has been determined to be a major cause of poor health and disability globally, and today is one of the major contributors to the worldwide burden of disease. By 2020, The World Health Organization (WHO) predicted that depression will rank second in global burdens of disease (World Health Orgnization, 2001). At a global level, in 2015 the total amount of all ages, suffering from depression, was estimated to exceed 322 million people, equivalent to 4.4 percent of world's population. This total number increased by 18.4 percent between 2005 and 2015 (World Health Orgnization, 2017). In addition, WHO global health estimates in 2015 reported that depression is more common among female 5.1 percent than male 3.6 percent (World Health Orgnization, 2017). Among general population, the prevalence of depression is higher among women between women and men was reported to be in the ratio 2:1 (Puri, 2014).

In Thailand, depression has still been the same like past ten years ago as a prevalent mental disorder and also neglected not only by those affected but also by the public and by the health-care profession (Thoranin Kongsuk, 2017). According to, the nationally household survey of mental disorders by the Department of Mental Health in 2008 reported that people aged over 15 years estimated 1.5 million people were living with depression and the prevalence of depression among women higher than men 1.7 times at the time of survey.

In Australia, transgender people aged 18 and over are closely 5 times to be diagnosed with depression compared to general population in their lifetime (Alliance, 2016) . A prior study in transgender women had shown that as high as 62 percent of transgender women suffer from depression their life time, this compares with 16.6 percent of the general United States population (Hoffman, 2014) .

People who have depression may also have symptoms that affect feeling, thinking, and the ability to handle daily activities, such as sleeping, eating, or working (NIMH, 2018). Furthermore, Severe depression can not only reduce the quality of life of individuals but also associated with other health problems (M.Isabella Bisschop, 2004). According to the recent study, there was higher chance to get diseases like myocardial infarction, stroke, and peripheral artery disease if people have depression which can be considered as an independent variable for having chronic diseases (Daskalopoulou M, 2016). Depression can also be placed as a dependent variable where independent variables were having chronic diseases, disabilities (Katon W, 2007). In the most severe form, depression can lead to suicide (Carol Choo, 2014).

Depression is a major contributor to suicide deaths, and it is estimated that close to 800,000 people die from suicide annually. In 2015, suicides accounted for 1.5 percent of global total deaths. that bringing suicide into the top twenty leading causes of death (World Health Orgnization, 2017). Suicide occurs throughout a person lifetime and in 2016, in age 15 to 29 age group categories, it was the second leading cause of total deaths (ACC, 2018).

Suicide has become a very serious public health problem especially amongst the low-and-middle income nations. Most of the countries in South-East Asia belong in this category. Approximately 40 percent of all global suicides occur in this region (World Health Orgnization, 2014). According to data from the Department of Mental Health,

suicide is one of the causes of death. Additional analyzes of the Thais household survey data in 2008 showed that 58.5 percent of individuals with depression were simultaneously evaluated to be at risk of suicide.

Thailand suicide mortality rate in 2008 was 5.98 per 100,000 population (Department of Mental Health, 2016) and 6.3 per 100,000 population in 2012 (George A, 2012). Unexpectedly, by 2016, there had been increased to 14.4 per 100,000 population and becoming one of the top three of suicide mortality rate of South-East Asia region (Lindsay Lee, 2016).

According to the Centers for Disease Control and Prevention (CDC), men are more likely to die by suicide than women, but women are more likely to *attempt* suicide (NIMH, 2016). In United States, suicide rate in 2016 among males nearly four times higher (21.3 per 100,000) than among females (6.0 per 100,000).

It is understood the risk of developing mental disorders is increased among transgender women, with depressive disorders particularly prominent (Budge SL, 2013). In United States, the previous studies indicate that transgender people suffer a higher rate suicide ideation and attempted suicide than the general population (Hoffman, 2014). In addition, the mental health survey study in United States reported that 40 percent of transgender respondents had attempted suicide in their life time which rate nearly almost nine times the US overall attempted suicide rate (James, 2016). An Australian research on LGBT reported that 35 percent of transgender people aged 18 and over have attempted suicide in their lifetime that can count nearly eleven times compared to the general population. Moreover, those who was surveyed have suicidal ideation nearly eighteen times more than general population (Pitts, 2006).

Suicide happen spontaneously in moments of crisis with a breakdown in the ability to deal with the stress of living, for example, family problems, financial problems, breaking up with relationship or illness. The most vulnerable group, affected by suicide are these who experience discrimination, including: LGBTQ, refugees and migrants (World Health Orgnization, 2018b). One of the major causes of depression and suicide among the transgender population is the lack of social support. Many transgender people claim that they do not receive adequate social support, with their families and peer groups failing to meet their needs. The problem is exacerbated in public areas where they suffer inconvenience and feel insecure or unsafe (Factor RJ,

2007). Research carried out in China suggests that it is the Confucian culture which leads to transgender people becoming a hidden part of society. This is because Confucianism holds that the laws of nature must be followed, and transgender people are different and do not fit these natural laws. Hence, they are shunned and treated differently by society. When family members also fail to support these transgender people, depression is often the result (Yang X, 2016).

Thailand is known globally as the most accepting society for transgender and Bangkok is considered as the center of gay and transgender community because there is no supporting organizations and community for those people in other countries and do not respect them as basic human rights (Iverson, 2017). It still has problem with acceptance mainly from the older generation. The family unit in Thai culture is the strongest support system. Men are expected to fulfill their duties and obligation to the family, this includes having children and eventually being the household head Thus, a son being a transgender female is the most difficult for the older generation family to accept and this non-acceptance continue to be the source of mental health issues of transgender females in Thailand. To compensate for this lack of support from family and peers, transgender women often cohabitated with their peers and express amongst each other problems they face and promoting each other with emotional support their arduous experiences and supporting each other emotionally. This created strong boundary amongst transgender women (Prado Cortez FC, 2011).

Transgender women greatest fear that coming out and exposing that they are transgender may cause rejection by family and friends. This fear cause many to keep this feeling to themselves and suppressing their true gender identity and feelings. This in turn increase the risk of depression. This finding is consistent with previous researches that the fear of exposing their gender identity as transgender women was extremely stressful and was in direct correlation with denial by family and peer (Sarah M. Peitzmeier, 2015). Social support on the other hand, has been shown to greatly reduce suffering in transgender women. A majority of research in this field has shown strong correlation between the mental health of transgender people and the level of social support they receive (Budge SL, 2013; Hoffman, 2014; Simons L, 2013). These studies tend to indicates that social support is positive in diminishing depressive

symptoms. In conclusion strong social support is imperative to prevent and treat mental health problems (Trans, 2018).

There are very few researches dealing with depression and suicidal ideation of the Thai transgender women population. The study on transgender women or transsexual populations is scarce, and no national-level health surveillance survey presently collects data that can be used to reliably identify the depression and suicidal ideation or suicide attempt of these populations (Blosnich JR, 2013). Moreover, the scarce study exists on social support among transgender women people. To our knowledge, no empirical investigation has examined similar rates of depression and suicide suicidal ideation or suicide attempt among Thai transgender women populations.

This study's objective aimed at evaluating the rate of depression and suicidal ideation and also determine the association between social support and depression, suicidal ideation among transgender women who living in Bangkok, Thailand. The findings in this research are expected to be of benefit in guiding both providers of health care and health policy maker to offer improved services which will specifically deliver greater support to the transgender community, resulting in enhanced mental health outcomes especially in the case of Thai transgender women.

1.2 Research Question

1.2.1 What is the rate of depression and suicidal ideation among transgender women in Bangkok, Thailand?

1.2.2 What is socio-demographic, health factors, social support, depression and suicidal ideation among transgender women in Bangkok, Thailand?

1.2.3 Is there any association between social support and depression, suicidal ideation among transgender women in Bangkok, Thailand?

1.2.4 Is there any association between socio-demographic and depression, suicidal ideation among transgender women in Bangkok Thailand?

1.2.5 Is there any association between health factors and depression, suicidal ideation among transgender women in Bangkok Thailand?

1.3 Research Objective

1.3.1 To investigated the rate of depression and suicidal ideation among transgender women in Bangkok, Thailand.

1.3.2 To describe socio-demographic, health factors, social support, depression and suicidal ideation among transgender women in Bangkok, Thailand.

1.3.3 To determine the association between social support and depression, suicidal ideation among transgender women in Bangkok Thailand.

1.3.4 To determine the association between socio-demographic and depression, suicidal ideation among transgender women in Bangkok Thailand.

1.3.5 To determine the association between health factors and depression, suicidal ideation among transgender women in Bangkok Thailand.

1.4 Research Hypothesis

Null Hypothesis

There is no association between social support and depression, suicidal ideation among transgender women in Bangkok Thailand.

Alternative Hypothesis

There is an association between social support and depression, suicidal ideation among transgender women in Bangkok Thailand.

1.5 Conceptual Framework

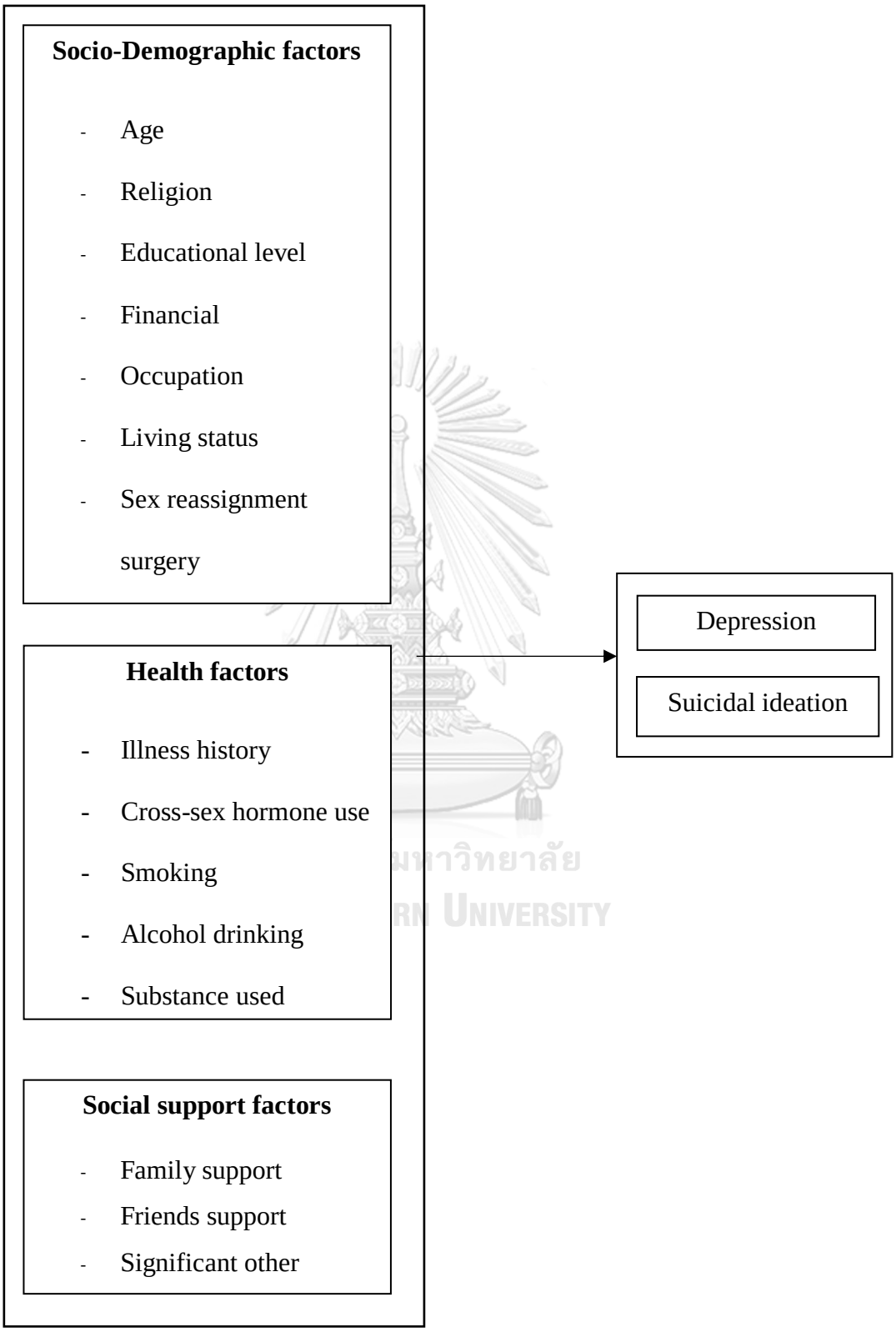


Figure 1 *Conceptual Framework*

1.6 Operational Definition

Transgender women referred to male-to-female or transsexual woman. A diverse group of individuals who occasionally or continually identify with a gender which is different from their gender at birth. This is the group are born as males but identity themselves as female and have divided to transition to live as a female. They often take hormones and may also have had some surgeries, to feminize their bodies and/or face (Trans, 2018).

Age referred to the last complete birthday at the time of the data collection. For this study, transgender women who were age ≥ 18 years old are included as observed by national identification card.

Religion referred to belief and the activities that are connected with this belief. Religion was categorized into the following groups: Buddhist and non-Buddhist (Christian, Muslim, Others) as observed by self-report.

Education level referred to the highest year of education level of transgender women. Education level was categorized into the following groups: lower than Bachelor Degree, Bachelor Degree and higher than Bachelor Degree as observed by self-report.

Sufficiency of income referred to sufficiency of monthly income of the transgender women. Sufficiency of income was categorized into the following groups: no income, sufficiency and saving, sufficiency without saving and not sufficiency as observed by self-report.

Occupation referred to current job of transgender women. Occupation was categorized into the following groups: student / unemployed, government officer, company employee, Business owner, Freelancer, Cabaret actress as observed by self-report.

Living status referred to transgender women who currently lived with. Living status was categorized into the following groups: lived alone, with family, with partner and with friend as observed by self-report.

Sex reassignment surgery (SRS) referred to a term used to describe multiple surgical treatments related to alleviating gender dysphoria. Related genital surgeries may also be performed on intersex people. SRS was categorized into the following groups: without sex reassignment surgery and with sex reassignment surgery as observed by self-reported.

Sexual-partnership referred to the practice of *sexual* relations involving transgender women, whether the relationships are regular, or casual. In the case of a transgender woman having a regular partner during the latest month they would be classified in the category of 'regular partner'. Those who were involved with casual partners, with the exception of commercial sexual relations, were classified in the category of 'casual partner'. In either case, the classification was self-reported

Illness history referred to having chronic medical diseases more than three month. Illness history was categorized into the following groups: without illness history and with illness history as observed by self-reported.

Cross-sex hormone use referred to behavior of regular using cross-sex hormone at least 6 months. Hormone use was categorized into the following groups: without cross-sex hormone used, with cross-sex hormone used as observed by self-reported.

Alcohol drinking referred to behavior of drinking alcohol during past 12 month. Alcohol drinking was categorized into the following groups: not drinking alcohol, less than 1 time per month, 1 – 3 time per month, more than 3 time per month as observed by self-reported.

Smoking referred to behavior of smoking in their life time. Smoking was categorized into the following groups: non-smoker, current smoker and ex-smoker as observed by self-report.

Substance used referred to behavior of use substance during part 12 month. Substance use was categorized into the following groups: without substance used and with substance used as observed by self-report.

Social support referred to physical and emotional support given to transgender women by family, friend and significant other. Significant other meaning people who are special person for transgender women but not their friends and family. Social support will be categorized into the following groups: low perceived support, medium perceived support, high perceived support as determined by Revised-Thai version of Multi-dimensional Scale of Perceived Social Support (r-T-MSPSS) questionnaire. The possible range of scores 12 to 84.

Depression referred to a common mood disorder, characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, tiredness, and poor concentration with everyday life for a week (NIMH, 2018).

Depression will be categorized into the following groups: no depressed and depressed as determined by Center for Epidemiologic Studies Depression Scale (CESD), NIMH questionnaire. The possible range of scores is zero to 60 (cut-off point at 16).

Suicidal ideation referred to thoughts of engaging in behavior intended to end one's life or planning suicide without actions or attempt. Suicidal ideation will be categorized into the following groups: suicidal ideation and without suicidal ideation as determined by the Columbia-Suicide Severity Rating Scale (C-SSRS) questionnaire. The possible range of scores is zero to 5. If the score is zero, it means no suicidal ideation.

CHAPTER II

LITERATURE REVIEW

This chapter contains theoretical aspects of depression and suicidal ideation. A proper understanding of related theoretical concepts forms the foundation of a study like the present one.

2.1 Transgender

2.1.1 Defining Transgender

Transgender is an umbrella term used to describe a group of people in society that do not identify nor feeling comfortable in expressing their gender of birth. In recent years the term 'transgender' has become widely used and is indicative of a more open set of beliefs and a less binary perspective (Green 2004; Valentine 2007). In particular, the term describes those who believe they are not compatible with dichotomous sex identity in which they must be either male or female. Some transgender people may believe they are the wrong sex, but might not wish to have this condition altered through surgery or hormonal treatment. This group has a diverse representation across all segments of society, counties and worldwide (Sari L Reisnerr, 2016). In Thailand, they have developed into specific cultural group. They are referred to by many terms. Some of these terms are used to describe the different type of gender. Transgender is about gender identity and not about sexual preferences (gay, lesbian, bisexual) (Winter, 2006).

Transgender people want to be the opposite gender and unhappy with their present gender. Those who are diagnosed with gender identity disorder wish to be the opposite gender, and have shown that they have problems in their daily functioning because of this gender problem (Christopher A. Kearney, 2012). Transgenders feel discomfort in their current gender, usually believing they were born into the wrong sex, and may therefore attempt to change their gender at some point in their lives.

Transgender women or male-to-female transgender are born as males but identity themselves as female and have divided to transition to live as a female. They often take hormones and may also have had some surgeries, to feminize their bodies

and/or face. Transgender women can be distinguished from cisgender people (cisgender is the term to use for people whose gender identity matches their birth sex) by their strong need to live completely and permanently as women in contrast to their original birth label of male.

A main of element of transitioning is the medical transition and for transgender women is an estrogen hormone replacement therapy (HRT) and may also use antiandrogens to eliminate the testosterone. These medications result in female secondary sex characteristics. Most important is that the estrogen changes the mental attitudes and aggression associated with male behavior. It promoted calmness of mind and a significant increase in empathy and the person perceives the world from a female point of view. Sex reassignment surgery (SRS) is an option and they are referred to as transsexual. A very high percentage of Thai transgenders do not have the SRS. The hormone replacement therapy under medical supervision will normally bring immense relief to transgender people in their gender dysphoria.

