# Perceived social support and its relationship with depression among Bangkok's trans women

Perceived social support

365

Received 25 May 2020 Revised 20 August 2020 30 September 2020 Accepted 7 October 2020

Pankaew Tantirattanakulchai and Nuchanad Hounnaklang College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand

#### Abstract

Purpose – The purpose of this paper is to evaluate the prevalence of depression and to determine the association between social support and depression among transgender women in Bangkok, Thailand.

Design/methodology/approach – A cross-sectional study was conducted among 280 transgender women in Bangkok, Thailand between March 2019 and May 2019 using the snowball sampling method. Data were collected through a self-administered questionnaire. The questionnaire included demographic questions and measures of social support (MSPSS) and depression (CES-D). Multivariable logistic regression analysis was employed to explore the association between social support and depression.

**Findings** – The prevalence of depression among transgender women was 58.2%. Multivariable logistic regression analysis indicated that depression was significantly associated with perceived low social support (OR: 9.55, 95% CI: 2.10–43.39) and moderate social support (OR: 2.03, 95% CI: 1.19–3.46) after being adjusted for religion, sufficient income and alcohol drinking.

Originality/value – Transgender women were prone to experience a higher prevalence of depression than the general population. Social support would reduce the risk of depression among transgender women. Therefore, social support service systems for transgender women should be embedded into organizations concerned.

Keywords Depression, Social support, Transgender, Mental health, Thailand Paper type Research paper

# Introduction

The word "transgender", is an umbrella term used to describe people with diverse representation or having difficulties identifying their gender or gender roles in society [1]. In Thailand, the term "trans woman" is used interchangeably with "Kathoey" or "Sao Prapet Song." It was found that those who identified as transgender had a greater risk of having depressive symptoms than lesbian, gay and bisexual [2].

Depression is one of the most common mental disorders and has become an important global public health issue. Moreover, depression is recognized as a pivotal cause of disability and a major contributor to the spread of disease globally. In the year 2015, it was indicated that 322 m (4.4%) of the world's population has suffered from depression, while the depression figures of the population between 2005 and 2015 had significantly risen by 18.4% [3]. Based on the national household survey, about 1.5 m of those 15 years of age and over have suffered from depression; out of this figure, the prevalence of depression among women was comparatively 1.7 times higher than among men [4]. Likewise, one of the findings indicated that transgender women have a greater chance of developing mental disorders [5]. The National LGBTI Health Alliance revealed that transgenders aged 18 and above have an approximately five times higher chance of being diagnosed with depression than the general

© Pankaew Tantirattanakulchai and Nuchanad Hounnaklang. Pulished in *Journal of Health Research*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <a href="http://creativecommons.org/licences/by/4.0/legalcode">http://creativecommons.org/licences/by/4.0/legalcode</a>

This thesis was supported by the Graduate School Thesis Grant, Chulalongkorn University.



Journal of Health Research Vol. 36 No. 2, 2022 pp. 365-375 Emerald Publishing Limited e-ISSN: 2586-940X p-ISSN: 0857-4421 DOI 10.1108/JHR-05-2020-0165 population in their lifetime [6], which corresponds to a study suggesting that 62% of transgender women have suffered from depression [7].

Some studies reported that depression was found to be a significant cause of other comorbid psychiatric illnesses, morbidity and mortality [8]. Apart from having a poor quality of life, and hardly coping with routine activity, depressed people are more likely to experience cardiovascular disease, respiratory disease and metabolic syndrome [9]. In the worst-case scenario, depression can lead to committing suicide [10]. Also, depression can be associated withage [6, 11], unemployment, low productivity, income [2], education level [12], smoking [13], alcohol consumption [14], chronic disease [9] and perceived low social support [15, 16].

