Mental Health Literacy and Help-Seeking Preferences in High School Students in Ho Chi Minh City, Vietnam

Truc Thanh Thai[1,2] · Ngoc Ly Ly Thi Vu[1] · Han Hy Thi Bui[3]

Abstract

A high prevalence of mental disorders in adolescents has been reported worldwide, but little is known about mental health literacy in this population, particularly in developing countries. The goal of this study was to evaluate mental health literacy level and help-seeking preferences in high school students in Ho Chi Minh City, Vietnam. These two variables were also compared between students who had stress, anxiety and depression with students who did not. A cross-sectional study was conducted with 1094 students across 27 classes at three high schools. Students completed a self-report questionnaire that included validated scales such as the Depression Anxiety Stress Scale (DASS-21), the Mental Health Literacy Scale (MHLS) and the General Help-Seeking Questionnaire. Based on the DASS-21, the prevalence of students reporting symptoms of stress, depression and anxiety was 36.1%, 39.8% and 59.8%, respectively. The mean MHLS score was 104.12 (SD = 10.09) and was significantly lower in students who had symptoms of depression. The most common help-seeking preferences for mental illness were friends, classmates and relatives or family members. Help-seeking preferences were almost identical among students with stress, anxiety or depression. While Vietnamese high school students had high levels of symptoms of stress, depression and anxiety and moderate levels of mental health literacy, non-professionals were preferred as their first help-seeking choice. Our findings revealed the need for routine school-based mental health screening and referral activities as well as mental health education programs for high school students in Vietnam.

Keywords Adolescent · Help-seeking preference · High school · Mental health literacy · Vietnam

✉ Truc Thanh Thai
thaithanhtruc@ump.edu.vn

Ngoc Ly Ly Thi Vu
vulylyngoc@gmail.com

Han Hy Thi Bui
buithihyhan@gmail.com

[1] Faculty of Public Health, University of Medicine and Pharmacy at Ho Chi Minh City, 217 Hong Bang, District 5, Ho Chi Minh City, Vietnam

[2] Department of Training and Scientific Research, University Medical Center, Ho Chi Minh City, 215 Hong Bang Street, District 5, Ho Chi Minh City, Vietnam

[3] The South Center for Education and Training of Health Managers, Ho Chi Minh City Institute of Public Health, 159 Hung Phu Street, District 8, Ho Chi Minh City, Vietnam

Introduction

According to the World Health Organization, the prevalence of mental disorders among children and adolescents is up to 20% worldwide (World Health Organization, 2017). Mental health issues among adolescents are more pronounced in resource-limited countries where psychiatric and psychological services are not always available. In Vietnam, up to 36% of secondary and high school students in Ho Chi Minh City were reported to have symptoms of depression, anxiety and stress (Thai, 2010). A longitudinal study from 2006 to 2013 in the north of Vietnam revealed a trajectory of depression among adolescents and young adults aged 10 to 24 years (Bui, Vu, & Tran, 2018). Further, the prevalence of having suicidal thoughts and plans was quite high in this vulnerable population at 14.1% and 5.7%, respectively (Le, Holton, Nguyen, Wolfe, & Fisher, 2016). However, adolescent mental health has received little attention in Vietnam possibly due to the lack of assessment, treatment and prevention resources (Niemi, Thanh, Tuan, & Falkenberg, 2010;

Weiss et al., 2012). To date, national survey assessments of Vietnamese youth aged 14–25 years were conducted in 2003 and 2010 in almost all provinces and cities but no information about mental health screening was included in the surveys.