2.1.2 Transgender prevalence

Determining precise numbers for the transgender population is complicated by the problems already discussed in defining and identifying transgender people. However, prevalence statistics have been presented in numerous studies, but care should be taken with these data since there is a well-established lack of consistency in the terms ‘transgender’ and ‘transsexual’ (van Kesteren, 1996; Weitze, 1996).

Much of the most widely cited prevalence data are obtained from one gender clinic located in the Netherlands. The figures suggest that around 1 in 11,000 people (or 0.009 percent) are male-to-female (MTF) transgender (van Kesteren, 1996). In contrast, a Singaporean study reported an MTF prevalence of 1 in 2,900 (0.034 percent), while the figure in Belgium was 1 in 12,900 (0.0077 percent)(Winter, 2009).

When applying Gender Identity Dysphoria criteria, the American Psychiatric Association claimed that the incidence of male-to-female transgender was around 1 in 30,000 (0.0077 percent) (APA, 2000).

However, other researchers have claimed that the low rates result from the criteria for inclusion being rather demanding, noting that broad inclusion criteria could see the rate fall to 1 in 2,000 (0.05 percent) qualifying as transgender (Conway, 2002). Meanwhile, the presenters at one 2007 transgender conference put forward the claim that under alternative approaches for estimating transgender prevalence, the rate could reach 1 in 500 or even greater. The Williams Institute argues that the USA contains approximately 700,000 transgender people, which would amount to 0.3 percent of all Americans.

2.1.3 Cross-Sex Hormone Use in Transgender People

Cross-sex hormonal therapy is useful for transgender and transsexuals as a means of changing their physical appearance to become congruent with the opposite sex (Gorin-Lazard A, 2013).

Hormonal therapy has two aims: 1) to reduce the hormonally induced secondary sex characteristics of the original sex and 2) to induce the secondary sex characteristics of the new sex (Gooren, 2005b).

Many different types of hormone therapy have been applied, and as a result it can be complicated to determine the precise influence of cross-sex hormone therapy on the various biochemical parameters when used by transgender people. For transwomen, this issue is exacerbated since there are many more oestrogen possibilities available in comparison to the testosterone options for transmen. The circumstances are further complicated for transwomen by their need to use testosterone suppression, which can involve either the use of a gonadotropin releasing hormone (GnRH) analogue so that the testes reduce their production of testosterone, or anti-androgen drugs which limit the influence of any circulating testosterone. (Seal, 2016).

In people who were born with a male phenotype, the outcomes of oestrogen treatments are well-understood. The treatment objective is to raise the exposure to oestrogen until suitable concentrations of upper follicular phase oestradiol are reached, which usually occurs within six to nine months.

In the case of male-to-female transsexuals, the required goals are the prevention of sexual hair growth, the commencement of breast development, and the redistribution

of fat around the body to achieve a more feminine balance. For this to be achieved, it is necessary to eliminate the biological influence of androgens, and while oestrogen can limit gonadotropin activity and suppress the production of androgens, the better approach is one which uses a compound capable of both halting androgen production while also boosting oestrogen levels (Gooren, 2005a).

2.1.3.1 Consequences of cross-sex hormone use

There is a diversity of consequences of hormonal therapy in male-to-female transsexuals.

Sexual hair

Sexual hair growth diminishes: the hairs become thinner and lose their pigment. However, it is very difficult to prevent the growth of the male beard when hormones are used alongside anti-androgens in addition to oestrogens. This means that additional techniques must be employed, especially in Caucasians, with electrolysis or laser treatments among the more common alternatives. On other areas of the body, sexual hair can more readily be inhibited using hormone treatments (Giltay EJ, 2000; Gooren, 2005a)

Development of breast

The formation of the breasts commences as soon as the cross-sex hormone administration process has been implemented. The breasts will then pass through growing and pausing phases. Breast formation is inhibited by androgens, and consequently oestrogens work best when androgens are absent – a situation typically created by combining cyproterone acetate with oestrogens. Hormones are typically administered for two years, after which the breasts will not develop further. Quantitative satisfaction with the breasts is reported in up to half of all participants, while the remainder consider the development of their breasts to be inadequate. The size achieved is rarely proportional to the greater height and chest measurements of the male undergoing the male-to-female treatment. In this case, surgery is the answer.

Skin

When oestrogen is administered, the texture of the skin is finer and facial hair growth is inhibited. The diameters of both the truncal and facial hair shafts become smaller, with the effect most noticeable at four months after commencement of the treatment. Hormone therapy alone cannot effectively prevent the growth of facial hair, and therefore it is necessary to use waxing, shaving, electrolysis, or laser treatments to achieve a more feminine facial appearance (Seal, 2016). In around 40 percent of participants, the area around the back will develop acne of a type also seen in hypogonadal males as they begin androgen treatment at ages beyond puberty (Giltay EJ, 2000). This can be treated easily with regular anti-acne approaches.

Furthermore, when androgen levels are reduced, this causes a decline in sebaceous gland activity, leading to brittle fingernails or dry skin which requires treatment using creams (Gooren, 2005a).

Composition of the body

When androgens are administered, the outcome is often a rise in the levels of subcutaneous fat, leading to average weight gains of almost 4 kilograms. The fat gained is usually located around the buttocks and hips, giving a more feminine shape, while simultaneously reducing muscle mass (Gooren, 2005b).

Testes

Lacking gonadotropic stimulation, the testes atrophy and may enter the inguinal canal, which may cause discomfort (Gooren, 2005a).

Prostate

Atrophy of the prostate may produce transient dribbling following micturition (Gooren, 2005a).

Voice

Antiandrogens and oestrogens have no effect on the properties of the voice, so male-to-female transsexuals may wish to consult a specialized phoniatric center for

speech therapy. Maleness of the voice is not so much determined by the pitch of the voice as by chest resonance and volume. Speech therapy may lead to more feminine speech (De Bruin MD, 2000). Laryngeal surgery may change the pitch of the voice but reduces its range (Gooren, 2005a).

2.1.3.2 Side effects of cross-sex hormone use

Administration of cross-sex hormones may have side effects; hormone-dependent tumors are of particular concern.

Venous thromboembolism

When using oral ethinyloestradiol, venous thromboembolism is a potential side effect which arises in up to 6 percent of male-to-female transsexuals (van Keteren PJ, 1997). Studies carried out *in vitro* reveal that the thrombogenic effect commonly results when using oral ethinyloestradiol but is not an issue with oral 17β-oestradiol valerate or when transdermal oestrogens are involved (Toorians AW, 2003). Since there is a risk of immobilization when venous thromboembolic incidents take place, it is important to cease oestrogen administration around four weeks prior to elective surgery. It is only possible to continue the use of oestrogen once again after the patient is properly mobilized.

Atherosclerosis

Given that men and women show considerable differences in their likelihood of developing cardiovascular disease, it might be anticipated that hormone treatments would lead to changes in the risk level, but this has not yet been fully demonstrated. The influences on biochemical risk markers have been investigated for oestrogen (in male-to-female transsexuals) and androgens (in female-to-male transsexuals) with the result that the use of oestrogen seems to have adverse effects on the risk markers while androgens do not (Elbers JM, 2003). Clinical studies performed over longer time periods should therefore be employed to better establish the influence of cross-sex hormones on the risk of developing cardiovascular disease. It is important to consider

also that the recommended dose for transsexuals usually exceeds that for hypogonadal patients undergoing hormone replacement.

Pancreatitis

There is one reported case involving an male-to-female transsexual aged 37 years who had covert hypertriglyceridemia and subsequently developed very severe pancreatitis which could be linked to the use of oestrogen in preparation for the sex change surgery. This kind of problem has to date only been recorded in female patients (Perego E, 2004).

Lactotroph adenoma

Following the administration of oestrogen, there have been four reported cases of lactotroph adenoma, where the patients had exhibited normal concentrations of serum prolactin prior to treatment (van Keteren PJ, 1997). A further case of pituitary microprolactinoma can be seen in the literature concerning an male-to-female patient as late as 14 years after the regular dosage oestrogen treatment. While it has not been possible to definitively state the cause, it would be advisable to monitor serum prolactin levels carefully over the longer term when oestrogen treatment is offered to MTF transsexuals.

Breast cancer

Only two cases of breast cancer have been reported among MTF transsexuals who were undergoing oestrogen treatment (Schlatterer K, 1998; van Keteren PJ, 1997). and just a single study has recently examined this issue among the wider transsexual population. The study in question used 2307 participants and found that the incidence of breast cancer was just 4.1 cases per 100,00 person-years (95% CI=0.8 to 13.0), suggesting no difference when compared to the background breast cancer rate for men. The findings indicate that the risk of breast cancer is not therefore heightened by oestrogen treatments. As part of a typical hormonal treatment course, progestins are sometimes used, but these have also failed to show significantly greater incidence of breast cancer when compared to rates in other transsexual populations (Gooren LJ,

2013). In transwomen, however, there have been no studies to date which have examined the effects of progestins in terms of cancer risk (Seal, 2016).

Benign prostatic hyperplasia

When sex reassignment surgery is performed, the prostate remains in place, since its removal is a particularly complex process. However, when androgen levels drop, the prostate does become much smaller, but when exposed solely to oestrogen, it is not the case that hyperplasia or (van Haarst EP)malignancy will result (P.van Kesteren, 1996). The literature does, however, explain one scenario where benign prostatic hyperplasia necessitated transurethral prostate resection (Brown JA, 1997). Epidemiological research has demonstrated that prostate cancer can be prevented by castration prior to reaching the age of 40. Benign prostatic hyperplasia is also far less likely in castrated participants (Wilson JD, 1999), while the abovementioned case involved a participants who was aged over 40 when the cross-sex hormone treatment began. One further case was reported in which the verumontanum became enlarged to the point of obstruction, but this occurred 25 years after the commencement of cross-sex hormone treatment, necessitating the resection of the verumontanum (Goodwin WE, 1984).

Prostate cancer

A further three cases were recorded of prostate cancer occurring in male-to-female transsexuals undergoing oestrogen treatment (van Haarst EP, 1998), but there is no certainty as to whether these cancers were triggered by oestrogen or had been present prior to the onset of oestrogen treatment before developing to reach a state of androgen-independence. The participants involved were all aged over 50 when starting their cross-sex hormone courses, thus eliminating androgens. While it has been stated that castration prior to the age of 40 removes the risk of prostate cancer, these cases do not provide any evidence that this claim is incorrect(Wilson JD, 1999).

2.1.4 Sexual Partnerships among Transgender People

The sex partner is people who engage in sexual activity together. The sexual partners can be of any number, sex, gender, or sexual orientation. The sexual partners may be in a committed relationship, either on an exclusive basis or not, or engage in the sexual activity on a casual basis.

For example, in a study with low-income Latina transwomen, there was a notable association between self-reported history of sexual partner violence and depression severity; further, individuals who reported more frequent experiences with discrimination were more likely to be identified with severe depression.

A study in United States showed that the depression is especially harmful and the risk factor that can cause depression is experience work, school difficulties, problems with interpersonal and marital relationship. Among the transgender population the relationship with love or sex partner is an important factor that an effect to depression or mental disorder. (Kessler RC, 2003)

A study of 209 Chinese transgender women in Shenyang, Liaoning Province of China found that transgender women with regular partners or casual partner exhibited higher Zung Self-Rating Depression scale (SDS) scores than those without regular partners or casual partner.

2.2 Social support

2.2.1 Defining Social support

Social support is the care or help from others that an individual can feel, notice, or accept (X, 2014). As an important environmental resource in an individual's social life, social support affects a person's physical and mental health and behavior patterns, and has a very close relationship with the generation, development, control, and prevention of depression (PA, 2011)

Social support is recognized as an important element of trustworthy relationships and strong psychological health. Principally, social support involves with having a link of family and friends that you can turn to in times of need. It can be from confronting a difficult personal issue when speedy assistance is needed or the desire to spend time with people who care about you. These social opportunities play and very important role that enable you to function in your everyday life. The concept of social support is that it is being beneficial and that the lack of social support create stress. It has been shown that the level of social support correlate directly with the ability to predict susceptible disease to moderate the effects of stress and in general to influence the person general health.

For most people, sadness is a natural reaction to unfortunate events that happen in their lives. Many of people become sad when they receive a poor grade, have an argument with a loved one, or discover a friend is sick. Such sadness is usually mild and temporary. Other times their sadness can be more intense and last for a longer period. People are particularly sad when a family member dies, when lengthy separation from loved one occurs, or when overwhelmed by life's demands. This sadness generally lingers but eventually fades as they cope with the stressor more effectively. People often rely on their friends and family members to help them through life's "rough patches" (Christopher A. Kearney, 2012).

Sources of social support

There are many sources of social support such as family, friends, community, neighbors, relatives, etc. (Taylor, 2011). And also, there are formal type (psychologists) and informal type (family, friends) (Hogan, 2002). They all act as a kind of coping form as effectiveness.

Advantages of social support

Positive emotions are good not only for social health but also for physical health. That sharing positive emotions within family members or friends can help to bond people together, and then it can lead to maintain healthy. Caring relationships could nourish mind stronger and stronger and it can overcome many various kinds of life problems. They are many advantages of social support. They are 1) it can promote the copping skills to stressful conditions, 2) relieving the impact of emotional distress, 3) maintaining good mental health lifelong, 4) increasing self-esteem, 5) reducing the risk of physical health conditions such as cardiovascular disease, 6) enhancing healthy lifestyle behavior and 7) also one of the promoting effects in treating diseases.

2.2.2 Factor related with social support

One of the good predictors for physical health and mental health is social support since childhood till elderly. If there is no social support, it can impact individual's life not only worsening physical and mental health. The other reason of overcoming negative life events is due to having good social support that can forget life stress as the coping strategy. Social support is a good improvement tool of individual's well-being, also there is an effective on immune system. Hence, negative symptoms including depression and anxiety is prevented through social support from family members, friends, etc.

2.2.2.1 social support and physical health

There is a clear relationship between social support and physical health outcome including mortality. People who do not have enough social support have a higher chance of causing disease (cancer or cardiovascular disease) and it can lead to death in severe case (Uchino, 2004, 2009). Many studies showed that prolong life time was due to higher social support (Holt-Lunstad, 2010)

There are advantages of higher social support and disadvantages of lower social support. People with lower social support have more risk of cardiovascular disease, reduced immune system, more inflammation and also more complications and disease especially pregnancy while higher social support people have many positive results such as fast recovery in surgery case, better control of chronic disease, etc.(Cohen S, (1997); Fernandez-Luque L, 2016; Gomez-Galvez P, 2015; Marteau TM, 1987)

2.2.2.2 Social support and mental health

Psychology well-being is also due to social support. When people faced in stressful conditions, social support can reduce psychological distress such as depression or anxiety. Social support can act as a problem-focused and emotion-focused characteristic (Folkman, 1991). There is one thing that depression and anxiety were seen in people with lower social support (Barrera, 1986). It can reduce major mental health disorders including posttraumatic stress disorder, panic disorder, social phobia, major depressive disorder, dysthymic disorder, and eating disorders (Grisset, 1992). In addition, suicidal ideation was found in individual who have low support, and more alcohol and drug problems.

There are many research studies about the relationship between social support and psychological distress like depression and suicidal ideation especially in the mid-1970s, in each study which were focusing about marital status, social disintegration and geographic conditions. In those each study, the problem was due to lack of social support and not good social network relationship (Cassel, 1974).These numerous studies sparked the effects of social support on mental health.

There are many studies which were showing the impact of social support on Post-traumatic stress disorder (PTSD). In the study of Haden et al., when severe trauma of patient had although good social support which are useful as a coping strategy that can lead to lower risk of severe PTSD while compared to people who did not have social support. This factor suggested that social support is like a protective factor (Haden, 2007). It is very important that getting help or support from family members or friends for copping the life problems trauma. In the meta-analysis of Brewin et.al, social support was the strongest protective factor standing at 40 percent reducing PTSD severity (Brewin CR, 2000). In a few cases, social support decreasing caused to trauma severity increasing (Norris FH, 1996).

2.2.2.3 Social support and socioeconomic status

Socioeconomic condition is one of the determining factors in having enough social support or not. If the economic condition is well enough, there are many supports from others while there is no any support if the condition is opposite. Another fact is that people having low social support react less self-control. As a result, they were especially so sensitive to the environment and would do some negative reactions during facing the stress situations. Stress is a common challenge in human life but it is so difficult condition for people with low social support. It can cause to some physical diseases or mental health illness such as depression but severely they will go to suicide. There was a study about people who have higher socioeconomic status tend to receive higher social support (Gallo, 2005)

2.2.3 Social support among Transgender people

One of the specific causes of depression among the transgender population is the lack of social support. Transgender women greatest fear that coming out and exposing that they are transgender may cause rejection by family and friends. For social support situation in Thailand, Thai society adopted the transgender woman more than in the past but owing to the family institution is the most important of Thai culture. Therefore, family support is main support that can affect to transgender women. To

compensate for this lack of support from family and peers, transgender women often live together with their peers that sharing their difficult experiences and supporting each other emotionally. This created strong boundary amongst transgender women (Prado Cortez FC, 2011). Poor social support has been connected to depression and loneliness that has been shown to increase the risk of depression, suicide, alcohol use, cardiovascular disease etc.

A cohort study of 1,920 participants in five major US cities from 1978 to 2005 reported that a good social support can provide protection for an individual under stress and has common gaining function on maintaining an individual's good emotional experience (Pallab K. Maulik, 2011).

From one study about social support and depression among male-to-female transgender women found that the social support was significantly and independently correlated with depression. Depression is correlated with the fear of transgender women that coming out and exposing that they are transgender and rejecting by family and friends (Tooru Nemoto, 2010).

A cross-sectional study of 209 Chinese transgender women in Shenyang, China, reported that Chinese transgender women showed considerably high level of anxiety symptoms associated with low social support from family members. When their family members also fail to support these transgender people, depression is often the result. It is the Confucian culture which leads to transgender people becoming a hidden part of society. This is because Confucianism holds that the laws of nature must be followed, and transgender people are different and do not fit these natural laws. Hence, they are shunned and treated differently by society. (Yang X, 2016)

2.3 Depression

2.3.1 Definitions of Major Depressive Disorders

Depression or Major depressive disorder is a common and solemn mental health disorder with can turn into mental illness in our society, it adversely affects the way you think, how you feel and how you act. Luckily, it is treatable also. Depression causes feelings of sadness, lethargy, self of guilt, loss of self-worth, insomnia, lack of appetite and loss of interest in activities that enjoyed in the past. It can contribute to various types of physical and emotional problems and can decrease a person's ability to function at work and at home. A person diagnosis with depression will experience four or more of these symptoms throughout the day and will last at least two weeks (Parekh, 2017). Depression can not only decrease an individual's quality of life but it is also associated with other health problems including cardiovascular, metabolic and lung diseases as well as higher mortality rates. Sometime, depression is referred to as "the common cold of mental illness". While the common cold infrequently kills anyone, the clinical depression on the other hand often does. Given a long duration of the hopelessness from depression, it is not surprising that some depressed people ultimately attempt suicide. In United States, many suicides committed are cause by the suffering from depression.