Social support is deemed a coping resource obtained from interpersonal relationships, while its protective effects have been documented in the literature regarding its role in maintaining health and decreasing physical vulnerability and mental illnesses. Such sources of social support as family members, friends and relatives are also key players contributing to depressed people's mental health viability. Likewise, different forms of social support are related to a variety of physical and mental health outcomes [17]. Some studies indicated that social support has played a significant role in an individual's life and that lack of social support can be a predictor of psychological problems relating to low self-esteem, loneliness, anxiety and depression. Correspondingly, it was suggested that for transgenders, because of the lack of or reduced levels of social support from family, friends and significant others, most of them would most likely experience depressive symptoms [15, 16].

Though Thailand is perceived to be a comparatively open society for transgenders, and given the fact that Bangkok is recognized as one of the centers for the gay and transgender community [18], this controversial issue among several Thai traditional families still exists and, in some cases, the transgender experiences have even deteriorated. In some cases, once a transgender person is identified, traditional-minded members of the family would be angered and feel extremely disappointed and, eventually, cause the transgender person to be depressive and develop poor health-related symptoms.

Unsurprisingly, social support, on the one hand, has proved to be of immense attributable benefits, in that anxiety and depression among transgenders can be significantly alleviated and decreased; but on the other hand, it could enhance their psychological well-being and self-identity confidence. It has been well-documented that once transgender women are faced with stressful events, the higher perceived social support they receive, the lower risk of depression they experience [16]. We hypothesized that there is an association between social support and depression among Bangkok's transgender women. Worth pointing out is that most studies have indicated strong relations between the transgenders' mental health and the level of social support they receive [5, 7].

This study aimed to evaluate the prevalence of depression and to study the association between perceived social support and depression of Bangkok's transgender women. Therefore, it is important and necessary to investigate the factors relating to depression among transgender women.

#### Methodology

#### Participants and recruitment

This research was conducted between March and May 2019, using a snowball sampling technique with participants aged 18 years or older who resided in Bangkok for six months or more. Eligible participants had to self-identify as transgender women with the physical appearance of a woman and live their life as a woman and be willing to participate. Those who had a tendency to revert to male traits or homosexuality were disqualified. A total of 280 Thai transgender women who fit the eligibility requirements were selected for this study.

## Procedure

A self-administered questionnaire was used to collect data using a snowball sampling technique. The snowball sampling technique was used owing to this hard-to-reach population. To start with, ten individual participants with different demographic characteristics such as age, occupation, education, etc., were selected to cover a wide range of backgrounds. Each of the samples would identify and provide referrals to recruit samples required for the study. Having received permission from the participants with verbal informed consent, the researcher made an appointment with each of them to give a comprehensive explanation of the following aspects, i.e. rationale and methods of the study, participant's benefits, rights and confidentiality. After reading the information sheet, those willing to take part were invited to complete the questionnaire. All finished questionnaires were collected by the researcher, and only fully completed questionnaires were selected for further analysis.

## Instruments

Sociodemographic and other variables. Participants provided the sociodemographic information (age, religion, level of education, monthly income, sufficiency of income, profession, living condition and sexual partner) and health status (sex reassignment surgery (SRS), illness history, cross-sex hormone use, smoking, alcohol drinking and substance use).

Multidimensional Scale of Perceived Social Support. The Multidimensional Scale of Perceived Social Support (MSPSS), Thai version [19] is a brief measure of the social support used to assess the perceptions of support from three sources: family, friends and significant others. The family dimension questionnaire included statements such as e.g. "My family tries to help me", and "I can talk about my problems with my family." The friends dimension questionnaire included statements such as "I can count on my friends when things go wrong." The significant others dimension included statements such as "there is a special person who is around when I am in need", "there is a special person in my life who cares about my feelings." The MSPSS is a 12-item scale with 7 possible responses to each statement (scored 1–7) from 1 = very strongly disagree to 7 = very strongly agree. To calculate the overall score, all items are summed and divided by 12 items. A mean scale score ranging from 1 to 2.9 constitutes low support; a score of 3–5 constitutes moderate support; a score from 5.1 to 7 constitutes high support. The reliability was calculated by using Cronbach's α coefficient that was 0.93.