One possible reason for the consistently high prevalence of mental disorders in Vietnamese adolescents is the lack of mental health literacy, as this has been considered to be 'half the battle' against mental disorders (Tomczyk et al., 2018). The influence of mental health literacy on mental disorders has been highlighted in several studies (Bjørnsen, Espnes, Eilertsen, Ringdal, & Moksnes, 2019; Salerno, 2016). A school-based study among 1888 adolescents aged 15–21 years in Norway revealed that higher levels of mental health literacy were associated with greater mental well-being and physical health (Bjørnsen et al., 2019). A population-based survey of 1678 students aged 15–19 years in China identified that while only 16.4% of respondents had good mental health literacy, higher levels of depression were found among those with lower levels of mental health literacy (Lam, 2014). Loo, Wong, & Furnham (2012) found that British participants were better able to correctly identify cases of mental disorders in the vignettes presented and were also more likely to endorse professional help as being useful compared to Hong Kong or Malaysian participants. In Vietnam, there is a lack of knowledge on mental health even in relatively well-educated people (van der Ham, Wright, Van, Doan, & Broerse, 2011). Vietnamese attitudes and beliefs toward mental health problems are derived from a mix of traditional and modern views. For many Vietnamese, mental disorders are seen to be a consequence of previous life behaviors, and thus attitudes toward those with mental disorders can be discriminatory (van der Ham et al., 2011). Due to the differences in culture-related beliefs and perceptions of mental health in Vietnam, findings from studies conducted in other countries might not be relevant to the Vietnamese context. To the best of our knowledge, no research to date has investigated mental health literacy in Vietnamese adolescents.

Low levels of mental health literacy coupled with ineffective help-seeking preferences might contribute to the high level of poor mental well-being in adolescents. Although help-seeking preference is important for reducing and preventing future risk behaviors, adolescents often ignore seeking help for mental health problems from professionals (Divin, Harper, Curran, Corry, & Leavey, 2018). In fact, regardless of the type and severity of mental disorders,

young people often ask for help from non-professionals such as friends, family and relatives (Burns & Rapee, 2006; Yap, Reavley, & Jorm, 2013). A 2006 study of 202 Australian adolescents revealed that more than 40% of adolescents asked friends and family for help when they had depression and only a few sought help from psychologists (6.2%), psychiatrists (4.2%) or doctors (1.5%) (Burns & Rapee, 2006). This help-seeking preference was similar to an Australian national survey in 2011 where mental health professionals were the last option for seeking help when adolescents had depression, depression with suicidal thoughts, depression with alcohol abuse, post-traumatic stress disorder, social phobia and psychosis (Yap et al., 2013). Interestingly, in recent years young people tend to look up information and help from the Internet and social networks (Mitchell, McMillan, & Hagan, 2017). Although support from peer and family as well as support based on social media and the Internet has been shown to be helpful for students with certain types and levels of mental disorders, those with moderate and severe mental disorders should seek help from professional health providers (Bohleber, Crameri, Eich-Stierli, Telesko, & von Wyl, 2016; Roach, 2018).

Given the importance of help-seeking preferences in guiding adolescents to access appropriate care to improve their mental health, evidence-based interventions have been implemented to increase help-seeking behavior from professionals in this population (Divin et al., 2018). These interventions have been demonstrated to have significant, positive short-term and long-term effects on formal help-seeking behaviors (Xu et al., 2018). However, a meta-analysis using data from 98 published research articles with 69,208 participants included revealed that such interventions enhanced formal help-seeking behaviors when delivered to those who were already living with mental health problems or at risk of having mental disorders but were not effective among children, adolescents or the general public (Xu et al., 2018). Also, there are several barriers that limit adolescents from seeking help including embarrassment or shyness, stigma, self-reliance and independence (Mitchell et al., 2017; Yap et al., 2013). For example, up to 40% of Australian adolescents reported that embarrassment prevented them from seeking help for their mental health issues from both professionals and non-professionals (Yap et al., 2013). In Vietnam, mental-health-related stigma prevents people with mental disorders from seeking professional help (van der Ham et al., 2011) and psychiatry is often considered as the last resort when traditional healers, friends or family fail to treat mental

disorders (Nguyen, 2003). However, to date, information regarding help-seeking preferences for mental health issues in Vietnamese adolescents is lacking.