One of the major mental health problems among transgender population is depression, however, it is important to stress that depression is seldom cause by a person identifying as being transgender (Bockting WO, 2013). Globally, depression is a major source of poor health and disability globally, and today is one of the major contributors to the burden of disease globally (World Health Orgnization, 2018a).

2.3.2 Epidemiology

One significant cause of ill-health and disability around the modern world is depression, and today it is one of the major contributors to the burden of disease globally (World Health Orgnization, 2018a). Depression is ranked by World Health Organization as the largest contributor to global disability (7.5 percent of all years lived with disability in 2015). Between 1990 and 2013, the number of people suffering from

depression increased from 416 million to 615 million and affects 10 percent the world's population. In crisis situations depression affects as many as 20 percent of the population (World Health Orgnization, 2016).

At a global level, the total amount of people with depression was estimated to exceed 300 million. World Health Organizational Report showed that the prevalence of depressive disorders is 4.4 percent of total population in Thailand, the disease burden of depressive disorders is around 6.7 percent of years lived with disability (YLD).

Gender

Major depressive disorder is more common in women more than in men and the prevalence of depression is higher among women between women and men was reported to be in the ratio 2:1 in general population.

WHO global health estimates in 2015 reported that depression is more common among female 5.1 percent than male 3.6 percent (World Health Orgnization, 2017)

According to, the nationally household survey of mental disorders by the Department of Mental Health in 2008 reported that the prevalence of depression among women higher than men 1.7 times at the time of survey (Kongsuk T, 2008).

The data from American Psychiatric Association, *Diagnostic and Statistical* Manual of Mental Disorders (DSM–5) reported that females' experience 1.5- to 3-fold higher rates than males beginning in early adolescence (The American Psychiatric Association; APA, 2013)

Transgender women are considered to be at high risk of developing mental disorders, specifically from symptoms of depressive disorder (Budge SL, 2013).

In United States, the previous studies indicate that transgender people suffer a higher rate of depression, suicide ideation and attempted suicide than the general population. Studies have shown that as high as 62 percent of transgender women suffer from depression their life time, this compares with 16.6 percent of general population (Hoffman, 2014).

Age

Twelve-month prevalence of major depressive disorder in the United States is approximately 7 percent, with marked differences by age group such that the prevalence in 18- to 29-year-old individuals is threefold higher than the prevalence in individual's age 60 years or older (The American Psychiatric Association; APA, 2013).

According to, the nationally household survey of mental disorders by the Department of Mental Health in 2008 reported that people aged over 15 years estimated 1.5 million people were living with and the prevalence of depression among women higher than men 1.7 times at the time of survey.

It is common in the USA for people to endure feelings of general sadness, with epidemiology reports in New York suggesting that around one in five adults suffers the symptoms of depression, while for youths the figure is as high as fifty percent (Kessler, 2002).

In Australia, transgender people aged 18 and over are closely 5 times to be diagnosed with depression compared to general population in their lifetime (Alliance, 2016).

2.3.3 Major Depressive Disorder Risk Factors

Temperamental

Neuroticism (negative affectivity) is a well-established risk factor for the beginning of major depressive disorder, and high levels appear to render individuals more likely to develop depressive episodes in response to stressful life events.

Physiological and genetic

The risk of a major depressive disorder is 2-4 time higher for close relatives of a person who has the condition when compared to the general population. In relative terms, this risk is further heightened in the case of recurrent forms or early onset. The approximate rate for heritability stands at 40 percent, while neuroticism is the trait of personality which is frequently responsible for problems of this type resulting from genetics.

Stressful incidents

Many life events can be stressful for their participants, and in some cases, this can lead to the onset of depressive episodes. However, it is not yet possible to reliably select treatments or offer a prognosis simply on the basis of an adverse life event occurring, or not.

Educational level

One of the factors that associated with depression among transgender people were experience with lower education, and unfulfilled desire to receive hormonal therapy. (Ashli A. Owen-Smith, 2016).

It is similarly with the study in United States that the levels of education was significantly and independently correlated with depression (Tooru Nemoto, 2010).

Financial

Major depressive disorder is more commonly found in rural areas than urban areas with low incomes.

In a cross-sectional study of 573 transgender women in San Francisco, Oakland and California reported that a lower level of income is associated with high scores of depression (Tooru Nemoto, 2010)

From the results of study among transgender women in United States found that the levels of income was significantly and independently correlated with depression (Tooru Nemoto, 2010).

Occupation

Suicide is more common in individuals who have no work or have social lives which leave them isolated from others (Anderson, 2002).

According to data compiled by the Centers for Disease Control and Prevention (CDC) when people lose their job, their position or prestige at work, or when their financial position deteriorates, they are faced with the feeling of failure. For those with greater need of others' approval, failure can be harder to take because of the loss of image. For people who are unable to work or who are chronically unemployed groups have the highest risk of depression.

Cross-Sex Hormone Use

For transgender people to enjoy better mental health, the use of cross-sex hormones can be very helpful. The use of cross sex hormones has a good effect on good mental health. Which is contrary to the group that does not use sex hormones. From literature review found that in groups that do not use cross-sex hormones, the symptoms of depression can be higher than those used.

Previous studies have suggested that hormonal therapy may have a positive effect on anxiety and depression (Gómez-Gil E, 2012).

From, Hormonal Therapy Is Associated with Better Self-esteem, Mood, and Quality of Life in Transsexuals. A total of 67 following individuals, Seventy-three percent received hormonal therapy. After adjusting for age, gender identity, educational level, partnership status, children at home, and sexual orientation, hormonal therapy was an independent factor in greater self-esteem, less severe depression symptoms (Gorin-Lazard A, 2013).

In a cross-sectional study among 187 transsexual patients of the hospital clinic of Barcelona, Spain in 2011 showed that percentages of transsexuals with depression symptoms according to the hormonal treatment that the percentages were significantly higher in the group of patients without cross-sex hormonal treatment than the group that on cross-sex hormonal treatment (Gómez-Gil E, 2012).

In a cross-sectional study among transgender and gender nonconforming individuals in United States in 2016 found that One of the factors that associated with depression among transgender people were experience with lower education, and unfulfilled desire to receive

Substance use

There are many explanations about relationship between alcohol use disorder (AUD) and major depression (MD). One of the explanations is that etiology of depression was due to alcohol use disorder which can cause an individual's community, financial and legal situations. Not only those but also it can disrupt their family and social life, their job, criminal case and affecting to health (Foster J. H., 1998).

Another reason to link between alcohol and depression was because of metabolic changes that lead to get higher risky to depression. As an example of

McEachin and colleagues (McEachin RC, 2008), using an integrated bioinformatics method, they found out that lower level of production in MTHFR (methylenetetrahydrofolate reductase) was due to drinking ethanol, which is related to an enzyme in folate metabolism. Lower level of folate levels can increase to get major depression.

Other method whom found out from Bazargan-Hejazi and colleagues (Bazargan Hejazi S, 2008)was one research study in which patients who admitted to hospital emergency department were randomly selected and the researchers measured symptoms of MD by using retrospective recall for symptoms of AUD. The result showed that alcohol abuse symptoms last 12 months were significantly to get higher 'current depression' scores.

Illness history

In a Cohort study about 1,937,360 male and female without cardiovascular disease at baseline, according to UK electronic health records between 1997 and 2010 indicated that depression can lead to several cardiovascular diseases which are myocardial infarction, hemorrhagic stroke, and peripheral artery disease, and can be placed as an independent variable for chronic diseases (Daskalopoulou M, 2016). Depression can also be placed as a dependent variable where independent variables were having chronic diseases, disabilities (Katon W, 2007)

Altering the course of depression

Any significant disorder which is not related to mood can lead to a heightened risk of depression developing. In cases where another disorder forms the background to a substantial depressive event, the course followed tends to be more refractory. Common disorders include drug use or anxiety, while personality disorders are another common problem. In such cases, the symptoms of depression may not be readily noticed and treated. If the depressive symptoms are to improve, however, it will be necessary for the background disorders to be treated effectively first. Furthermore, chronic medical conditions can also make depression more likely; cardiovascular problems, obesity, or diabetes are all often accompanied by episodes of depression.

This depression is also more likely to turn into a long-term problem than would be the case in otherwise healthy people.

2.3.4 General Characteristics

Depression is unlike feeling sad, unhappiness or down. Unhappiness is something which everyone feels at one time or another, usually owing to a specific reason. The person experiencing depression will experience extreme emotions of anxiety, hopelessness, negativity and helplessness, and the feelings will linger. Depression can occur to anyone in any age, many famous and successful people who seem to have a perfect life have issue with. I general people half the people who have bout of depression will experience additional bout. It can be very difficult for their family, friends, and colleagues to continually offer support.

Depression may assume a variety of forms, some of which are more chronic or severe than others. In many situations these people are able to continue to perform their everyday activities. People who have depression may suffer from many common symptoms of depression and can vary from mild to severe.

The clinical features at depression fall into four comprehensive categories

1. mood : sad, blue, unhappy, depressed, empty, worried, irritable
2. cognition : loss of interest, difficulty concentrating, low self-esteem, Negative thinking, inductiveness, guilt, suicidal ideation
3. behavior : retardation or agitation of psychomotor activity, withdrawal from social activity, crying dependency, attempts at suicide
4. somatic : notable changes in appetite, insomnia or hypersomnia, significant weight changes, headaches, pain, tension in the muscles

2.3.5 Diagnostic Criteria of Major Depressive Disorder

According to DSM-V outlines the following criterion to make a diagnosis of depression. The individual must be experiencing five or more symptoms during the same 2 weeks period and at least one of the symptoms should be either (1) depressed mood or (2) loss of interest or pleasure.

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning: at least one of the symptoms is either 1) depressed mood or 2) loss of interest or pleasure. Note: Do not include symptoms that are clearly attributable to another medical condition.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). (Note: In children and adolescents, can be irritable mood.)

2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).

3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (Note: In children, consider failure to make expected weight gain.)

4. Insomnia or hypersomnia nearly every day.

5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or to another medical condition.

Note: Criteria A-C represent a major depressive episode.

Note: Responses to a significant loss (e.g., bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in Criterion A, which may resemble a depressive episode. Although such symptoms may be understandable or considered appropriate to the loss, the presence of a major depressive episode in addition to the normal response to a significant loss should also be carefully considered. This decision inevitably requires the exercise of clinical judgment based on the individual's history and the cultural norms for the expression of distress in the context of loss.

D. The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode. Note: This exclusion does not apply if all of the manic-like or hypomanic-like episodes are substance-induced or are attributable to the physiological effects of another medical condition.

2.4 Suicide and suicidal ideation

2.4.1 Defining Suicide and suicidal ideation

Suicide

World Health Organization definition, which similar to other authorities, emphasizes that suicide refer to the act of purposely killing oneself (World Health Orgnization, 2018b) and is commonly associated with depression (Christopher A. Kearney, 2012). Suicide is not a mental disorder in itself, but rather an ever-present threat in certain successful conditions or mental disorder. Cases of suicide occur in both people with and without mental disorders.

Most of people who commit suicide have a psychiatric disorder at the time of death. Even though, most of people with suicidal ideation do not ultimately commit suicide, the scope of suicidal ideation must be find out with the inhabitance of a suicide plan and the patient's means to commit suicide (Michel F., 1999).

In study, the researcher was interested in suicidal ideation as the dependent variables. As the researcher considered definition of all term then found that suicidal ideation usually refers to thought that involved plan, while suicidal attempt usually refers to action.

Suicidal ideation

Suicidal ideation is the term given to the thoughts some people have about killing themselves, their own funerals, and their own death in general. These thoughts do not in themselves indicate that a person will kill themselves, but the probability of them doing so is slightly increased (Christopher A. Kearney, 2012). There are a number of different components related to suicide, namely ideation, suicidal behavior or attempts, and finally suicide completion (Chiles, 2005). Suicidal ideation is more common than completed suicide and also as known as suicidal thought that thinking about or having an uncommon engrossment with suicide.

2.4.2 Epidemiology

In spite of incomplete statistics, official figures indicate that in 2016 more than 45,000 people in United States commit suicide, in accordance with the Centers for Disease Control and Prevention, in that countries making it the tenth leading cause total of death (Today, 2018).

Depression is a major contributor to suicide deaths, and it is estimated that close to 800,000 people die from suicide annually. In 2015, suicides accounted for 1.5 percent of global total deaths. that bringing suicide into the top 20 leading causes of death (World Health Orgnization, 2017). Approximately 40 percent of all global suicides occur in this region (World Health Orgnization, 2014). Suicide happen spontaneously in moments of crisis with a breakdown in the ability to deal with the stress of living, for example, financial problems, family problems, breaking-up with relationship or illness. The most vulnerable group, affected by suicide are these who experience discrimination, including LGBT, refuges and migrants (World Health Orgnization, 2018b).

Gender

More suicide attempts are made by women than men, but when men engage in self-harming behavior or attempt suicide, they are more likely than women to actually die. Accordingly, the male suicide rate is three times greater than that for women.

In particular, the risk of death by suicide is at its greatest in males under 35 years of age, where it is the second most frequent cause of death after accidents.

In Philadelphia, Pennsylvania, the research also suggests that attempted suicide is disproportionately higher among transgender populations. In a need assessment of nearly 200 transgender persons, almost one third (30.1 percent) reported at least 1 lifetime suicide attempt.

In Virginia People diagnosed with gender identity disorder may experience a significantly elevated risk for suicide. For example, a study of more than 300 transgender persons known that 65 percent had lifetime suicidal ideation.

In Sweden more current studies among transsexual persons were reported a similar elevated risk of suicide.(Richmond, 2007)

Age

While suicide occurs at all ages from childhood onwards, it is more prevalent in certain age groups compared to others.

The risk of suicide exists throughout an individual's lifetime, but for 2016, in age 15 to 29 age group categories, it was the second leading cause of total deaths (World Health Orgnization, 2014, 2018b)

For males, suicide is more likely in the 15-44 age group, with those aged under 24 being particular prone to taking their own lives. Having reached 45, however, the risk of suicide declines.

For females, the risk of suicide is higher during ages 45-74, while in the younger group from 15-24 the risk is relatively low.

From a previous study, adults aged 18 and over in the United States were estimated 3.7 percent or 8.3 million of the adult population during 2008–09 that having suicidal ideation in the previous year. In 2014 , an estimated 2.2 million of United States population were informed that having made suicide plans in 2014 (Crosby, 2011).

A recent World Health Organization multinational report of past-year suicidal behavior noted that approximately 2.0 percent of adults reported suicidal ideation, 0.6 percent reported suicide planning, and 0.3 percent reported a suicide attempt (Borges G, 2010).

2.4.3 Suicide Risk Factors

There are quite a lot of indicators that can look for when trying to detect suicidal ideation and also situations in which the risk for suicidal ideation may be strengthen. The risk factors of the suicidal ideation can be separated into three groups: psychiatric disorders, life events, and family history. The risk factors of suicide including mental disorder, depression, neurological disorders, cancer or Human immunodeficiency virus (HIV). Suicide is a tragic occurrence with strong emotional consequences for survivors and for families of them. Among the various factors, just one can be stressful enough to send an individual "over the edge" causing a suicide attempt. The extent to which a person is susceptible to such action varies among individuals. However, in many other

cases a person will not consider suicide as a result of a single factor, but will be triggered by a combination of those factors.

Genetic factors

Suicide can appear to run in families, so if a parent has killed themselves, the likelihood of their offspring doing so is increased, leading to suggestions that there are certain genes which may be linked to suicidal tendencies.

Recent studies have revealed that a number of different genetic mutations can alter the brain's chemical composition, and hence create the conditions in which suicidal thoughts may prosper.

Mutations occur when the genetic code within cells becomes damaged and hence do not work normally. However, the idea that there is a gene which causes people to attempt suicide is perhaps rather fanciful and there is no evidence to suggest this is the case.

Mental health conditions

Having a mental health condition is the most significant risk factor for suicide. Current estimates suggest that among those who attempt suicide, fully ninety percent have some kind of underlying mental health condition. Some of these conditions pose an especially high risk of suicide.

Severe depression

When the symptoms of depression, including powerful feelings of hopelessness and despair, take over an individual's life, this can be termed severe depression. The risk of suicide is twenty times greater for this group when compared to healthy people.

There is a link between suicide and mental disorders. Suicide is an even greater risk in case of severe depression.

Tooru Nemoto, reported that psychological indicators such as depression and suicidal ideation and attempts have been reported among transgender persons (Tooru Nemoto, 2010)

A study of suicidal ideation predictors in transgender people found that depression and anxiety are correlated with experiences of suicidal ideation. (Rood BA, 2015).

Bipolar disorder

When a person has bipolar disorder, their mood switches very quickly from strongly positive to strongly negative. Thirty percent of people with this condition will make at least one suicide attempt, and around ten percent will succeed in ending their lives.

Schizophrenia

Schizophrenia takes effect over the longer term, and the symptoms include delusions, hallucinations, and behavioral shifts. Around five percent of people suffering this condition will commit suicide, with the greatest risk occurring when the condition first begins to take hold. However, as the sufferer becomes accustomed to their condition, the risk begins to decline.

Borderline personality disorder

The main signs of borderline personality disorder are emotional instability, impulsive actions, distorted thought patterns, and very intense but unpredictable interactions with others. Around half of people with this condition attempt suicide at least once, and in cases where the sufferer has endured sexual abuse as a child, the risk of suicide is greatly increased.

Social support

From A systemic review of Suicide and Suicidal Behavior among Transgender Persons was reported that the suicide attempt rate among transgender persons ranges from 32 percent to 50 percent across the countries. Being rejected by the family, friends, and community; harassment by intimate partner, family members, police and public; discrimination and ill treatment at health-care system are the major risk factors that influence the suicidal behavior among transgender persons (H. G. Virupaksha, 2016).

A Study of 133 transgender individuals living in Canada, the investigators found that feeling accepted, perceived social support, from friends, family were critical protective factors of transgender people from suicide too (Nauert, Aug 2018).