The Center for Epidemiological Studies-Depression Scale. The Center for Epidemiological Studies-Depression Scale (CES-D), Thai version [20] was used and the scale consisted of 20 questions. There were 16 negative questions and 4 positive questions. The participants were asked how often that event or behavior occurred in the last week. Item examples included, "I was bothered by things that usually don't bother me", "I felt depressed". Items were measured on a Likert's scale from 0 = Rarely or none of the time (<1 day) to 3 = Most or all of the time ( 5-7 days)) and the scale were reversed for the 4 positive questions. The score range spanned from 0 to 60, with higher scores signifying severe depressive symptoms. The cut-off point was 16 points. The reliability was calculated by using Cronbach's  $\alpha$  coefficient that was 0.91.

#### Analysis

Statistical Package for the Social Sciences version 22.0 was used to examine the data. To establish the characteristics of transgender women and assess the prevalence of depression, descriptive analyses were done. Logistic regression was performed to identify the association between depression and social support. In the multivariable logistic regression model, all variables with a p-value of <0.2 in a bivariate logistic regression inquiry were deliberated for inclusion. To examine the links that were statistically significant with p-value < 0.05,

multivariable regression analysis was done, while an adjusted odds ratio (AOR) with a 95% confidence interval (CI) was calculated.

## Ethical issue

Ethical approval was granted by the Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University on May 8, 2019 (COA No. 123/2019).

#### Results

This study was carried out with 280 transgender women, participant ages ranged between 18 and 53 years with a mean age of 29.7 years (SD 7.07). Most participants were aged 25-30 years (36.1%), were Buddhist (87.5%), had a bachelor's degree education (52.1%), had sufficient savings income (43.2%), reported as employed (80.7%) and lived with family (47.5%), Table 1.

According to their health status, most participants were without a history of illness (81.4%), with cross-sex hormone used (64.6%) and without SRS (74.6%). For health risk

Characteristics	Total 280	Without depression $n$ (%) 117 (41.8)	With depression <i>n</i> (%) 163 (58.2)	$P^a$
Age (years)				0.910
≤24	66	26 (39.4)	40 (60.6)	0.010
25–30	101	41 (40.6)	60 (59.4)	
31–35	53	24 (45.3)	29 (54.7)	
>35	60	26 (43.3)	34 (56.7)	
Religion	00	20 (10.0)	01 (00.11)	0.090
Buddhist	245	107 (43.7)	138 (56.3)	
Non – Buddhist	35	10 (28.6)	25 (71.4)	
Level of education	-	( <del>)</del>	_= ( )	0.765
< Bachelor degree	98	39 (39.8)	59 (60.2)	****
Bachelor degree	146	64 (43.8)	82 (56.2)	
> Bachelor degree	36	14 (38.9)	22 (61.1)	
Sufficient income		(00.0)	(====)	0.005
Sufficient and saving	121	63 (52.1)	58 (47.9)	
Sufficient without saving	86	33 (38.4)	53 (61.6)	
Insufficient	73	21 (28.8)	52 (71.2)	
Profession		,	, ,	0.734
Student / Unemployed	54	18 (33.3)	36 (66.7)	
Government officer	34	14 (41.2)	20 (58.8)	
Company employee	68	31 (45.6)	37 (54.4)	
Business owner	31	15 (48.4)	16 (51.6)	
Freelancer	45	20 (44.4)	25 (55.6)	
Cabaret actress	48	19 (39.6)	29 (60.4)	
Living condition				0.575
Live alone	99	37 (37.4)	62 (62.6)	
With partner	27	14 (51.8)	13 (48.2)	
With friend	21	9 (42.9)	12 (57.1)	
With family	133	57 (42.9)	76 (57.1)	
Sexual partner				0.659
No sexual partner	133	55 (41.4)	78 (58.6)	
Regular partner	91	41 (45.1)	50 (54.9)	
Causal partner	56	21 (37.5)	35 (62.5)	
<b>Note(s)</b> : $p$ , $p$ -value; SD, star	ndard devia	tion; a, chi-square test		

**Table 1.** Participants' characteristics (n = 280)

Perceived social support

369

In the crude analysis, characteristics associated with depression were insufficient income [odds ratio (OR) 2.69, 95% confidence interval (CI) 1.44–4.99], drinking alcohol less than 1 time/month (OR 0.50, 95%CI 0.26–0.94), drinking alcohol 1–3 time/month (OR 0.33, 95%CI 0.17–0.67) (Table 3). After adjusting for covariates, insufficient income increased the OR for depression (OR 2.34, p=0.015), whereas drinking alcohol 1–3 times/month (OR 0.42, p=0.023) was a protective factor for depression.