Experienced of suicide attempts

According to risk factors associated with specific disorders, mood disorders appear to carry the highest risk of suicide and suicide attempts. Moreover, the risk of suicide was higher for depressed individuals who feel hopelessness about the future, have a family history of suicide, or who have made a suicide attempt in previous time (Beautrais AL, 2010).

Unemployed

There was the study determine factors associated with suicidal attempt in bipolar patients. The interesting results shown that being unemployed and having prior suicidal attempt are also risk factors in this group (Ruengor, 2011).

CHAPTER III

RSEARCH METHODOLOGY

3.1 Study Design

This study design was a cross-sectional study. Aim to study about association between socio demographic factors, health factors, social support and depression, suicidal ideation among transgender women in Bangkok, Thailand.

3.2 Study Area

This study area was in Bangkok, Thailand.

3.3 Study Period

Study period was from March to May2019. Data was collected on May 2019.

3.4 Study Population

The study populations were Thai transgender women in Bangkok, Thailand.

Inclusion criteria:

- Transgender women who were willing to participate
- Transgender women aged ≥ 18 years old.
- Transgender women who were with and without doing sex reassignment surgery.
- Transgender women who changed physical appearance and lived as a woman.
- Transgender women who had been living in Bangkok, Thailand more than 6 months.
- Transgender women who can communicate in Thai, read and write well.

Exclusion criteria:

- Transgender women who had a thought or a plan about being back to be a man or gay.

3.5 Sample size

Sample size in this study was calculated by the Cochran formula (Cochran, 1963).

$$n = \frac{(Z\infty_{/2})^2 \; p(1-p)}{d^2}$$

$Z_{\alpha/2}$	= 1.64	:	critical value for 90% confident level
α	= 0.10	:	level of significant
d	= 0.05	:	absolute precision required
p	= 0.50	:	percentage picking a choice or response

$$n = \frac{(1.64)^2 \; 0.50(1-0.50)}{(0.05)^2}$$

$$n = 269$$

From the above formula, the result of participant was 269 participants. For predicting the number of persons refuse to participate in this research, the sample was increased by 5% (14 people) and the total sample size of participant was approximately 280 people.

3.6 Sampling Technique

The researcher used a snowball sampling or chain-referral sampling. First, the researcher was beginning by identifying one transgender woman who was in the criteria for inclusion in this study. That transgender woman introduced other transgender women who were also in this study criteria. Snowball sampling was especially useful when researcher was trying to reach populations who were inaccessible or hard to find (Bhat, 2018).

3.7 Measurement Tools

Part 1 General information

This section consisted of 2 factors which were socio-demographic and health factors. In aspects of sociodemographic factors, it includes age, religion, educational level, monthly income, sufficiency of income, occupation, living status, sex reassignment surgery, sexual-partnership. And the health factor includes illness history, hormone use, smoking, alcohol drinking, substance used. Part 1 Questionnaire type was multiple choice type from question number 1 to 18.

Part 2 Social Support questionnaire

In this section, The Revised-Thai version of the Multi-dimensional Scale of Perceived Social Support: r-T-MSPSS of *Nahathai* Wongpakaran et al, was used which was modified from Multidimensional Scale of Perceived Social Support (MSPSS) that developed by Zimet et,al. which has been commonly used clinically and non-clinically. It was also easy to use as a self-report questionnaire.

This research questionnaire was designed to measure perceptions of support from 3 sources: family, friends, and significant other meaning people who were not friends and family. The questionnaire consisted of 12 items totally in which there were 3 subgroups including family (3,4,8,11), friends (6,7,9,12) and the last one; significant other (1,2,5,10). There were 7 Likert's scale which was described as follow.

1	Very Strongly Disagree
2	Strongly Disagree
3	Mildly Disagree
4	Neutral
5	Mildly Agree
6	Strongly Agree
7	Very Strongly Agree

The range of score was from 12 to 84 which was divided into 3 level of perceived social support as follows (Zimet GD, 1988):

12-35 score	Low perceived support
36-60 score	Medium perceived support
61-84 score	High perceived support

Part 3 Depression questionnaire

In this section, the Center for Epidemiological Studies-Depression Scale (CES-D) was used because it was standardized test and already used by Department of Mental Health, Ministry of Public Health in Thailand for measuring Thailand community. The CES-D was a type of self-report measurement tool for currently conditions of depressive symptoms in the general population. The CES-D was used to measure symptoms defined by the American Psychiatric Association' Diagnostic and tactical Manual (DSM-V).

In this study, the researcher chose the CES-D questionnaire Thai version, which translates by Umaporn Trangkasombat et al., (Trangkasombat, 1997) because it was a measure that can be measured manually, can filter depression in the general public, convenient, time-saving, easy to translate, high precision, suitable. In this study, this measurement tool consisted of 20 questions related to various emotional and behavioral feelings. There were 16 negative questions and 4 positive questions. The measure was divided into 4 factor model as follows: depressed 7 questions, positive 4 questions,

somatic 7 questions and interpersonal 2 questions (Radloff, 1997). The participants were asked how often that event or behavior occurred during the past week.

The total score was between 0 - 60. In this study, depression was divided into 2 categories. People with depression have a total score of more than or equal to 16 points (≥ 16 - 60 points) and without depression, with a score of less than 16 points (0-15) (Radloff, 1997). The questionnaire was used in four Likert's scale.

The scoring criteria were negative questions Articles1, 2, 3, 5, 6, 7, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20). The scoring of all 16 negative questions was as follows:

0 point Rarely or none of the time (< 1 day)
1 point Some or a little of the time (1-2 days)
2 point Occasionally or a moderate amount of the time (3-4 days)
3 point Most or all of the time (5-7 days)

The scoring criteria were positive questions (Articles 4, 8, 12, 16). The scoring of all 4 positive questions was as follows:

3 points Rarely or none of the time (< 1 day)
2 points Some or a little of the time (1-2 days)
1 point Occasionally or a moderate amount of the time (3-4 days)
0 point Most or all of the time (5-7 days)

Part 4 Suicidal Ideation questionnaire

The Columbia–Suicide Severity Rating Scale (C-SSRS) that developed by Kelly Posner and colleague from The Columbia Lighthouse Project was an assessment tool that evaluates suicidal ideation and behavior. As such this document serves as a general guideline and was not a proposal for mandatory analyses involving the C-SSRS. The goal was to determine if the Columbia–Suicide Severity Rating Scale should be retained as the preferred instrument for assessment of suicidal ideation and behavior (Posner, 2003). The questionnaire included wish to be dead, non-specific active suicidal thoughts, active suicidal ideation with any methods (not plan) without intent to act, active suicidal ideation with some intent to act, without specific plan, active suicidal ideation with specific plan and intent with question number 1, 2, 3, 4 and 5 respectively.

The score range was from 0-5. If the score is zero, it means no ideation. The questionnaire type was Yes or No question type.

3.8 Validity

Content Validity

Content validity referred to the extent to which the items on a test are fairly representative of the entire domain the test seeks to measure. This entry discusses origins and definitions of content validation, methods of content validation, the role of content validity evidence in validity arguments, and unresolved issues in content validation.

The Part 1 questions were socio demographic characteristics and health factors.

The Part 2, all questions, were adopted from the already validated questionnaires for social support (Zimet GD, 1988).

The Part 3, all questions, were adopted from the already validated questionnaires for depression which were prepared by Center for Epidemiologic Studies Depression (CES-D) (Radloff, 1997).

The Part 4, all questions, were adopted from the already validated questionnaires for suicidal ideation which were prepared by The Columbia–Suicide Severity Rating Scale (C-SSRS) (Posner, 2003).

Content validity of the questionnaires were provided by three experts.

1. Ass. Prof. Naowarat Kanchanakhan, Ph.D : College of Public health Sciences. Chulalongkorn University.

2. Nuchanad Hounnaklang, Ph.D : College of Public health Sciences. Chulalongkorn University.

3. Montakarn Chuemchit, Ph.D : College of Public health Sciences. Chulalongkorn University.

IOC (item-objective congruence)

The index of item-objective congruence was a procedure used in test development for evaluating content validity at the item development stage. This measure was limited to the assessment of unidimensional items or items that measure specified composites of skills.

Step one: The questionnaire was presented to the thesis committee for any suggestion for improvement.

Step two: The questionnaire was corrected and adjusted in accordance with comments and recommendations made by advisory committee.

Step three: After received feedback and recommendations from the advisory committee, the Index of Item-Objective Congruence (IOC) was used so as to find the content validity. In this process, the questionnaire was checked by three experts. (see in Appendix A).

The Item-Objective Congruence (IOC): the score ranged from -1 to +1.

+1: item clearly taps objective

0: unsure/ unclear

-1: item clearly does not tap objective

If the value of the result less than 0.5, adjusted the questions till all three experts accepted. This questionnaire was already validated by the above three experts and all those three experts accepted my questionnaire**.**

Face validity

For face validity, the researcher did the pilot test of the Thai version of the survey questionnaire to try out the questionnaires with 30 transgender women with similar characteristics of this study population. After face validity, the researcher knew the flow of questionnaire, duration of questionnaire and comprehension.

3.9 Reliability

Reliability involved the quality of measurement. To get the reliability of measurements, it was the degree to which a measurement measures the same way each time, it is used under the same conditions with the same participants. Reliability mainly reflects the consistency and stability of the test results. Cronbach's coefficient alpha ranged from 0 to 1, and the values closer to 0 imply that the items do not measure the same construct and values closer to 1 provides an opposite insinuation. The reliability coefficient of more than or equal 0.9 was excellent, between 0.8-0.9 was good, between 0.8 and 0.7 was acceptable, between 0.6 and 0.7 was questionable, between 0.5 and 0.6 was poor and less than 0.5 was unacceptable. In this research, the reliability was measured by Cronbach's alpha. Cronbach's alpha was calculated by SPSS version 22.0

To establish of the reliability of the questionnaire, pilot test was conducted among 30 transgender women in Bangkok, Thailand before doing the actual data collection. Then, internal consistency of the rating scales was done by Cronbach's alpha coefficient to measure the reliability. Cronbach's alpha coefficient for social support questionnaire was 0.93; Cronbach's alpha coefficient for depression questionnaire was 0.91; Cronbach's alpha coefficient for suicidal ideation questionnaire was 0.91.

3.10 Data Collection

1. Data collection was taken by self-administered method by the researcher and one assistant people who was the health worker that have work experience to care for transgender women patients and work for transgender's organization in Bangkok, Thailand. The role of researcher assistant was screening transgender women for inclusion and exclusion criteria, asking permission from the participants with verbal inform consent, distribution of questionnaires, explaining questionnaires, collection of questionnaires and checking the completeness of the answers and explain the research purpose, research methodology and detailed information about questionnaires, ethics about conducting research to the participants. After recruitment of research assistant, refreshment training was followed for about two hours. The contents of the training were involved how the researcher should do the data collection process, introduce herself, built the rapport, create convenient and friendly environment, screening transgender women for inclusion and exclusion criteria, getting verbal inform consent, distribution of questionnaires, explaining questionnaires, collection of questionnaires and checking the completeness of the answers and explained the research purpose, research methodology and detailed information about questionnaires, ethics about conducting research to the participants. At the end of training, research assistant asked the questions to the principal researcher what they were unclear or want to know more.

2. Data collection was started from one transgender woman who had many good connection networks with transgender women community. Before interviewed her, the researcher got the verbal inform consent and did the process ethically. Then the researcher can get more transgender women from her. Before going to other transgender women, the researcher got the connection from her, she had to ask those transgender women for getting permission with verbal inform consent. Based on these people, the researcher got more and more transgender women until having the target sample size which is snowball technique.

3. Before data collection, researcher and researcher assistant screened transgender women for inclusion and exclusion criteria also took permission from the participants with verbal inform consent. Individuals who expressed interest in the

research were screened for eligibility by researcher and researcher assistant. Those who met the inclusion criteria answered the questionnaires.

4. If the participant refused to answer, the researcher and research assistant went to next chosen transgender women. After the participants answering the questionnaires, the researcher and research assistant were check the completeness of answers for each question in the questionnaire before leaving. All the documents (questionnaires) were checked for completeness by the principal researcher to prevent losing documents. If a participant did not answer all questions due to unwillingness to answer some questions, researcher discard that questionnaire. Actual data collection for the thesis was done by one research assistant and the researcher on a total of 280 target respondents in Bangkok. The data collecting was continued every day until it got the calculated sample size.

5. If the researcher found that participants in this research have psychological problems such as depression or suicidal thoughts. The researcher gave the advice to them to meet a psychologist immediately.

3.11 Analysis

The researcher used SPSS 22 to perform all analyses.

3.11.1 Descriptive Analysis

Mean, Standard Deviation, Number and Percentage ware used to organize data of independent variables of socio-demographic factors, health factors and social support. The percentage of depression and suicidal ideation were presented.

3.11.2 Inferential Analysis

The relationship between the independent variables and dependent variables were presented by logistic regression analysis. Logistic regression analysis was used to analyze the association between the independent variables of social support factors and the binary dependent variable (Depression and suicidal ideation). Given the theoretical

association between social support, socio-demographic factors and health factors with depression and suicidal ideation among transgender women.

Bivariate logistic regression analysis, all variables with a P-value less than 0.2 were considered for inclusion in a multivariable logistic regression model.

Multivariate logistic regression analysis was conducted to investigate he association which were statistically significant with P-value less than 0.05 and adjusted odds ratio (AOR) with 95% confidence interval (CI) was calculated.

3.12 Ethical Consideration

The Ethical was approved from The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University.

3.13 Human Subjects Protection

The researcher and researcher assistant had considered the rights of participants. By the researcher and the researcher assistant, we collected the data after approved by The Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University. The researcher and research assistant selected participants based on qualifying criteria and according to the voluntary consent of participants. The researcher and research assistant gave all clear verbal explanation to each potential participant on the purpose and procedures of this study. Each potential participant was informed about the process of studying and voluntarily sign the consent form. They can withdraw from this study any time without any effects by all means. However, following step will be taken into consideration to ensure that the participant's confidentiality. Data was used for research's purpose only. Their information was kept confidentiality. After thesis, all relevant information will be burnt.

CHAPTER IV

RESULTS

This study aimed to describe independent variables, namely, socio demographic factors, health factor and social support. Dependent variables, namely, depression and suicidal ideation to analyze the relationships between each of these independent variables and each of dependent variables among transgender women in Bangkok, Thailand. The study population consisted of 280 transgender women in Bangkok, Thailand.

This result contained descriptive statistical results of these independent variables and dependent variables which mentioned above among transgender women in Bangkok, Thailand. The inferential statistical results of bivariate analysis were done by binary logistic regression. In the bivariate analysis, all variables with a p-value of less than 0.2 in a binary logistic regression analysis were considered for inclusion in a multivariable logistic regression model. The multivariate analysis was done by multiple logistic regression among independent variables with each of dependent variables.

Socio-demographic factors

Table 1 showed the socio-demographic factors of participants in Bangkok, Thailand. Most of the participants (36.1%) were in age group of 25 to 30 years and the least of participants (18.9%) were in age group of 31 to 35 years. Regarding to religion, most of participants were Buddhist (87.5%). Based on education level, most of the participants were with bachelor degree (52.1%) followed by lower than bachelor degree (35.0%) and higher than bachelor degree (12.9%). In terms of monthly income, most of participants (25.0%) had monthly income between 10001 and 20000 baht and the least of participants (12.1%) had monthly income between 30001 and 40000 baht. For the sufficient income, most of participants (43.2%) had sufficient and saving income and the least of participants (26.1%) had insufficient income. For occupation, most of participants (24.3%) were company employee; student or unemployed and cabaret actress 19.3% and 17.1%, respectively.

In accordance with living status, most of participants (47.5) lived with their family, lived alone (35.4%), lived with partner (9.6%) and lived with friend (7.5%). According to sex reassignment surgery, most of participants (74.6%)
without sex reassignment surgery. In relation to having sexual partnership, most of participants (47.5%) had no sexual partnership; had regular partner and casual partner 32.5% and 20.0%, respectively.

Table 1 Number and percentage of participants by socio-demographic factors (n=280)

socio-demographic factors	**Number (%)**
Age	
≤ 24 years	66 (23.6)
25 – 30 years	101 (36.1)
31 – 35 years	53 (18.9)
> 35 years	60 (21.4)
Range	18 - 53
Mean (Cochran SD)	29.7 (± 7.07)
Religion	
Buddhist	245 (87.5)
Non - Buddhist	35 (12.5)
Educational Level	
< Bachelor Degree	98 (35.5)
Bachelor Degree	146 (52.1)
> Bachelor Degree	36 (12.9)
Monthly Income (Baht)	
≤ 10,000	61 (21.8)
10,001 – 20,000	70 (25.0)
20,001 – 30,000	60 (21.4)
30,001 – 40,000	34 (12.1)
> 40,000	55 (19.6)

Table 1 Continued

socio-demographic factors	Number (%)
Sufficiency Income	
Sufficiency and saving	121 (43.2)
Sufficiency without saving	86 (30.7)
Not sufficiency	73 (26.1)
Occupation	
Student / Unemployed	54 (19.3)
Government officer	34 (12.1)
Company employee	68 (24.3)
Business owner	31 (11.1)
Freelancer	45 (16.1)
Cabaret actress	48 (17.1)
Living status	
Live alone	99 (35.4)
With partner	27 (9.6)
With friend	21 (7.5)
With family	133 (47.5)
Sex reassignment surgery	
No	209 (74.6)
Yes	71 (25.4)
Having Sexual Partnership	
No sexual partner	133 (47.5)
Regular partner	91 (32.5)
Causal partner	56 (20.0)

Health factors

According to the illness history, most of participants (81.4%) without illness history and participants with illness history such as hypertension, renal disease, asthma was 18.6%. Regarding the cross-sex hormone use, most of participants (64.6%) with cross-sex hormone use. For smoking status in their life time, most of participants (53.2%) were non-smoker; ex-smoker and current smoker 26.4% and 20.4%, respectively. In terms of alcohol drinking in the past 12 months, most of participants (33.9%) were not drinking alcohol; drank less than 1 time per month and drank more than 3 times per month 27.5% and 18.6%, respectively. For substance use in the past 12 months, participants were use substance 7.1% only such as amphetamine, ecstasy, ketamine and marijuana.