For the association between social support and depression, in the multivariable regression analysis, perceived low social support was 9.55 times more likely to be at risk of depression than perceived high support (OR 9.55, 95%CI 2.10–43.39; p=0.003) and perceived moderate social support was 2.03 times more likely to be at risk of depression than perceived high support (OR 2.03, 95%CI 1.19–3.46; p=0.009), Table 4.

#### Discussion

The findings indicated that 58.2% of transgender women in Bangkok had experienced depression. Compared to a recent study among Chinese transgender women, the incidence of depression was higher among transgender women in this research (45.3%) [21], Nepali sexual and gender minorities (46.1%) [22], Latina transgender women living in Los Angeles, California (35.0%) [23], Spaniard transsexuals without hormonal use (33.0%) [24]. Interestingly, the prevalence of depression from our study was slightly lower than that of America's transgender women (62.0%) [25].

Depression in young people is widespread and a cause for concern. After maturity, it leans to presage a chronic and recurrent course of sickness and deficiency. In this study, it was found that 60.6% of transgender women aged 24 years and lower suffered from depression.

Characteristics	Total 280	Without depression $n$ (%) 117 (41.8)	With depression n (%) 163 (58.2)	$p^a$
Sex reassignment sur	gerv			0.852
No	209	88 (42.1)	121 (57.9)	0.002
Yes	71	29 (40.8)	42 (59.2)	
Illness history			(	0.395
No	228	98 (43.0)	130 (57.0)	
Yes	52	19 (36.5)	33 (63.5)	
Cross-sex hormone us	se	, ,	· · ·	0.505
No	99	44 (44.4)	55 (55.6)	
Yes	181	73 (40.3)	108 (59.7)	
Smoking				0.388
Non-smoker	149	65 (43.6)	84 (56.4)	
Current smoker	57	26 (45.6)	31 (54.4)	
Ex-smoker	74	26 (35.1)	48 (64.9)	
Alcohol consumption				0.013
Non-drinker	95	28 (29.5)	67 (70.5)	
<1 time / month	77	35 (45.5)	42 (54.5)	
1-3 day / month	56	31 (55.4)	25 (44.6)	
>3 day / month	52	23 (44.2)	29 (55.8)	
Substance use				0.867
No	260	109 (41.9)	151 (58.1)	
Yes	20	8 (40.0)	12 (60.0)	
<b>Note(s)</b> : <i>p</i> , <i>p</i> -value; <sup>a</sup>	, chi-square te	est		

**Table 2.** Participants' health status (n = 280)

**JHR** Depression 36.2 Characteristics Unadjusted OR (95%CI) Age (years) ≤24 Ref 25-30 0.95 (0.50-1.79) 0.877 31 - 350.78 (0.37-1.63) 0.518 370 >35 0.85 (0.41-1.72) 0.654 Religion Buddhist Ref Non - Buddhist 1.93 (4.21-0.09) 0.094 Level of education < Bachelor Degree 0.96 (0.44-2.10) 0.924 Bachelor degree 0.81 (0.38-1.71) 0.591 > Bachelor Degree Ref Sufficient of income Sufficient and saving Ref Sufficient without saving 1.74 (0.99-3.06) 0.052 Insufficient 2.69 (1.44-4.99) 0.002\*\* Profession Student / Unemployed 1.40 (0.57-3.39) 0.457 Government officer Ref 0.672 Company employee 0.83 (0.36-1.92) 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 condition Live alone 0.400 1.25 (0.73-2.14) With partner 0.69 (0.30-1.59) 0.393 With friend 1.00 (0.39-2.53) 1.000 With family Ref Sexual partner No sexual partner Ref Regular partner 0.86 (0.50-1.47) 0.583 Causal partner 1.17 (0.61-2.23) 0.622 Sex reassignment surgery No Ref Yes 1.05 (0.60-1.82) 0.852 Illness history No Ref Yes 1.30 (0.70-2.44) 0.396 Smoking Table 3. Non-smoker Ref Association between 0.92 (0.50-1.70) 0.797 Current smoker depression-related Ex-smoker 1.42 (0.80-2.54) 0.225 factors using univariate logistic (continued) regression

Characteristics	Depression Unadjusted OR (95%CI) p		Perceived social support
Alcohol consumption	D. (		
Non-drinker	Ref	*	
<1 time / month	0.50 (0.26–0.94)	0.032 <sup>*</sup> 0.002 <sup>**</sup>	
1 − 3 day / month	0.33 (0.17–0.67)	$0.002^{**}$	a-1
>3 day / month	0.52 (0.26–1.06)	0.074	371
Substance use			
No	Ref		
Yes	1.08 (0.42–2.73)	0.867	
Note(s): p, p-value; OR, odds ratio; O	CI, confidence interval; Ref, reference		Table 3.

Level of perceived social support	n (%)	Unadjusted OR (95% CI)	Þ	Adjusted OR (95% CI)	þ
Low	25 (8.9)	14.1 (3.21–62.58)	0.000**	9.55 (2.10-43.39)	0.003**
Moderate	121 (43.2)	2.40 (1.44–3.99)	0.000**	2.03 (1.19–3.46)	0.009**
High	134 (47.9)	Ref		Ref	
$N_{ata}(a) = 200.*(b < 0.0)$	11). ** (4 < 0.00	1), *** Food odda ratio ia	adinated r	rith rollinian aufficient o	of income 1

**Note(s)**: n = 280; \* (p < 0.01); \*\* (p < 0.001); Each odds ratio is adjusted with religion, sufficient of income between social support and alcohol drinking; -2 Log likelihood = 339.707; Nagelkerke R Square = 0.183

Table 4. The association and depression

The majority of transgender women youth in this study were reported living with their families. Surprisingly, many transwomen reported low perceived social support from their families. Family rejection can cause them to become more vulnerable to unhealthy behaviors. harmful consequences for health and depression. A survey in China revealed that transgender and gender non-binary youth had high levels of depression and other mental illness conditions [26]. Compared to the general population, transgender people aged 18 and older in Australia are five times more prone to being identified as having depression in their lifetime [6]. A previous study in America found that up to 62% of transgender women experienced depression during their lives, as opposed to 16.6% of the population at large [7].

The study indicated that transgender women with insufficient income were 2.69 times more likely to be at risk of depression than those with sufficient and saving income. A similar study in China showed that Chinese transgender women with low monthly income under 485 dollars had more anxiety and depression [16]. Another study among American transgender women also suggested that transgender women with a work income of less than 500 dollars during the previous month were associated with depression [2]. Likewise, research on transgender women in San Francisco, Oakland and California revealed that those having low income were associated with depression [12]. Low social-economic status and psychological health are usually connected. While depression is a complex disorder because there is often no specific cause for it, there are certainly several causes that can support someone with depression, including deprivation. Besides, recent studies have suggested that poverty can also have associations with mental health problems, particularly depression [27].

The association between alcohol consumption and depression is, arguably, controversial. Impaired mood and mental state, as seen in our findings, indicates that transgender women drinking alcohol 1 to 3 days per month were 0.33 times less likely to be at risk from depression than those who did not drink. Moreover, drinking alcohol for 1 to 3 days per month was found to be a protective factor for depression. Similar to a study in Sweden, infrequent social drinkers were not at high risk from depression when compared to non-drinkers [28].