Table 2 Number and percentage of participants by health factors (n=280)

health factors	**Number (%)**
Illness history	
No	228 (81.4)
Yes	52 (18.6)
Cross-sex hormone use	
No	99 (35.4)
Yes	181 (64.6)
Smoking	
Non - smoke	149 (53.2)
Current smoker	57 (20.4)
Ex - smoker	74 (26.4)
Alcohol drinking in the past 12 months	
No	95 (33.9)
< 1 time / month	77 (27.5)
1 – 3 time / month	56 (20.0)
> 3 time / month	52 (18.6)
Substance use in the past 12 months	
No	260 (92.9)
Yes (i.e., amphetamine, ecstasy, ketamine, marijuana)	20 (7.1)

Social support

Table 3 showed the social support of transgender women that social support was classified into three levels of perceived social support. Most of the participants (47.9%) had high perceived social support; the moderate perceived social support and low perceived social support 43.2% and 8.9%, respectively.

Table 3 Number and percentage of participants by social support (n=280)

Social support	Number (%)
Low	25 (8.9)
Moderate	121 (43.2)
High	134 (47.9)

Table 4 showed the sources of social support from family, friends and significant others. Each of these sources of social support was classified into three levels of perceived social support. For family support, most of the participants (50.0%) had high perceived social support and the moderate perceived social support were with 37.1%. According to the friends' support, most of the participants (46.4%) had high perceived social support and the moderate perceived social support were with 42.1%. For significant other support, most of the participants (45.4%) had high perceived social support and the moderate perceived social support were with 42.1%.

Table 4 Number and percentage of participants by family, friends and significant others support (n=280)

Sources of support	Number (%)
Family	
Low	36 (12.9)
Moderate	104 (37.1)
High	140 (50.0)
Friends	
Low	32 (11.4)
Moderate	118 (42.1)
High	130 (46.4)

Table 4 Continued

Sources of support	Number (%)
Significant others	
Low	35 (12.5)
Moderate	118 (42.1)
High	127 (45.4)

Depression

For the percentage of depression, most of participants (58.2%) with depression (CES-D more than 15 scores) and the participants without depression were with 41.8% (CES-D less than 16 scores) according to the Center for Epidemiological Studies-Depression Scale (CES-D). The mean of depression was 18.7, standard deviation was 10.64 and the rage was 0-52.

Suicidal ideation

For the percentage of suicidal ideation, most of participants (55.0%) with suicidal ideation (C-SSRS more than 0 scores) and the participants without suicidal ideation were with 45.0% (C-SSRS score is 0) according to the Columbia-Suicide Severity Rating Scale (C-SSRS). The mean of suicidal ideation was 1.5, standard deviation was 1.79 and the rage was 0-5.

Table 5 Number and percentage of depression and suicidal ideation

	Number (%)
Depression	
Without depression	117 (41.8)
With depression	163 (58.2)
Suicidal ideation	
Without suicidal ideation	126 (45.0)
With suicidal ideation	154 (55.0)

Bivariate analysis

In the bivariate analysis, all variables with a p-value of less than 0.2 in a bivariate logistic regression analysis were considered for inclusion in a multivariable logistic regression model.

Table 6 showed the association between depression and socio-demographic factors, health factors, social support. For the association between depression and socio-demographic factors, on crude logistic regression analysis found that a significantly higher proportion of participants who had not sufficiency income and depression compared to who had sufficiency and saving income [OR 2.69, 95%CI (1.44 - 4.99)].

The association between depression and health factors. There was significant association between participants who drank alcohol less than 1 time per month and depression. When compared to those who did not drink alcohol, participants who drank alcohol less than 1 time per month had less depression than those who did not drink alcohol [OR=0.50, 95%CI (0.26-0.94)]. There was also significant association between participants who drank alcohol 1 to 3 times per month and depression. When compared to those who did not drink alcohol, participants who drank alcohol 1 to 3 times per month had less depression than those who did not drink alcohol [OR=0.33, 95%CI (0.17-0.67)].

The association between depression and social support. Low perceived social support of participants showed significant association with depression compared to those who had high perceived social support [OR=14.18, 95%CI (3.21-62.58)]. Moderate perceived social support of participants also showed significant association with depression compared to those who had high perceived social support [OR=2.47, 95%CI (1.44-3.99)].

Table 6 Association between depression and related factors

Characteristics	Unadjusted OR (95%CI)	p-value
Age		
≤ 24 years	Ref.	
25 – 30 years	0.95 (0.50-1.79)	0.877
31 – 35 years	0.78 (0.37-1.63)	0.518
> 35 years	0.85 (0.41-1.72)	0.654
Religion		
Buddhist	Ref.	
Non - Buddhist	1.93 (4.21-0.09)	0.094
Educational Level		
< Bachelor Degree	0.96 (0.44-2.10)	0.924
Bachelor Degree	0.81 (0.38-1.71)	0.591
> Bachelor Degree	Ref.	
Sufficiency Income		
Sufficiency and saving	Ref.	
Sufficiency without saving	1.74 (0.99-3.06)	0.052
Not sufficiency	2.69 (1.44-4.99)	0.002**
Occupation		
Student / Unemployed	1.40 (0.57-3.39)	0.457
Government officer	Ref.	
Company employee	0.83 (0.36-1.92)	0.672
Business owner	0.74 (0.28-1.99)	0.560
Freelancer	0.87 (0.35-2.15)	0.772
Cabaret actress	1.06 (0.43-1.61)	0.885
Living status		
Live alone	1.25(0.73-2.14)	0.400
With partner	0.69 (0.30-1.59)	0.393
With friend	1.00 (0.39-2.53)	1.000
With family	Ref.	

Table 6 Continued

Characteristics	Unadjusted OR (95%CI)	p-value
Sex reassignment surgery		
No	Ref.	
Yes	1.05 (0.60-1.82)	0.852
Having Sexual Partnership		
No sexual partner	Ref.	
Regular partner	0.86 (0.50-1.47)	0.583
Causal partner	1.17 (0.61-2.23)	0.622
Illness history		
No	Ref.	
Yes	1.30 (0.70-2.44)	0.396
Cross-sex hormone use		
No	Ref.	
Yes	1.18 (0.72-1.94)	0.505
Smoking		
Non-smoker	Ref.	
Current smoker	0.92 (0.50-1.70)	0.797
Ex - smoker	1.42 (0.80-2.54)	0.225
Alcohol drinking		
No	Ref.	
< 1 time / month	0.50 (0.26-0.94)	0.032*
1 – 3 day / month	0.33 (0.17-0.67)	0.002**
> 3 day / month	0.52 (0.26-1.06)	0.074
Substance use		
No	Ref.	
Yes	1.08 (0.42-2.73)	0.867
Social Support		
Low	14.1 (3.21-62.58)	0.000**
Moderate	2.40 (1.44-3.99)	0.001**
High	Ref.	

Table 7 showed association between suicidal ideation and socio demographic factors. There was significant association between participants who were age over 35 years old and suicidal ideation compared to those who were less than or equal 24 years old [OR 2.34, 95%CI (1.14 – 4.80)].

There was significant association between participants who were student or unemployed and suicidal ideation. When compared to those who worked as government officer, participants who were student or unemployed had less suicidal ideation than those who worked as a government officer [OR=0.38, 95%CI (0.15-0.96)].

There was significant association between participants who worked as company employee and suicidal ideation. When compared to those who worked as a government officer, participants who worked as company employee had less suicidal ideation than those who worked as a government officer [OR=0.39, 95%CI (0.16-0.94)].

There was significant association between participants who worked as cabaret actress and suicidal ideation. When compared to those who worked as a government officer, participants who worked as worked as cabaret actress had less suicidal ideation than those who worked as a government officer [OR=0.35, 95%CI (0.13-0.89)].

The association between suicidal ideation and health factors. On crude logistic regression analysis, a significantly higher proportion of participants who were smoker and suicidal ideation compared to who were non-smoker [OR 2.09, 95%CI (1.12 – 3.93)].

Similarly, there was also significantly higher proportion of participants who were ex-smoker and suicidal ideation compared to those who were non-smoker [OR 2.71, 95%CI (1.50 – 4.88)].

There was significant association between participants who drank alcohol 1 to 3 times per month and depression. When compared to those who did not drink alcohol, participants who drank alcohol 1 to 3 times per month had less depression than those who did not drink alcohol [OR=0.48, 95%CI (0.60-2.42)].

The association between suicidal ideation and social support. Low perceived social support of participants showed significant association with suicidal ideation compared to those who had high perceived social support [OR=7.54, 95%CI (2.45-23.18)].

Moderate perceived social support of participants also showed significant association with suicidal ideation compared to those who had high perceived social support [OR=2.60, 95%CI (1.56-4.32)].

Table 7 Association between suicidal ideation and related factors

Characteristics	Unadjusted OR (95%CI)	p-value
Age		
≤ 24 years	Ref.	
25 – 30 years	1.83 (0.97-3.42)	0.059
31 – 35 years	1.77 (0.8-3.67)	0.125
> 35 years	2.34 (1.14-4.80)	0.020*
Religion		
Buddhist	Ref.	
Non - Buddhist	1.10 (0.54-2.25)	0.785
Educational Level		
< Bachelor Degree	1.00 (0.45-2.20)	0.990
Bachelor Degree	0.61 (0.29-1.30)	0.207
> Bachelor Degree	Ref.	
Sufficiency Income		
Sufficiency and saving	Ref.	
Sufficiency without saving	1.28 (0.73-2.23)	0.377
Not sufficiency	1.73 (0.95-3.13)	0.070
Occupation		
Student / Unemployed	0.38 (0.15-0.96)	0.041*
Government officer	Ref.	
Company employee	0.39 (0.16-0.94)	0.037*
Business owner	0.75 (0.26-2.14)	0.601
Freelancer	0.75 (0.29-1.96)	0.565
Cabaret actress	0.35 (0.13-0.89)	0.028*

Table 7 Continued

Characteristics	Unadjusted OR (95%CI)	p-value
Living status		
Live alone	0.59 (0.35-1.00)	0.051
With partner	1.36 (0.57-3.26)	0.482
With friend	0.75 (0.29-1.89)	0.545
With family	Ref.	
Sex reassignment surgery		
No	Ref.	
Yes	1.07 (0.62-1.84)	0.793
Having Sexual Partnership		
No sexual partner	Ref.	
Regular partner	1.25 (0.73-2.14)	0.404
Causal partner	1.77 (0.93-3.37)	0.081
Illness history		
No	Ref.	
Yes	1.70 (0.90-3.18)	0.098
Cross-sex hormone use		
No	Ref.	
Yes	1.09 (0.67-1.79)	0.716
Smoking		
Non-smoker	Ref.	
Current smoker	2.09 (1.12-3.93)	0.021*
Ex - smoker	2.71 (1.50-4.88)	0.001**
Alcohol drinking		
No	Ref.	
< 1 time / month	0.83 (0.45-1.53)	0.562
1 – 3 day / month	0.48 (0.240.95)	0.035*
> 3 day / month	1.21 (0.60-2.42)	0.593

Table 7 Continued

Characteristics	Unadjusted OR (95%CI)	p-value
Substance use		
No	Ref.	
Yes	1.24 (0.49-3.15)	0.641
Social Support		
Low	7.54 (2.45-23.18)	0.000**
Moderate	2.60 (1.56-4.32)	0.000**
High	Ref.	

* (p<0.05), ** (p<0.01)

multivariate analysis

Multivariate analysis was used to describe association between related factors and depression, suicidal ideation. All significant different variables associated with depression, suicidal ideation in bivariate logistic regression analysis with a p-value of less than 0.2 were considered in a multivariable logistic regression model 1. Then, all significant different variables associated with depression, suicidal ideation in multivariable logistic regression model 1 with a p-value of less than 0.05 were considered in a multivariable logistic regression model 2.

According to the data, religion, sufficiency income, alcohol drinking and social support were put into multiple logistic regression model 1. Then, all significant variables with a p-value of less than 0.05 were put into multiple logistic regression model 2. For prediction of depression; sufficiency income, alcohol drinking and social support were adjusted in multiple logistic regression model 2. Regarding the suicidal ideation; age, sufficiency income, occupation, living status, having sexual partnership, illness history, alcohol drinking, smoking and social support were considered in a multivariable logistic regression model 1. In model 2 of suicidal ideation; occupation, alcohol drinking, smoking and social support were adjusted.

Table 8, the multivariable logistic regression analysis model 1 showed that depression was significantly associated with not sufficiency income compare to those who had sufficiency and saving income. Those who presented with not sufficient income were 2.36 times more likely to be at risk of depression than those who had sufficiency and saving income [Adjusted OR 2.36, 95%CI (1.16 - 4.83)].

There was significant association between participants who drank alcohol 1 to 3 times per month and depression. When compared to those who did not drink alcohol, participants who drank alcohol 1 to 3 times per month had less depression 0.42 time than those who did not drink alcohol [Adjusted OR=0.42, 95%CI (0.20-0.88)].

Low perceived social support of participants showed significant association with depression compared to those who had high perceived social support. Those who had low perceive social support were more likely to have depression by 9.84 times than those who had high perceived social support [Adjusted OR=9.84 95%CI (2.16-44.74)]. Those who had moderate perceive social support were more likely to have depression by 2.09 times than those who had high perceived social support [Adjusted OR=2.09, 95%CI (1.23-3.54)].

Table 8 Adjusted Odds ratio (OR) and 95% Confidence Interval (CI) for depression

	Model 1* Adjusted OR (95%CI)**	**Model 2**** Adjusted OR (95%CI)**
Religion		
Buddhist	Ref.	
Non - Buddhist	1.41 (0.62-3.23)	
Sufficiency Income		
Sufficiency and saving	Ref.	Ref.
Sufficiency without saving	1.70 (0.93-3.13)	1.72 (0.94-3.16)
Not sufficiency	2.28 (1.17-4.5) *	2.34 (1.20-4.55) *
Alcohol drinking		
No	Ref	Ref
< 1 time / month	0.52 (0.26-1.04)	0.52 (0.26-1.03)
1 – 3 day / month	0.42 (0.20-0.88) *	0.42 (0.20-0.88) *
> 3 day / month	0.62 (0.29-1.33)	0.61 (0.29-1.31)

* (p<0.05), ** (p<0.01), *** Each odds ratio is adjusted for all other variable in the table, ****Each odds ratio is adjusted for sufficiency income, alcohol drinking and social support.

Table 8 Continued

	Model 1* Adjusted OR (95%CI)**	**Model 2**** Adjusted OR (95%CI)**
Social Support		
Low	9.55 (2.10-43.39) **	9.82 (2.16-44.60) **
Moderate	2.03 (1.19-3.46) **	2.09 (1.23-3.54) **
High	Ref.	Ref.

* (p<0.05), ** (p<0.01), *** Each odds ratio is adjusted for all other variable in the table, ****Each odds ratio is adjusted for sufficiency income, alcohol drinking and social support.

Table 9 showed the factors associated with suicidal ideation using multivariate logistic regression. Regarding to the occupation in model 2, cabaret actress showed significant association with suicidal ideation. When compared to those who worked as government officer, cabaret actresses were 0.34 time less likely to be at risk for suicidal ideation than government officer [Adjusted OR=0.34, 95%CI (0.12-0.95)].

In term of smoking status, there was significant association between ex-smoker and suicidal ideation. Those who were ex-smoker were 3.51 times more likely to be at risk for suicidal ideation than those who did not smoking. [Adjusted OR=3.51, 95%CI (1.79-6.86)].

According to the perceived social support of participants, low perceived social support of participants showed significant association with suicidal ideation compared to those who had high perceived social support. Those who had low perceive social support were more likely to have suicidal ideation by 9.34 times than those who had high perceived social support [Adjusted OR=9.34, 95%CI (2.81-31.09)]. Those who had moderate perceive social support were more likely to have depression by 2.75 times than those who had high perceived social support [Adjusted OR=2.75, 95%CI: 1.57-4.81)].

Table 9 Adjusted Odds ratio (OR) and 95% Confidence Interval (CI) for suicidal ideation

	Model 1* Adjusted OR (95%CI)**	**Model 2**** Adjusted OR (95%CI)**
Age		
≤ 24 years	Ref.	
25 – 30 years	0.55 (0.21-1.46)	
31 – 35 years	1.00 (0.45-2.25)	
> 35 years	0.96 (0.40-2.31)	
Sufficiency Income		
Sufficiency and saving	Ref.	
Sufficiency without saving	0.56 (0.27-1.18)	
Not sufficiency	0.59 (0.27-1.26)	
Living status		
Live alone	0.55 (0.29-1.05)	
With partner	1.53 (0.51-4.62)	
With friend	0.81 (0.26-2.47)	
With family	Ref.	

*(p<0.05), ** (p<0.01), *** Each odds ratio is adjusted for all other variable in the table, ****Each odds ratio is adjusted for occupation, alcohol drinking, smoking and social support.

Table 9 Continued

	Model 1* Adjusted OR (95%CI)**	**Model 2**** Adjusted OR (95%CI)**
Occupation		
Student / Unemployed	0.59 (0.17-1.98)	0.38 (0.13-1.03)
Government officer	Ref.	Ref.
Company employee	0.52 (0.18-1.50)	0.42 (0.15-1.13)
Business owner	0.78 (0.23-2.65)	0.76 (0.23-2.43)
Freelancer	0.88 (0.28-2.69)	0.76 (0.27-2.15)
Cabaret actress	0.32 (0.10-0.97) *	0.34 (0.12-0.95) *
Having Sexual Partnership		
No sexual partner	Ref.	
Regular partner	1.26 (0.61-2.58)	
Causal partner	2.17 (0.98-4.84)	
Illness history		
No	Ref.	
Yes	0.81 (0.38-1.71)	

* ($p<0.05$), ** ($p<0.01$), *** Each odds ratio is adjusted for all other variable in the table, ****Each odds ratio is adjusted for occupation, alcohol drinking, smoking and social support.

Table 9 Continued

	Model 1*** Adjusted OR (95%CI)	Model 2**** Adjusted OR (95%CI)
Alcohol drinking		
No	Ref.	Ref.
< 1 time / month	0.79 (0.38-1.68)	0.83 (0.41-1.66)
1 – 3 day / month	0.43 (0.18-1.00) *	0.55 (0.25-1.20)
> 3 day / month	1.28 (0.51-3.20)	1.10 (0.47-2.56)
Smoking		
Non - smoker	Ref.	Ref.
Current smoker	1.76 (0.79-3.94)	1.87 (0.86-4.04)
Ex - smoker	3.76 (1.85-7.63) **	3.51 (1.79-6.86) **
Social Support		
Low	6.84 (1.85-25.20) **	9.34 (2.81-31.09) **
Moderate	2.99 (1.64-5.43) **	2.75 (1.57-4.81) **
High	Ref.	Ref

* ($p<0.05$), ** ($p<0.01$), *** Each odds ratio is adjusted for all other variable in the table, ****Each odds ratio is adjusted for occupation, alcohol drinking, smoking and social support.

CHAPTER V
DISCUSSION, CONCLUSION AND RECOMMENDATION

DISCUSSION

A cross-sectional study was carried out in 280 transgender women residing in Bangkok, Thailand to find out the association between depression, suicidal ideation and related factors. Transgender women were the subject that has some special characteristics related to their mental health status specifically depression and suicidal ideation.

Among the transgender populations, the lifetime of depression in this community as high as 60 percent (M. R. Clements-Nolle K, Katz M, 2006; Nuttbrock L, 2010). The results of this current study indicated that the large number 58.2 percent of transgender women in Bangkok suffer from depression. This rate of depression among transgender women in this study was higher than that of the recent study conducted among Chinese transgender women (45.3%) (Xiaosh iYang, 2015), Nepali sexual and gender minorities (46.1%) (Verena Kohlbrenner, 2016), Latina transgender male to female who live in Los Angeles, California (35.0%) (Bazargan M, 2012), Spanish transsexual people those who were untreated hormone (33.0%) (Gómez-Gil E, 2012). However, our finding was significantly lower than that observed among transgender women in San Francisco (62.0%) (M. R. Clements-Nolle K, Guzman R, Katz M., 2001). For this study, the rate of depression as high due to the participants who were student almost 20% during the data collection period was their final exam. Exam stress can affect anyone. They might be worried about doing enough revision, getting the grades you need or feel pressure from their school or family. Exams can feel like a lot of pressure. They might need certain grades for a course or job. Or their parents, careers or teachers might be putting pressure on them. They might be putting lots of pressure on themselves as well. It has to be seen that stressful life events have been consistently associated with an increase in depressive symptoms.

Suicide is a serious, preventable, global health problem. The most vulnerable group, affected by suicide are LGBT, refugees and migrant (World Health Organization, 2018). Studies had consistently shown an increased rate of suicidal

ideation and suicide attempt among transgender and gender nonconforming populations, ranging from 25% to 76 % (M. R. Clements-Nolle K, Katz M, 2006; Nuttbrock L, 2010).

The finding of this current study indicated that the large number 55 percent of transgender women in Bangkok had suicidal ideation. This number of suicidal ideation is almost the same as that of US transgender people who living in New York City (53.5%) (Nuttbrock L, 2010) but much higher than a study of transgender people and men who have sex with men (MSM) in Nepal. In particular, transgender people and MSM had experienced with suicidal ideation were with 39.8 percent and 21.3 percent respectively (Verena Kohlbrenner, 2016). However, this finding was significantly lower than a study among transgender individuals in Virginia (64.9%) (Rood BA, 2015).

There was association between socio demographic factors and depression, suicidal ideation. According to sufficiency income of participants, participant with sufficiency and saving income were with 43.2 percent while participant with income insufficiency were with 20.4 percent. The association between income insufficiency and depression was found significantly. In this study, transgender women were found that those who presented with not sufficient income were 2.36 times more likely to be at risk of depression than those who had sufficiency and saving income.

Similar study was done in China, a study among Chinese transgender women found that transgender women with low monthly income less than 485 dollars exerted higher anxiety and depression (Yang X, 2016). Another study among American transgender women also showed that transgender women earning work income less than 500 dollars during the previous month were associated with depression (Bockting WO, 2013). A study of transgender women in San Francisco, Oakland and California found that transgender women with low income were associated with depression (Tooru Nemoto, 2010)

Low social economic status and mental health are often linked. Money problems can affect relationships and your social life, which can have a knock-on effect on mental health. Worrying about money can make your mental health worse. Though depression is a complicated condition and there's often not one single cause for it, there are definitely plenty of factors that can contribute to someone experiencing depression

including poverty. And, in recent years, more research has pointed to the idea that poverty is one of the things that can be linked to mental health problems, specifically depression (Truong, 2018). Due to the fact that low, insufficient income and more likely to have unsupportive environments making stressful life events. In case of people with experienced heavy financial problems, this can speculate that not sufficient income might be its impact on mental health problem. In the most severe case, it can lead to suicidal ideation or attempted suicide.

Recently, mental health condition of the worker has become important focus in the field of occupation health. In recent years, the prevalence of poor mental health such as stress, depression, suicide concerned with occupation is high and increasing. The association between job stress and mental health problems has been demonstrated in many studies (Cha BS, 1989; Park SG, 2009). The National Institute for Occupational Safety and Health (NIOSH) defines "occupational stress" as a harmful physical/sentimental reaction that occurs when the job demands do not match the skills or resources of a worker (Nielsen MB, 2013).

In term of the occupation of participants in this current study, their occupation was pretty several. The percentage of participants who worked as government officer were 12.1 percent and the percentage of participants who worked as cabaret actress were 17.1 percent. This found that the association between participants who worked as cabaret actress and suicidal ideation. Transgender women were found that those who worked as cabaret actress were 0.34 times less likely to be at risk for suicidal ideation than those who worked as government officer.

Although government officer was an occupation which more secure than other occupations but there are many challenges in their work environment, characterized by low salary, high over-workload, heightened competition, increased work targets, threats of job loss, organizational change, lack of time, lack of space, continuous technological development, conflicting demand from organizational stakeholders, increased use of computerization, greater uncertainty and others have resulted in higher work stress (McHug, 1997; Myers, 2000). A study of 329 government officers in Malaysia showed that there was significant relationship between occupation and mental health problem (Jasmani binti Mohd Yunus, 2011). Similar with the study in United Kingdom, in conducting a study on a university staff showed that general stress and work-related

stress was associated with poor physical health, poor mental health well-being and high job dissatisfaction (Dua, 1994).

In term of transgender women, Thailand's Ladyboys or katoeys are some of the most beautiful and convincing transvestites in the world, mostly accepted and embraced by a highly tolerant Thai society. For cabaret show actress, there was many transgender cabarets show in Bangkok. These people were fascinating and highly artistic performers captivate audiences with their charm, unique creativity and flawless female impersonations (Smith, 2018). In this study showed that cabaret actress were 0.34 times less likely to be at risk for suicidal ideation than those who worked as government officer. They did not have to work under extreme pressure when compared to other professions. The strength was that almost all of their colleagues are in transgender communities making them highly supported and accepted.

The kind of job has long been an important concept in the study of employees' responses to their work environments which can cause unusual and dysfunctional behavior at work and contribute to poor physical and mental health. Perceived occupational stress was reported to have adverse and pessimistic effect on mental health such as insomnia, anxiety, depression. In the most severe form of mental health problem, these chronic problems can lead to suicide (Hong-biao Yin, 2013). On the other hand, occupational safety and health aspect, good working environment, lower of pressure and competition as well as good organization. These could be protective factors from mental health problems and improve physical and psychological health well-being also.

Alcohol is one of the most popular psychoactive substances in the world. The interrelationships between alcohol consumption and depression are complex. It can have powerful effects on your mood and mental state. Alcohol is a widely consumed drug that can lead to addiction and severe brain damage. Excessive of alcohol consumption and heavy episodic drinking often coexist with depression and may increase its risk (Flensborg-Madsen T, 2009; Foulds JA, 2015). On the other hand, alcohol consumption with recommended limits one – two drink per day has been associated with better health-related quality of life than non-drinking (Stranges S, 2006). However, alcohol is also used as self-medication for psychiatric problems, such

as depression, frequently resulting in depression-alcoholism comorbidity (Müller CP, 2017).

There was association between alcohol drinking and depression in this study. In term of alcohol drinking in the past twelve months, the percentage of participant without drinking were 33.9 percent while the percentage of those who drinking alcohol 1 to 3 days per month were 20 percent. The association between participants who drinking alcohol 1 to 3 days per month and depression was found. In this study, transgender women were found that those who drinking alcohol 1 to 3 days per month were 0.42 times less likely to be at risk for depression than those who did not drinking alcohol. Moreover, drinking alcohol 1 to 3 days per month was found that this factor was the protective factor for depression. Similar to a study in Sweden, light and moderate drinkers had a lower risk of depression when compared to non-drinkers (Gemes K, 2019). Another study supported that moderate consumption of alcohol intake may reduce the incidence of depression, while heavy drinkers seem to be at higher risk (Alfredo Gea, 2013).

Drinking small amounts of alcohol linked to various physical and mental health benefits (Gunzerath L, 2004). Studies of alcohol consumption found that moderation consumption does not increase the risk of heart failure, hypertension, or atrial arrhythmias, may in fact improve vascular function and reduce cardiovascular disease events. In the United States, a study on the consequences and benefits of alcohol consumption reported that drinking patterns are also important. As in younger subjects, heavy consumption, or abuse of alcohol, can cause any potential cardiovascular side effects, increasing the incidence of heart failure and hypertension (Kalla A, 2017). A study of Bazargan-Hejazi and colleagues reported that people who were heavily drinking alcohol in the last twelve month were significant to get higher depression scores (Bazargan Hejazi S, 2008).

Our result showed that drinking alcohol 1 to 3 days per month were associated with the lower risk of depression, the lower depression risk among participants who were not heavy drinkers may be explained by the social drinking behavior (Gemes K, 2019). Cross-sectional studies showed that non-drinkers were socially less active and have weaker social support (Lucas N, 2010; Rodgers B, 2007). Those who drink moderately show improved feelings, better mental health, greater sociability and social

integration, higher incomes, and particularly better long-term cognitive functioning. Drinking small amounts of alcohol linked to various health benefits. On the other hand, alcohol abuse and alcohol addiction are linked to severe negative effects on both physical and mental health. The social and psychological benefits of alcohol can't be ignored. A drink before a meal can improve digestion or offer a soothing respite at the end of a stressful day; the occasional drink with friends can be a social tonic. These physical and social effects may also contribute to physical and mental health well-being.

Cigarette smoking is the single largest preventable cause of death and disability in the industrialized world (Centers for Disease Control and Prevention, 2004). In addition to cardiovascular and pulmonary disease, smokers are at a higher risk from injuries, vehicular accidents as well as psychiatric co-morbid illness such as depression and suicide (Moriya F, 2005; Riala K, 2007).

Regarding to smoking status in the life time of participants, the percentage of participant without smoking were 53.2 percent while the percentage of ex-smoker were 26.4 percent. The association between ex-smoker and suicidal ideation was found also in multivariate analysis. A study among U.S. adults showed that smoking increases the risk with poor mental health and its effects tend to be more severe mental problem (Plurphanswat Nantaporn, 2017).

In this study, transgender women were found that those who were ex-smoker were 3.51 times more likely to be at risk for suicidal ideation than those who did not smoking. Similar result with a cross-sectional study among 3481 individuals from households within East Baltimore in which former smokers were more likely to get suicidal ideation than non-smokers (Diana E. Clarke, 2010). The study result was also supported by another study that smokers had higher risk of suicidal ideation compared to non-smokers (Bronisch T, 2007).

Psychological well-being is also due to social support. When people faced in stressful life events, social support can reduce psychological distress such as anxiety, depression or suicidal ideation (Folkman, 1991).

For social support, the percentage of participant perceived low social support were 8.9 percent, moderate social support were 43.2 percent and high social support were 47.9 percent.

One of the causes of depression among transgender people is the lack of social support. The association between low perceived support, moderate perceived support and depression, suicidal ideation was found in this study also.

Transgender individuals are exposed to a variety of psychosocial challenges and have been found to be at an increased risk of loss of social support (Budge SL, 2013). Less social support was associated with increased vulnerability to mental health problems, especially for anxiety and depressive symptoms. A discrepancy of perceive social support was found among transgender women because of gender identity and transition (Yang X, 2016). A study of male to female in United States showed that transgender individuals with less social support might address psychological challenges more negatively, which may elevate their risk of developing depression (Rogério M. Pinto, 2008). Similarly, a study among U.S. transgender women presented that social support was significantly correlated with depression of transgender individuals with fear to exposing that they are transgender and rejecting by their family and friends (Tooru Nemoto, 2010). The research among LGBT in United States examine the role of different sources of social support, such as family, peers, or significant others. Most of them focused on family support, which has been negatively associated with depressive symptoms and suicidality. Conversely, family rejection and low social support has been associated with increased depression and suicide behaviors (Elizabeth A. McConnell, 2015).

In contrast, transgender people with more social support, who could receive assistance and resources to cope with the stress of their gender identity, in awkward situation, tend to positively respond to the life events and smoothness of gender transition (Stephanie L Budge, 2013). This also helped in attenuating the anxiety and depressive symptoms. However, social support from family members, friends and society that transgender people could take advantage of, are usually scare, as consistent with Factor and Rothblums's study (Factor RJ, 2007). Thus, social support may play an extremely important role in the adaptation to major life events.

Even though transgender people affect by issues related to their gender identity or gender expression (Herman, 2009), the sources of social support that were most protective of depression varied across the life periods. Evidence was also highly consistent for high social support as a protective factor against mental health problems.

Family support was most consistently associated with protection from depression, suicidal ideation or suicidal behavior (Pettit JW, 2011)

According to the result of study, majority of transgender people had high social support with 47.9%. This result indicated that now transgender people are accepted by the community and got a lot of support from many organizations which are only specific to LGBTQ community compared to past time. In those organizations, there are consultants for not only discussion and receiving treatment with health and social problems but also standing them for human rights.

There cannot be deny that parents, teachers and peers are important factor for growing up a child into physical and psychological well-being of adult. In the past time, from secondary school of health education subject, sexual deviation was abnormal behavior and health problem considered as sexual dysfunction which may cause social problems but now it is totally changed. Ministry of Education accepted about sexual diversity into the health education program since every primary school starting this year for the whole country. Sex education is not just about having sex but about gender, sexuality, diversity, human right, gender equality, reproductive health and well-being also. This policy affects the community not only students but also teachers, parents understanding about sexual diversity and transgender community. They were not fear to coming out and exposing that they are transgender.

According to a survey by German housing platform Nestpick in 2017, Bangkok placed 61st in its ranking of the world's 100 best LGBTQ destinations. Bangkok is famous for its open and visible communities of transgender (GmbH, 2017). This recognition will allow transgender persons to access the social benefits available and also help in areas such as employment and housing, as well as in promoting the equal rights of transgender citizens to the broader society.

Because of the greater visibility and social support of public on people of diverse sexual and gender identity and expression, LGBTQ individuals today enjoy more freedom in expressing their identities. Worldwide advocacy for LGBTQ rights, increased trends of global acceptance of diverse sexual orientations and gender identities, and greater access to information through the Internet and social media, has also influenced Thai society to be more understanding of Thai LGBTQ people (UNDP, 2014). Nowadays around the world including Thailand, there are many campaigns to

promote sexual orientation and rights of LGBTQ people. It can be seen that social support is very important. If transgender people are neglected from their peers and people in society, it will result in many disadvantages on physical, mental health and social problems. On the other hand, if they receiving high social support, it can be a protective factor for depression and suicidal ideation.

Conclusion

Transgender women referred as male-to-female those who was born as a male but identified themselves and lived as a female. Among LGBTQ community, the mental health has been one of the greatest areas of clinical concern (Cochran SD, 2003) and transgender women being the highest risk for mental health problem in this community (Bockting WO, 2013). In United States, previous study showed that transgender people had a higher rate of depression and suicidal ideation than general population and the study also showed that transgender women having depression in their life time were with 62 percent (Hoffman, 2014). In this study, data were collected in transgender women living in Bangkok, Thailand. The percentage of transgender women with depression were 58.3 percent and the percentage of transgender women with suicidal ideation were 55 percent. Unfortunately, there was no national level health surveillance survey presenting about rate of depression and suicidal ideation or suicidal attempt of these group.

In this study, the participants age was range from 18 to 53 and most of them were 25 to 30 years old. Nearly one-fourth of participants were transgender youth. Regarding to the educational level, most of the participants were with bachelor degree. Their career background was quite various such as company employee, government officer, business owner freelancer (i.e. makeup artist, hair stylist, model, dancer) and cabaret actress. Most participants lived with their family but there were a lot of participants that lived alone also. In term of having sexual partnership, almost half of participants had no sexual partnership while some of them had sexual behavior with causal sexual partnership. Mostly, they were healthy without any illness history while some of them were with illness history such as allergy, hypertension, migraine. Transgender women often took hormones and also had some surgery to feminize their

bodies and/or face (Trans, 2018). Surprisingly, three-fourth of participants in this current study did not do sex reassignment surgery but most of them took the cross-sex hormone. There was also positive outcome in the risk behavior of transgender women such as more than half of them never had experience with smoking and almost all of them never used drugs or other substance. On the other hand, more than half of them were drinking alcohol.

Moreover, the protective factor for depression was found in this study. Surprisingly, Transgender women who were drinking alcohol 1 to 3 day per month had less likely to be at risk depression than those who were not drinking alcohol.

According to the data, among many factors that caused depression and suicidal ideation in transgender women, perceived social support were associated with depression and suicidal ideation. A high burden of depression and suicidal ideation was prevalent among transgender women in Bangkok, Thailand and negatively associated with perceived social support. Future depression and suicidal ideation prevention programs should target transgender women community. From findings of this study, we will know the factors that associate with depression and suicidal ideation among transgender women in Bangkok, Thailand. This research will create ideas for further research in this field also. It will be increased our understanding of reason behind depression and suicidal ideation among transgender women in Bangkok, Thailand.

Limitation

Transgender people are relatively hidden population. Although our identified sample included residents throughout Bangkok, currently there was no probability data inclusive of transgender individuals in the general population. Thus, transgender women of this study could not be representative of the transgender women population in Bangkok or other area.

This study focused on only depression and suicidal ideation among transgender women, that not many previous studied in Thailand. For this study, the target population is focused on transgender women who have been living in Bangkok, Thailand only. Therefore, only the snowball sampling that suitable for the populations in this study because transgender people are one kind of society to reach hard to communicate and this sampling method can achieve research objective.

Self-report assessments may be associated with recall biases because some question asking about risk behavior was in the previous time.

The questionnaire of smoking status in this study can be viewed as limited because it did not include information on quantity and frequency of smoking.

Recommendation

The mental health of transgender people should be given a greater priority together with appropriate funding resources, according to the existing needs.

Supporting the mental health of transgender people should be seen as a strategic investment which creates many long-term benefits for individuals, societies and health system.

Mental health services for transgender people should be provided by primary care with some specialist support, for example through one day training on mental health for primary health care staff.

For future study, more in depth study of the influence of depression and suicidal ideation on negative health outcomes among Thai transgender women.