Drinking small amounts of alcohol can be associated with various physical and psychological health advantages and long-term cognitive functioning [29]. The lower depression risk among participants who were not heavy drinkers might be clarified by societal drinking habits [28] as illustrated in the studies showing that non-drinkers were less engaged communally and possessed less social encouragement [30]. People who drink in moderation showed better emotions, better psychological health, superior social ability, social assimilation and higher salaries [29]. Nonetheless, excessive consumption of alcohol and frequent periodic drinking are usually associated with depression and might have a higher risk [31]. One of the studies reported that people who were heavily drinking alcohol in the previous twelve months had significantly higher depression scores [14].

For transgender women, it was found that depression can be a result of insufficient support and encouragement. Transgender individuals would experience a greater risk of loss of support and face numerous mental trials [5]. Likewise, increased exposure to psychological health problems, especially apprehension and depressive indications, were products of having reduced social support [16]. According to our result, low and moderate perceived social support of participants displayed significant association with depression compared to those having high perceived social support. Those with low perceived social support were more likely to have depression 9.55 times more than those with high perceived social support [Adjusted OR = 9.55 95%CI (2.10-43.39)]. Those with moderate perceived social support were more likely to have depression 2.03 times more than those having high perceived social support [Adjusted OR = 2.03, 95%CI (1.19–3.46)].

It was therefore found that social support discrepancy among transgender women and lesbian, gay, bisexual, and transgender (LGBT) was associated with gender identity and transition derived from family members, friends and significant others. With low social support, it is likely that they would experience depression [16, 32]. Conversely, transgender women often respond better to life events and the gender transition due to better social support, receiving assistance and having the resources to deal with the pressure of gender identity in difficult situations [33]. This also helped in decreasing the anxiety and depressive symptoms. Still, support from family members, friends and the community remains minimal in terms of what transgender females can use to help them, in line with Factor and Rothblum's study [15]. Hence, social support is highly significant for transgender women in terms of coping with important life occurrences.

The majority of transgender women had high levels of social support (47.9%). This result indicated that compared to past decades, transgender women are currently much more accepted by the public and their community; they have also received needed support from organizations specifically affiliated with the LGBTQ community. The concerned organizations are well equipped with professional staff and consultants ready to provide the required assistance to enable them to better cope with some other health and social related problems. In Thailand, the Ministry of Education has realized the importance of the sexual diversity issue and, consequently, decided to include sexual diversity content, apart from sexual and reproductive health, into the health education curriculum for primary school education nationwide [34].

Admittedly, there are some limitations to our study. First, a cross-sectional design employed in this study limits extrapolations about causal relationships. Second, the snowball sampling technique used to access the transgender women samples resulted in the inability to generalize the population in the results. However, the author was aware of the shortcomings of the snowball sampling technique, so data collection was conducted by having the sampling groups from various age groups, professions and education levels. Further research should include the study of intervention model and services relating to belief, cultural and social aspects, in order to efficiently achieve social support.

social support

Perceived

This study found that transgender women tended to experience approximately 19 times higher depression than the general population. Depression relating to health risk behavior and other mental health problems has effects on transgender women's health and community. The findings suggested that social support is a key factor to reduce the risk of depression among transgender women. Those who reported high perceived social support had lower odds of reporting depression. More importantly, social support services for transgender women should be sufficiently and efficiently provided by organizations concerned. Therefore, further studies should focus on intervention corresponding to the transgender women's needs so that their depression can be systematically reduced and done away with.