In this study, depression and suicidal ideation rate was high. Therefore, further studies should focus on intervention study to reduce depression and suicidal ideation.

From our finding about alcohol drinking, future studies need to focus on the factors that can explain the observed higher risk of depression among non-drinker and heavy drinker compare to light and moderate drinker.

Expected Benefit & Application

From the results, this study presented the rate of depression and suicidal ideation among transgender women in Bangkok, Thailand.

From findings, this study showed the factors that associated with depression and suicidal ideation among transgender women in Bangkok, Thailand.

This research might create ideas for further research in this field also. It will be increased our understanding of reason behind depression and suicidal ideation among transgender women in Bangkok, Thailand.

Appendix

Appendix A
Content validity

Indexes of Item-Objective Congruence: IOC

Content validity of the questionnaires are provided by three experts.

1. Asst. Prof. Naowarat Kanchanakhan, Ph.D : College of Public health Sciences. Chulalongkorn University.
2. Nuchanad Hounnaklang, Ph.D : College of Public health Sciences. Chulalongkorn University.
3. Montakarn Chuemchit, Ph.D : College of Public health Sciences. Chulalongkorn University.

IOC (item-objective congruence) – content experts rate items regarding how well they do (or do not) tap the established objectives. The ratings are as follows:

+1: item clearly taps objective
0: unsure/ unclear
-1: item clearly does not tap objective

And bring the information from the expert's consideration and calculate the Indexes of Item-Objective Congruence: IOC value from the formula

$$IOC = \frac{\Sigma R}{N}$$

ΣR The sum of the points from the expert's consideration

N Number of experts

In order to validating the questionnaires, three experts scored the questionnaire as IOC and summed up and divided by three. The score is ranging from -1 to +1. Interpret IOC manually. The criteria for determining the IOC value, if the value is 0.50 or higher, indicates that the question is measured at the purpose. Or exactly that content, indicating that the question is valid

No.	1st expert	2nd expert	3rd expert	IOC	Result
Part 2					
1	1	1	1	1	Agree
2	1	1	1	1	Agree
3	1	1	0	0.66	Agree
4	1	1	1	1	Agree
5	1	1	0	0.66	Agree
6	1	1	0	0.66	Agree
7	1	1	1	1	Agree
8	1	1	1	1	Agree
9	1	1	1	1	Agree
10	1	1	1	1	Agree
11	1	1	1	1	Agree
12	1	1	1	1	Agree
Part 3					
1	1	1	1	1	Agree
2	1	1	1	1	Agree
3	1	1	1	1	Agree
4	1	1	1	1	Agree
5	1	1	1	1	Agree
6	1	1	0	0.66	Agree
7	1	1	1	1	Agree
8	1	1	1	1	Agree
9	1	1	1	1	Agree
10	1	1	1	1	Agree

No.	1st expert	2nd expert	3rd expert	IOC	Result
11	1	1	1	1	Agree
12	1	1	1	1	Agree
13	1	1	1	1	Agree
14	1	1	1	1	Agree
15	1	1	1	1	Agree
16	1	1	1	1	Agree
17	1	1	1	1	Agree
18	1	1	1	1	Agree
19	1	1	1	1	Agree
20	1	1	1	1	Agree
Part 4					
1	1	1	1	1	Agree
2	0	1	1	0.66	Agree
3	1	1	1	1	Agree
4	1	1	1	1	Agree
5	1	1	1	1	Agree

Appendix B
Reliability

of Multi-dimensional Scale of Perceived Social Support: r-T-MSPSS

When analyzing data for the reliability of the Multi-dimensional Scale of Perceived Social Support: r-T-MSPSS questionnaire, the Cronbach's Alpha Coefficient value is 0.93

Reliability Statistics

Cronbach's Alpha	N of Items
.938	12

Item Statistics			
No	**Mean**	**Std. Deviation**	**N**
1	5.20	1.808	30
2	4.70	2.020	30
3	5.07	1.999	30
4	4.87	2.177	30
5	4.77	2.373	30
6	5.03	2.042	30
7	4.47	2.080	30
8	4.70	2.152	30
9	4.80	2.172	30
10	4.83	2.260	30
11	4.93	2.258	30
12	5.30	1.950	30

Reliability

of Center for Epidemiological Studies-Depression Scale (CES-D)

When analyzing data for the reliability of the Center for Epidemiological Studies-Depression Scale (CES-D) questionnaire, the Cronbach's Alpha Coefficient value is 0.93

Reliability Statistics

Cronbach's Alpha	N of Items
.917	20

Item Statistics			
No	**Mean**	**Std. Deviation**	**N**
1	1.30	.794	30
2	.73	.785	30
3	1.00	.983	30
4	1.43	1.006	30
5	1.17	.874	30
6	.87	.900	30
7	.83	.950	30
8	1.20	1.157	30
9	.90	.995	30
10	.73	1.015	30
11	1.43	.971	30
12	1.17	.874	30
13	.93	1.015	30
14	1.23	.898	30
15	.73	.828	30
16	1.33	.884	30
17	.83	.928	30
18	.93	.868	30
19	.57	.626	30
20	.97	.964	30

Reliability

of The Columbia–Suicide Severity Rating Scale (C-SSRS)

When analyzing data for the reliability of The Columbia–Suicide Severity Rating Scale (C-SSRS) questionnaire, the Cronbach's Alpha Coefficient value is 0.89

Reliability Statistics

Cronbach's Alpha	N of Items
.918	5

Item Statistics			
No	**Mean**	**Std. Deviation**	**N**
1	.50	.509	30
2	.40	.498	30
3	.30	.490	30
4	.37	.466	30
5	.13	.346	30

Appendix C
Participant Information Sheet

ข้อมูลสำหรับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย

ชื่อโครงการวิจัย	ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ จังหวัดกรุงเทพมหานคร ประเทศไทย
ชื่อผู้วิจัย	นางสาวปานแก้ว ตันติรัตนกุลชัย
ตำแหน่ง	นิสิตระดับปริญญาโท วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย
สถานที่ติดต่อผู้วิจัย	(ที่ทำงาน) 17/3 ถนนเพลินจิต แขวงลุมพินี เขตปทุมวัน กรุงเทพมหานคร 10330 (ที่บ้าน) 31/7 ตำบลท่าใหม่ อำเภอท่าใหม่ จังหวัดจันทบุรี 22120
โทรศัพท์มือถือ	08-6848-9753 E-mail : Lookkaew2316@gmail.com

1. ขอเรียนเชิญท่านเข้าร่วมในการวิจัยก่อนที่ท่านจะตัดสินใจเข้าร่วมในการวิจัย มีความจำเป็นที่ท่านควรทำความเข้าใจว่างานวิจัยนี้ทำเพื่อศึกษาความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ ในกรุงเทพมหานคร ประเทศไทย งานวิจัยนี้ “สตรีข้ามเพศ” หมายถึง คนข้ามเพศ จากชายข้ามเพศเป็นหญิง ชายที่มีความต้องการที่จะเปลี่ยนเพศเป็นผู้หญิงให้สอดคล้องกับรูปลักษณ์ที่อยากเป็น มีความปรารถนาจากก้นบึ้งที่จะใช้ชีวิตอยู่ในอีกเพศสภาพหนึ่ง กรุณาใช้เวลาในการอ่านข้อมูลต่อไปนี้อย่างละเอียดรอบคอบ และสามารถสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา

2. งานวิจัยครั้งนี้ เป็นงานวิจัยเรื่อง ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ จังหวัดกรุงเทพมหานคร ประเทศไทย โดยมีวัตถุประสงค์ของการวิจัยเพื่อศึกษาความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ ในจังหวัดกรุงเทพมหานคร ประเทศไทย โดยคำถามทั้งหมดแบ่งเป็น 4 ส่วน คือ ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไป ส่วนที่ 2 แบบสอบถามความรู้สึก

หลากหลายมิติเกี่ยวกับความช่วยเหลือทางสังคม ส่วนที่ 3 แบบประเมินภาวะซึมเศร้า และส่วนที่ 4 แบบประเมินความคิดฆ่าตัวตาย

3. ผู้ให้ข้อมูลคือ สตรีข้ามเพศ ซึ่งมีเกณฑ์การคัดเข้า คือ สตรีข้ามเพศที่มีอายุ 18 ปีขึ้นไป อาศัยอยู่ในกรุงเทพมหานครอย่างน้อยเป็นเวลา 6 เดือน ไม่จำกัดสถานะการแปลงเพศ แต่ต้องเปลี่ยนรูปลักษณ์ภายนอกและใช้ชีวิตเหมือนผู้หญิง ต้องไม่เคยได้รับการวินิจฉัยว่ามีภาวะซึมเศร้ามาก่อน มีความสามารถในการสื่อสาร อ่านและเขียนภาษาไทยได้เป็นอย่างดี และมีความยินดีในการเข้าร่วมเป็นผู้ให้ข้อมูลในการวิจัย เกณฑ์การคัดออก คือ สตรีข้ามเพศที่มีความคิดหรือวางแผนที่จะกลับมาเป็นชายหรือเกย์ การวิจัยครั้งนี้มีผู้เข้าร่วมในการวิจัย จำนวน 280 คน

4. ผู้ดำเนินการวิจัย คือ นางสาวปานแก้ว ตันติรัตนกุลชัย และคณะนักวิจัย จะทำการนำแบบสอบถามความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย โดยผู้มีส่วนร่วมในการวิจัยจะใช้เวลาประมาณ 20 นาทีในการตอบแบบสอบถาม เอกสารบันทึกข้อมูลจะถูกเผาทำลายเมื่อการวิจัยเสร็จสิ้นตามกระบวนการ สถานที่เก็บแบบสอบถาม คือ ศูนย์สุขภาพชุมชนแทนเจอรีน สมาคมฟ้าสีรุ้งแห่งประเทศไทย มหาวิทยาลัยจำนวน 5 แห่ง (มหาวิทยาลัยกรุงเทพ, มหาวิทยาลัยรังสิต, มหาวิทยาลัยหอการค้าไทย, มหาวิทยาลัยธุรกิจบัณฑิตย์, มหาวิทยาลัยราชภัฏสวนสุนันทา) โดยสถานที่ในการทำแบบสอบถาม ทางศูนย์ให้บริการและสมาคมจะจัดเตรียมห้องที่มีความเป็นส่วนตัวไว้ให้สำหรับผู้มีส่วนร่วมในการวิจัยในการทำแบบสอบถาม สำหรับในมหาวิทยาลัยจะทำแบบสอบถามในบริเวณห้องสมุดของมหาวิทยาลัย

5. กระบวนการให้ข้อมูลแก่กลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย กระทำด้วยวิธีการอ่านและอธิบายให้แก่ผู้ตอบแบบสอบถามฟัง โดยผู้ดำเนินการวิจัย คือ นางสาวปานแก้ว ตันติรัตนกุลชัย และคณะนักวิจัย เพื่อขอความยินยอมในการเข้าร่วมการวิจัย

6. หากผู้ดำเนินการวิจัยพบว่า ผู้มีส่วนร่วมในการวิจัยในครั้งนี้มีปัญหาด้านจิตใจ เช่น ภาวะซึมเศร้า หรือมีความคิดฆ่าตัวตาย ผู้ดำเนินการวิจัยจะให้คำปรึกษาและให้คำแนะนำแก่ผู้มีส่วนร่วมในการวิจัยเพื่อพบนักจิตวิทยาทันที

7. การเข้าร่วมวิจัยครั้งนี้ไม่มีอันตรายหรือความเสี่ยงกับกลุ่มประชากรหรือผู้มีส่วนร่วมในการวิจัย มีการรักษาข้อมูลอย่างเป็นความลับ และไม่สามารถเชื่อมโยงไปถึงตัวของผู้มีส่วนร่วมในการวิจัย เอกสารที่ได้จากการตอบแบบสอบถามของผู้มีส่วนร่วมในการวิจัยจะถูกทำลายทันทีหลังเสร็จสิ้นการวิจัย ข้อมูลที่ได้รับจากการตอบแบบสอบถามของผู้มีส่วนร่วมในการวิจัยจะถูกเก็บเป็นความลับ และนำเสนอผลงานวิจัยในภาพรวม ไม่มีการระบุชื่อ-นามสกุล หรือข้อมูลที่จะระบุความเป็นตัวตนของท่าน จะไม่ปรากฏในรายงานการวิจัย อย่างไรก็ตาม ผู้มีส่วนร่วมในการวิจัยอาจรู้สึกไม่สบายใจหรืออึดอัดในการตอบข้อคำถามบางข้อ เนื่องจากความเป็นส่วนตัว ซึ่งหากเกิดกรณีดังกล่าวขึ้น ผู้มีส่วนร่วมในการวิจัยสามารถที่จะไม่ตอบข้อคำถามหรือขอยุติการตอบแบบสอบถามได้ โดยไม่มีผลกระทบใดๆ

8. ท่านจะไม่ได้รับประโยชน์โดยตรงจากงานวิจัย ข้อมูลที่ได้จากงานวิจัยนี้จะเป็นประโยชน์ต่อการเฝ้าระวังภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กล่าวคือ นำข้อมูลที่ได้ไปประยุกต์ใช้ในการพัฒนาโปรแกรมส่งเสริมสุขภาพจิต เพื่อเป็นการป้องกันการเกิดภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศให้กับสังคมและหน่วยงานที่เกี่ยวข้อง

9. การเข้าร่วมในการวิจัยของท่านเป็นโดย**สมัครใจ** และสามารถ**ปฏิเสธ**ที่จะเข้าร่วมหรือ**ถอนตัว**จากการวิจัยได้ทุกขณะ โดยไม่ต้องให้เหตุผล ซึ่งการปฏิเสธการเข้าร่วมวิจัยในครั้งนี้จะไม่มีผลกระทบต่อการดำเนินชีวิตและการประกอบอาชีพของท่านแต่อย่างใด

10. การวิจัยครั้งนี้ได้ผ่านการพิจารณาด้านจริยธรรมในมนุษย์จากคณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ของจุฬาลงกรณ์มหาวิทยาลัยแล้ว

11. การวิจัยครั้งนี้มีพวงกุญแจเป็นของที่ระลึก ราคา 80 บาทให้สำหรับผู้มีส่วนร่วมในการวิจัย

หากท่านไม่ได้รับการปฏิบัติตามข้อมูลดังกล่าวสามารถร้องเรียนได้ที่ คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย 254 อาคารจามจุรี 1 ชั้น 2 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330 โทรศัพท์/โทรสาร 0-2218-3202 E-mail: eccu@chula.ac.th

Appendix D

Informed consent form

หนังสือแสดงความยินยอมเข้าร่วมการวิจัย

ทำที่.....

วันที่.....เดือน.....พ.ศ. .....

เลขที่ ประชากรตัวอย่างหรือผู้มีส่วนร่วมในการวิจัย…..……

ชื่อโครงการวิจัย ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ จังหวัดกรุงเทพมหานคร ประเทศไทย

ชื่อผู้วิจัย นางสาวปานแก้ว ตันติรัตนกุลชัย

ที่อยู่ที่ติดต่อ 17/3 ถนนเพลินจิต แขวงลุมพินี เขตปทุมวัน กรุงเทพมหานคร 10330

โทรศัพท์ 08-6848-9753 E-mail Address : Lookkaew2316@gmail.com

ข้าพเจ้า **ได้รับทราบ**รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง/อันตราย และประโยชน์ซึ่งจะเกิดขึ้นจากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด และ**ได้รับคำอธิบาย**จากผู้วิจัย **จนเข้าใจเป็นอย่างดี**แล้ว

ข้าพเจ้าจึง**สมัครใจ**เข้าร่วมในโครงการวิจัยนี้ ตามที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย โดยข้าพเจ้ายินยอมตอบแบบสอบถามความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย ใช้เวลาประมาณ 20 นาที เอกสารบันทึกข้อมูลจะถูกเผาทำลายเมื่อการวิจัยเสร็จสิ้นตามกระบวนการ

ข้าพเจ้ามีสิทธิ**ถอนตัว**ออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล** ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบในทางใดๆต่อการดำเนินชีวิตและการประกอบอาชีพของข้าพเจ้าทั้งสิ้น

ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และข้อมูลใดๆ ที่เกี่ยวข้องกับข้าพเจ้า ผู้วิจัยจะ**เก็บรักษาเป็นความลับ** โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวข้าพเจ้า

หากข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าสามารถร้องเรียนได้ที่คณะกรรมการพิจารณาจริยธรรมการวิจัยในคน กลุ่มสหสถาบัน ชุดที่ 1 จุฬาลงกรณ์มหาวิทยาลัย 254 อาคารจามจุรี 1 ชั้น 2 ถนนพญาไท เขตปทุมวัน กรุงเทพฯ 10330 โทรศัพท์/โทรสาร 0-2218-3202 **E-mail: eccu@chula.ac.th**

Appendix E
Questionnaire

เลขที่แบบสอบถาม.....

แบบสอบถาม

เรื่อง ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตาย ในสตรีข้ามเพศ จังหวัดกรุงเทพมหานคร ประเทศไทย

<u>คำชี้แจง</u>

แบบสอบถามฉบับนี้ เป็นแบบสอบถามเกี่ยวกับ แรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย โดยในการตอบแบบสอบถามจะใช้เวลาประมาณ 20 นาที มีวัตถุประสงค์เพื่อศึกษา ความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย แบบสอบถามชุดนี้ประกอบด้วย 4 ส่วน รวม 56 ข้อ 7 หน้า ดังนี้

ส่วนที่ 1	แบบสอบถามข้อมูลทั่วไป	จำนวน	18	ข้อ
ส่วนที่ 2	แบบสอบถามความรู้สึกหลากหลายมิติเกี่ยวกับความช่วยเหลือทางสังคม (The Revised-Thai version of the Multi-dimensional Scale of Perceived Social Support: r-T-MSPSS)	จำนวน	12	ข้อ
ส่วนที่ 3	แบบประเมินภาวะซึมเศร้า (CES-D)	จำนวน	20	ข้อ
ส่วนที่ 4	แบบประเมินความคิดฆ่าตัวตาย (Suicidal Ideation)	จำนวน	5	ข้อ

ข้อมูลจากแบบสอบถามจะถูกนำไปวิเคราะห์ในลักษณะภาพรวม และข้อมูลที่ได้นี้จะเป็นประโยชน์อย่างยิ่งในการศึกษาความสัมพันธ์ระหว่างแรงสนับสนุนทางสังคมต่อภาวะซึมเศร้าและความคิดฆ่าตัวตายในสตรีข้ามเพศ กรุงเทพมหานคร ประเทศไทย หากท่านมีข้อสงสัยประการใดเกี่ยวข้องกับปัญหาด้านจริยธรรม ท่านสามารถติดต่อสอบถามได้ที่ คณะกรรมการจริยธรรมการวิจัย จุฬาลงกรณ์มหาวิทยาลัย หากท่านมีข้อสงสัยใดๆเกี่ยวกับแบบสอบถาม โปรดติดต่อ นางสาวปานแก้ว ตันติรัตนกุลชัย ได้ที่วิทยาลัยวิทยาศาสตร์สาธารณสุข จุฬาลงกรณ์มหาวิทยาลัย หมายเลขโทรศัพท์ 08-6848-9753

ขอขอบคุณที่ให้ความร่วมมือมา ณ โอกาสนี้

นางสาวปานแก้ว ตันติรัตนกุลชัย

ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไป

<u>คำชี้แจง</u> โปรดทำเครื่องหมาย √ ลงในช่อง [ ] และเติมคำในช่องว่าง.....ให้ตรงกับความเป็นจริงมากที่สุด

1. อายุ.....ปี
2. ศาสนา
   1. [ ] พุทธ 2. [ ] คริสต์ 3. [ ] อิสลาม
   4. [ ] อื่นๆ โปรดระบุ.....
3. ระดับการศึกษา
   1. [ ] ไม่ได้ศึกษา 2. [ ] ประถมศึกษา 3. [ ] มัธยมศึกษา / ปวช.
   4. [ ] ปวส. / อนุปริญญา 5. [ ] ปริญญาตรี 6. [ ] สูงกว่าปริญญาตรี
4. รายได้ต่อเดือน
   1. [ ] ไม่มีรายได้ 2. [ ] 10,000 หรือน้อยกว่า 3. [ ] 10,001-20,000
   4. [ ] 20,001-30,000 5. [ ] 30,001-40,000 6. [ ] 40,001-50,000
   7. [ ] มากกว่า 50,000
5. ความพอเพียงของรายได้
   1. [ ] ไม่มีรายได้ 2. [ ] มีรายได้เพียงพอและมีเหลือเก็บ
   3. [ ] มีรายได้เพียงพอและไม่มีเหลือเก็บ 4. [ ] มีรายได้ไม่เพียงพอ
6. อาชีพปัจจุบันของท่าน
   1. [ ] นักศึกษา 2. [ ] ว่างงาน 3. [ ] พนักงานของรัฐ
   4. [ ] พนักงานของรัฐวิสาหกิจ 5. [ ] พนักงานบริษัทเอกชน 6. [ ] ธุรกิจส่วนตัว

7. [ ] รับจ้างทั่วไป 8. [ ] อื่นๆ โปรดระบุ.....

7. บุคคลที่ท่าอาศัยอยู่ด้วยในปัจจุบัน (ตอบได้มากกว่า 1 ข้อ)

1. [ ] อยู่คนเดียว 2. [ ] อยู่กับครอบครัว 3. [ ] อยู่กับคู่

4. [ ] อยู่กับเพื่อน 5. [ ] อื่นๆ โปรดระบุ.....

8. ท่านผ่าตัดแปลงเพศแล้ว

1. [ ] ไม่ใช่ 2. [ ] ใช่ ระยะเวลานานเท่าไหร่ ☐☐ ปี ☐☐ เดือน

9. ท่านมีคู่นอนหรือไม่

1. [ ] ไม่มี 2. [ ] มี (ตอบได้มากกว่า 1 ข้อ)

[ ] 2.1 คู่นอนประจำ] 2.2 คู่นอนชั่วคราว

10. ในช่วง 12 เดือนที่ผ่านมา ท่านมีคู่นอนกี่คน

1. [ ] 0 คน 2. [ ] 1 คน 3. [ ] มากกว่า 1 คน

11. ท่านมีโรคประจำตัว

1. [ ] ไม่มี 2. [ ] มี (ตอบได้มากกว่า 1 ข้อ)

[ ] 2.1 ความดันโลหิตสูง

[ ] 2.2 เบาหวาน

[ ] 2.3 โรคหัวใจ

[ ] 2.4 โรคไทอยด์

[ ] 2.5 โรคไตวายเรื้อรัง

[ ] 2.6 โรคมะเร็ง

[ ] 2.7 อื่นๆ โปรดระบุ.....

12. ท่านมีการใช้ฮอร์โมนเพศหญิง

    1. [ ] ไม่ใช้ 2. [ ] ใช้ โปรดระบุฮอร์โมนที่ใช้…….

13. ท่านเริ่มมีการใช้ฮอร์โมนเพศหญิงครั้งแรก เมื่อท่านมีอายุเท่าไหร่

    ☐☐ ปี ☐☐ เดือน

14. ท่านมีการใช้ฮอร์โมนเพศหญิงเป็นระยะเวลานานเท่าไหร่ ☐☐ปี ☐☐ เดือน

15. <u>ในช่วงระยะเวลา 12 เดือนที่ผ่านมา</u> ท่านดื่มเครื่องดื่มที่ผสมแอลกอฮอล์

    1. [ ] ไม่ดื่ม 2. [ ] น้อยกว่า 1 ครั้ง /เดือน 3. [ ] 1-3 วัน/เดือน

    4. [ ] 1-2 วัน/สัปดาห์ 5. [ ] 3-4 วัน/สัปดาห์ 6. [ ] 5-6 วัน/สัปดาห์

    7. [ ] ทุกวัน

16. <u>ในตลอดช่วงชีวิต</u> ท่านเคยสูบบุหรี่ หรือบุหรี่มวนเอง (ยาเส้น) หรือใช้ยาสูบประเภทอื่นๆ เช่น บารากุ บุหรี่ไฟฟ้า หรือ ไปป์ หรือซิการ์

    1. [ ] ไม่เคย 2. [ ] เคย (ปัจจุบันยังสูบอยู่) 3. [ ] เคยปัจจุบันเลิกแล้ว

17. ท่านสูบบุหรี่ หรือบุหรี่มวนเอง (ยาเส้น) หรือใช้ยาสูบประเภทอื่นๆ เช่น ยานัตถุ ยาเส้นเคี้ยว บารากุหรือบุหรี่ไฟฟ้า เป็นระยะเวลานานเท่าไหร่ ☐☐ปี ☐☐ เดือน

18. <u>ในช่วงระยะเวลา 12 เดือนที่ผ่านมา</u> ท่านใช้สารเสพติด

    1. [ ] ไม่ใช้ 2. [ ] ใช้ (ตอบได้มากกว่า 1 ข้อ)

    [ ] 2.1 ยาบ้า [ ] 2.2 ยาอี / ยาเลิฟ / เอ็คซ์ตาซี

    [ ] 2.3 ยาเค [ ] 2.4 กัญชา

    [ ] 2.5 เฮโรอีน [ ] 2.6 โคเคน

    [ ] 2.7 อื่นๆ โปรดระบุ…….

ส่วนที่ 2 แบบสอบถามความรู้สึกหลากหลายมิติเกี่ยวกับความช่วยเหลือทางสังคม

คำชี้แจง โปรดทำเครื่องหมาย √ ตัวเลขที่ตรงกับความรู้สึกของท่านมากที่สุด ซึ่งมีคำตอบให้เลือก 7 ระดับ (**บุคคลพิเศษ หมายถึง บุคคลที่นอกเหนือจากเพื่อนและครอบครัว)

	ในระยะเวลา 1 เดือนที่ผ่านมา	ระดับความรู้สึกของท่าน						
		ไม่เห็นด้วยอย่างมาก	ไม่เห็นด้วย	ค่อนข้างไม่เห็นด้วย	เห็นด้วยบ้างไม่เห็นด้วยบ้าง	ค่อนข้างเห็นด้วย	เห็นด้วย	เห็นด้วยอย่างมาก
1.	มีบุคคลพิเศษที่คอยช่วย หากฉันต้องการความช่วยเหลือขึ้นมา	1	2	3	4	5	6	7
2.	มีบุคคลพิเศษที่สามารถร่วมทุกข์ร่วมสุขกับฉันได้	1	2	3	4	5	6	7
3.	ครอบครัวของฉันพยายามช่วยฉันจริงๆ	1	2	3	4	5	6	7
4.	ฉันได้รับการสนับสนุนและช่วยเหลือด้านจิตใจจากครอบครัวตามที่ฉันต้องการ	1	2	3	4	5	6	7
5.	ฉันมีบุคคลพิเศษ ซึ่งเป็นผู้ให้ความสบายใจแก่ฉันจริงๆ	1	2	3	4	5	6	7
6.	เพื่อนของฉันพยายามช่วยฉันจริงๆ	1	2	3	4	5	6	7
7.	ฉันสามารถพึ่งพาอาศัยเพื่อนได้เมื่อมีปัญหาขึ้นมา	1	2	3	4	5	6	7
8.	ฉันสามารถเล่าปัญหาของฉันให้ครอบครัวฟังได้	1	2	3	4	5	6	7
9.	ฉันมีเพื่อนผู้ซึ่งสามารถร่วมทุกข์ร่วมสุขกับฉันได้	1	2	3	4	5	6	7
10.	มีบุคคลพิเศษในชีวิตที่คอยห่วงใยความรู้สึกฉัน	1	2	3	4	5	6	7
11.	ครอบครัวของฉันเต็มใจที่จะช่วยฉันในการตัดสินใจ	1	2	3	4	5	6	7
12.	ฉันสามารถเล่าปัญหาของฉันให้เพื่อนฟังได้	1	2	3	4	5	6	7

ส่วนที่ 3 แบบประเมินภาวะซึมเศร้า

<u>คำชี้แจง</u> ท่านมีความรู้สึกใดต่อไปนี้บ่อยเพียงใดใน **1 สัปดาห์ที่ผ่านมา** กรุณา √ ลงในช่องที่ตรงกับความรู้สึกของท่านมากที่สุด

ในระยะ 1 สัปดาห์ที่ผ่านมา		ไม่เลย (<1วัน)	นานๆครั้ง (1-2 วัน)	บ่อยๆ (3-4 วัน)	ตลอดเวลา (5-7 วัน)
1.	ฉันรู้สึกหงุดหงิดง่าย				
2	ฉันรู้สึกเบื่ออาหาร				
3.	ฉันไม่สามารถขจัดความเศร้าออกจากใจได้ แม้จะมีคนคอยช่วยเหลือก็ตาม				
4.	ฉันรู้สึกว่าตนเองดีพอๆกับคนอื่น				
5.	ฉันไม่มีสมาธิ				
6.	ฉันรู้สึกหดหู่				
7.	ทุกๆสิ่งที่ฉันกระทำจะต้องฝืนใจ				
8.	ฉันมีความหวังเกี่ยวกับอนาคต				
9.	ฉันรู้สึกว่าชีวิตมีแต่สิ่งล้มเหลว				
10.	ฉันรู้สึกหวาดกลัว				
11.	ฉันนอนไม่ค่อยหลับ				
12.	ฉันมีความสุข				
13.	ฉันไม่ค่อยอยากคุยกับใคร				
14.	ฉันรู้สึกเหงา				
15.	ผู้คนทั่วไปไม่ค่อยเป็นมิตรกับฉัน				
16.	ฉันรู้สึกว่าชีวิตนี้สนุกสนาน				
17.	ฉันร้องไห้				
18.	ฉันรู้สึกเศร้า				
19.	ผู้คนรอบข้างไม่ชอบฉัน				
20.	ฉันรู้สึกท้อถอยในชีวิต				

ส่วนที่ 4 แบบประเมินความคิดฆ่าตัวตาย

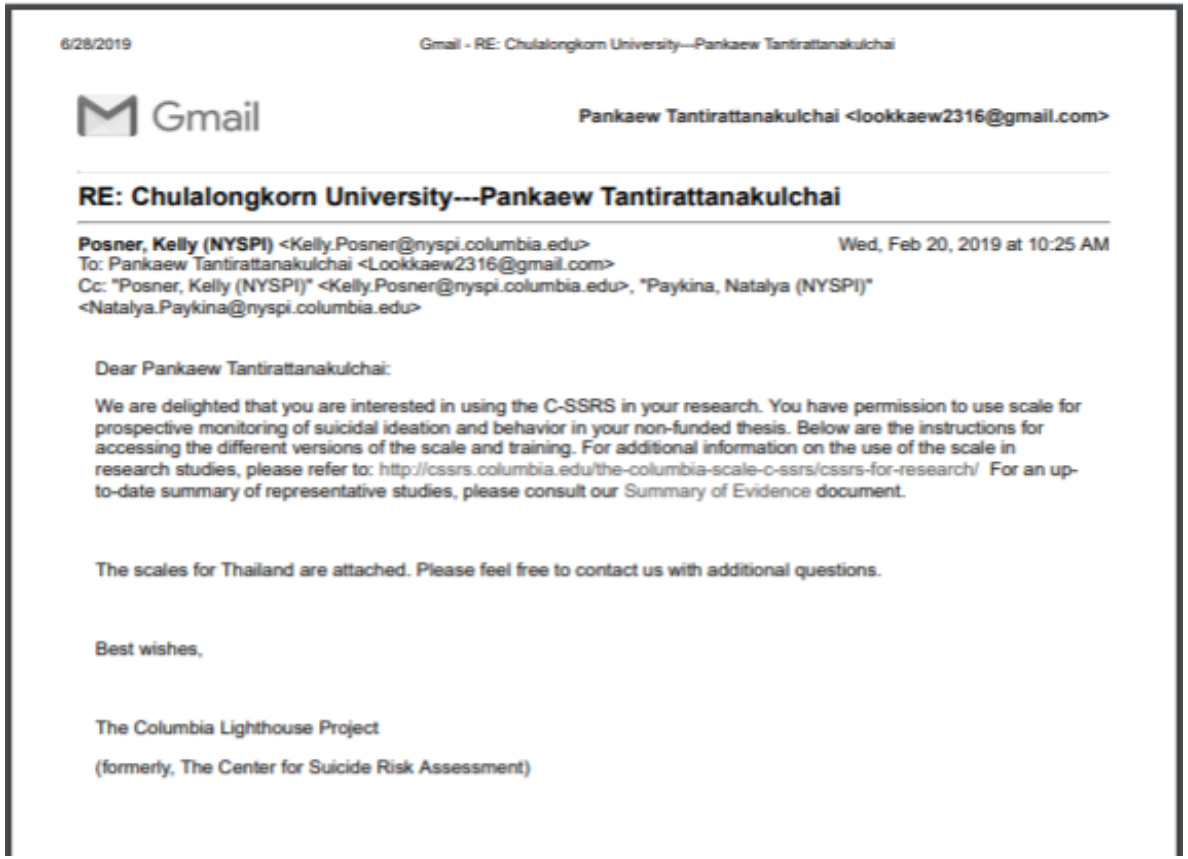
<u>คำชี้แจง</u> ท่านมีความรู้สึกใดต่อไปนี้**ตลอดชีวิตที่ผ่านมา** กรุณาทำเครื่องหมาย √ ลงในช่อง ☐ ที่ตรงกับความรู้สึกของท่านมากที่สุด (หากคำตอบในข้อ 1 และ 2 คือ “ไม่ใช่” ไม่ต้องทำต่อในข้อ 3,4 และ 5 แต่หากคำตอบในข้อ 2 คือ “ใช่” ให้ทำต่อในข้อ 3,4 และ 5)

ความคิดในการฆ่าตัวตาย			
ตลอดชีวิตที่ผ่านมา			
1	คุณเคย**<u>คิดอยากตาย</u>** หรืออยากหลับโดยไม่ตื่นขึ้นมาอีกเลยหรือไม่	**ใช่** ☐	**ไม่ใช่** ☐
2	จริง ๆ แล้ว คุณเคยมี**<u>ความคิดใด ๆ ที่จะฆ่าตัวตาย</u>**หรือไม่	**ใช่** ☐	**ไม่ใช่** ☐
3	ตลอดมา คุณเคยคิดหรือ ไม่ เกี่ยวกับ**<u>วิธีที่คุณอาจใช้ฆ่าตัวตาย</u>**	**ใช่** ☐	**ไม่ใช่** ☐
4	คุณเคย**<u>มีความคิด</u>**ทำนองนั้นที่จะฆ่าตัวตาย **<u>และมีความตั้งใจ</u>**อยู่บ้างที่จะลงมือทำเช่นนั้นหรือไม่	**ใช่** ☐	**ไม่ใช่** ☐
5	คุณเคยเริ่มต้นวางแผน หรือได้**<u>วางแผน</u>**เสร็จเรียบร้อยแล้วในการกำหนดรายละเอียดแนวทางการฆ่าตัวตายหรือไม่ คุณ**<u>ตั้งใจที่จะทำตามแผน</u>**นี้หรือไม่	**ใช่** ☐	**ไม่ใช่** ☐

Appendix F
Time Frame Grant Chart

No	Administration	Time Line									
		2018				2019					
		9	10	11	12	1	2	3	4	5	6
1	Preparation and Literature review										
2	Proposal Development										
3	Questionnaire Development, including validity and reliability										
4	Ethical Consideration										
5	Prepare and Data collection										
6	Data Analysis										
7	Conclude and write report										

Appendix H
Letter of request for permission to use measurement tools



6/28/2019 Gmail - RE: Chulalongkorn University---Pankaew Tantirattanakulchai

Gmail

Pankaew Tantirattanakulchai <lookkaew2316@gmail.com>

RE: Chulalongkorn University---Pankaew Tantirattanakulchai

Posner, Kelly (NYSPI) <Kelly.Posner@nyspi.columbia.edu> Wed, Feb 20, 2019 at 10:25 AM
To: Pankaew Tantirattanakulchai <Lookkaew2316@gmail.com>
Cc: "Posner, Kelly (NYSPI)" <Kelly.Posner@nyspi.columbia.edu>, "Paykina, Natalya (NYSPI)" <Natalya.Paykina@nyspi.columbia.edu>

Dear Pankaew Tantirattanakulchai:

We are delighted that you are interested in using the C-SSRS in your research. You have permission to use scale for prospective monitoring of suicidal ideation and behavior in your non-funded thesis. Below are the instructions for accessing the different versions of the scale and training. For additional information on the use of the scale in research studies, please refer to: http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/cssrs-for-research/ For an up-to-date summary of representative studies, please consult our Summary of Evidence document.

The scales for Thailand are attached. Please feel free to contact us with additional questions.

Best wishes,

The Columbia Lighthouse Project

(formerly, The Center for Suicide Risk Assessment)

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