373

Conflict of Interest: None

## References

- Reisner SL, Poteat T, Keatley J, Cabral M, Mothopeng T, Dunham E, et al. Global health burden and needs of transgender populations: a review. Lancet. 2016; 388(10042): 412-36. doi: 10.1016/ S0140-6736(16)00684-X.
- Bockting WO, Miner MH, Swinburne Romine RE, Hamilton A, Coleman E. Stigma, mental health, and resilience in an online sample of the US transgender population. Am J Public Health. 2013; 103(5): 943-51. doi: 10.2105/AJPH.2013.301241.
- World Health Organization [WHO]. Depression and other common mental disorders: global Health Estimates, Geneva: WHO; 2017.
- 4. Kongsuk T, Kittirattanapaiboon P, Kenbubpha K, Sukawaha S, Leejongpermpoon J. The prevalenceof major depressive disorders in Thailand: results from the epidemiology of mental disorders national survey. In: Paper presented at World Psychiatric Association Section on Epidemiology and Public Health Meeting, Prediction in Psychiatric Epidemiology from Childhood and Adolescence to Adulthood, 2010 July 11–14, Lisbon, Portugal; 2008.
- Budge SL, Adelson JL, Howard KA. Anxiety and depression in transgender individuals: the roles
  of transition status, loss, social support, and coping. J Consult Clin Psychol. 2013; 81(3): 545-57.
  doi: 10.1037/a0031774.
- National LGBTI Health Alliance. The statistic at a glance: the mental health of lesbian, gay, bisexual, transgender, and intersex people in Australia. [updated 2016; cited 2019 June 30] Available from: https://lgbtihealth.org.au/statistics/#.
- Hoffman B. An overview of depression among transgender women. Depress Res Treat. 2014; 2014; 394283. doi: 10.1155/2014/394283.
- Oswalt SB, Lederer AM. Beyond depression and suicide: the mental health of transgender college students. Soc Sci. 2017; 6: 20. doi: 10.3390/socsci6010020.
- Bisschop MI, Kriegsman DM, Deeg DJ, Beekman AT, van Tilburg W. The longitudinal relation between chronic diseases and depression in older persons in the community: the Longitudinal Aging Study Amsterdam. J Clin Epidemiol. 2004; 57(2): 187-94. doi: 10.1016/j.jclinepi.2003.01.001.
- Choo C, Diederich J, Song I, Ho R. Cluster analysis reveals risk factors for repeated suicide attempts in a multi-ethnic Asian population. Asian J Psychiatr. 2014; 8: 38-42. doi: 10.1016/j.ajp.2013.10.001.
- Stordal E, Mykletun A, Dahl AA. The association between age and depression in the general population: a multivariate examination. Acta Psychiatr Scand. 2003; 107(2): 132-41. doi: 10.1034/j. 1600-0447.2003.02056.x.
- Nemoto T, Bodeker B, Iwamoto M. Social support, exposure to violence and transphobia, and correlates of depression among male-to-female transgender women with a history of sex work. Am J Public Health. 2011; 101(10): 1980-8. doi: 10.2105/AJPH.2010.197285.
- Plurphanswat N, Kaestner R, Rodu B. The effect of smoking on mental health. Am J Health Behav. 2017; 41(4): 471-83. doi: 10.5993/AJHB.41.4.12.

- Bazargan-Hejazi S, Bazargan M, Gaines T, Jemanez M. Alcohol misuse and report of recent depressive symptoms among ED patients. Am J Emerg Med. 2008; 26(5): 537-44. doi: 10.1016/j. ajem.2007.08.019.
- Factor RJ, Rothblum ED. A study of transgender adults and their non-transgender siblings on demographic characteristics, social support, and experiences of violence. J LGBT Health Res. 2007; 3(3): 11-30. doi: 10.1080/15574090802092879.
- Yang X, Wang L, Gu Y, Song W, Hao C, Zhou J, et al. A cross-sectional study of associations between casual partner, friend discrimination, social support and anxiety symptoms among Chinese transgender women. J Affect Disord. 2016; 203: 22-9. doi: 10.1016/j.jad.2016.05.051.
- Teoh HJ, Peng R. Child mental health: integrating Malaysian needs with international experiences.
   In: Haque, A. (Ed.), Mental health in Malaysia: issues and concerns. Kuala Lumpur: University Malaya Press; 2001.
- Iverson K. A brief history of Thailand's transgender community. [updated 2017 April 27; cited 2019 June 30]. Available from: https://theculturetrip.com/asia/thailand/articles/a-brief-history-of-thailands-transgender-community/.
- Wongpakaran N, Wongpakaran T. A revised Thai multi-dimensional scale of perceived social support. Span J Psychol. 2012; 15(3): 1503-9. doi: 10.5209/rev\_sjop.2012.v15.n3.39434.
- Trangkasombat U, Larpboonsarp V, Havanond P. CES-D as a screen for depression in adolescents. J Psychiatr Assoc Thailand. 1997; 42(7): 2-13.
- Yang X, Wang L, Hao C, Gu Y, Song W, Wang J, et al. Sex partnership and self-efficacy influence depression in Chinese transgender women: a cross-sectional study. PloS One. 2015; 10(9): e0136975. doi: 10.1371/journal.pone.0136975.
- Kohlbrenner V, Deuba K, Karki DK, Marrone G. Perceived discrimination is an independent risk factor for suicidal ideation among sexual and gender minorities in Nepal. PloS One. 2016; 11(7): e0159359. doi: 10.1371/journal.pone.0159359.
- Bazargan M, Galvan F. Perceived discrimination and depression among low-income Latina maleto-female transgender women. BMC Publ. Health. 2012; 12: 663. doi: 10.1186/1471-2458-12-663.
- Gomez-Gil E, Zubiaurre-Elorza L, Esteva I, Guillamon A, Godas T, Cruz Almaraz M, et al. Hormone-treated transsexuals report less social distress, anxiety and depression. Psychoneuroendocrinology. 2012; 37(5): 662-70. doi: 10.1016/j.psyneuen.2011.08.010.
- Clements-Nolle K, Marx R, Guzman R, Katz M. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. Am J Public Health. 2001; 91(6): 915-21. doi: 10.2105/ajph.91.6.915.
- Peng K, Zhu X, Gillespie A, Wang Y, Gao Y, Xin Y, et al. Self-reported rates of abuse, neglect, and bullying experienced by transgender and gender-nonbinary adolescents in China. JAMA Netw Open. 2019; 2(9): e1911058. doi: 10.1001/jamanetworkopen.2019.11058.
- Troung K. Here's how being broke can impact your mental health. [updated 2018 July 7; cited 2019 June 30]. Available from: https://www.refinery29.com/en-us/being-poor-mental-health-link.
- Gemes K, Forsell Y, Janszky I, Laszlo KD, Lundin A, Ponce De Leon A, et al. Moderate alcohol consumption and depression - a longitudinal population-based study in Sweden. Acta Psychiatr Scand. 2019; 139(6): 526-35. doi: 10.1111/acps.13034.
- Peele S, Brodsky A. Exploring psychological benefits associated with moderate alcohol use: a necessary corrective to assessments of drinking outcomes?. Drug Alcohol Depend. 2000; 60(3): 221-47. doi: 10.1016/s0376-8716(00)00112-5.
- Rodgers B, Parslow R, Degenhardt L. Affective disorders, anxiety disorders and psychological distress in non-drinkers. J Affect Disord. 2007; 99(1–3): 165-72. doi: 10.1016/j.jad.2006.09.006.
- Flensborg-Madsen T, Mortensen EL, Knop J, Becker U, Sher L, Grønbaek M. Comorbidity and temporal ordering of alcohol use disorders and other psychiatric disorders: results from a Danish register-based study. Compr Psychiatry. 2009; 50(4): 307-14. doi: 10.1016/j.comppsych.2008.09.003.

 McConnell EA, Birkett MA, Mustanski B. Typologies of social support and associations with mental health outcomes among LGBT youth. LGBT Health. 2015; 2(1): 55-61. doi: 10.1089/lgbt. 2014.0051. Perceived social support

- Budge SL, Katz-Wise SL, Tebbe EN, Howard KAS, Schneider CL, Rodriguez A. Transgender emotional and coping processes: facilitative and avoidant coping throughout gender transitioning. Couns Psychol. 2013; 41(4): 601-47. doi: 10.1177/0011000011432753.
- 34. Thai PBS. 2-year campaign to include sexual diversity in school curricula succeeds. [updated 2019 May 19; cited 2019 June 30]. Available from: https://www.thaipbsworld.com/2-year-campaign-to-include-sexual-diversity-in-school-curricula-succeeds/.

375

# Corresponding author

Nuchanad Hounnaklang can be contacted at: nuchanad.h@chula.ac.th