Mental health literacy can be acquired, and help-seeking behaviors can be adjusted during one's life span. However, these attitudes and behaviors develop in early childhood. Because adolescents' mental health literacy and help-seeking behaviors can affect their health-related decision-making abilities and health outcomes (Bröder et al., 2017), mental health literacy interventions targeting young people are crucial in promoting healthy behaviors and reducing future health risks (Bröder et al., 2017; Kelly, Jorm, & Wright, 2007). The goal of this study was to evaluate the level of mental health literacy and help-seeking preferences in high school students in Ho Chi Minh City, Vietnam. As people living with symptoms of mental disorders might have different levels of mental health literacy and help-seeking preferences compared to the general population (Lam, 2014; Xu et al., 2018), in this study mental health literacy and help-seeking preferences were also compared between students with symptoms of stress, anxiety and depression to those without these symptoms.

Methods

Study Design

Ho Chi Minh City (HCMC) is the center of social, cultural and economic activities in Vietnam. In 2018, HCMC had the highest population in the country with more than 10 million people. There were 74,000 students at 118 high schools in 24 districts in HCMC. A cross-sectional study was conducted from April to May at three randomly selected high schools in District 10, District 11, and Tan Binh District.

Participants

Sample size calculation (Patrick, 2008) indicated that a sample of at least 1094 students was needed to estimate a standard deviation of 8.60 (Trang, 2014), when considering a type 1 error rate of 0.05, a marginal error of 0.74 and a design effect of 2. The design effect was to take into account the precision of the cluster sampling technique used in this study. At each school, 3 classes from each grade (i.e., grades 10, 11, 12) were randomly selected, and thus a total of 27 classes were selected for this study. There were

approximately 40–45 students in each class, and all students from the selected classes were invited to participate in this study.

Study Procedure

The researchers visited the classes and provided students with the study information. Those who agreed to participate in the study signed a consent form. Because a passive consent technique was employed, parents or guardians were not required to also sign the consent form. However, the teachers who were present in these classes also signed the consent form to confirm they had witnessed the student voluntarily agree to participate. No incentive was provided to the participants. Students completed a self-report questionnaire that took approximately 30 min. The researchers were in classes to answer any questions the students had. All procedures, including providing informed consent and questionnaire completion, were conducted in Vietnamese and were approved by the Ethics Committee in biomedical research at the University of Medicine and Pharmacy, HCMC, Vietnam (Approval Number: 167/DHYD-HDDD).

Measurement

The questionnaire contained questions about demographic characteristics, mental health status, mental health literacy and help-seeking preferences. Questions about demographic characteristic included sex (male, female), grade (10, 11, 12), ethnicity (Kinh people, Chinese and other), religious affiliation (yes, no), living with whom (both father and mother, either father or mother, others), grade point average [low ($< 7/10$), average ($7/10$–$< 8/10$) and good/excellent ($\geq 8/10$)], member of school's club (yes, no), perceived economic status (rich, average, poor) and family members having any mental disorder (yes, no).

The Depression Anxiety Stress Scales Questionnaire with 21 items (DASS-21) (Lovibond & Lovibond, 1995) was employed to assess the students' mental health status. The DASS-21 measures symptoms of depression (7 items), anxiety (7 items) and stress (7 items) that the student had experienced over the past week using a 4-point Likert-type rating scale from 0 (did not apply to me at all—NEVER) to 3 (applied to me very much, or most of the time—ALMOST ALWAYS). The total score is multiplied by 2 to get the overall score for each domain, and the cutoff scores of 14, 10 and 19 are used to identify symptoms of depression, anxiety

and stress, respectively (Lovibond & Lovibond, 1995). The reliability of the DASS-21 was high with Cronbach's alpha ranging from 0.76 to 0.91, and the construct validity of the DASS-21 was confirmed in a previous study among high school students in Vietnam (Le et al., 2017).

Mental health literacy was measured using the Mental Health Literacy Scale (MHLS) (O'Connor & Casey, 2015). The MHLS contains 35 questions measuring the ability to identify mental disorders (item 1 to 8), knowledge of risk factors and causes (9 and 10), knowledge of professional help (11 and 12), knowledge of self-treatment (13, 14 and 15), knowledge of sources of information seeking (16 to 19), negative attitudes toward mental illness (20 to 28) and positive attitudes toward mental illness (29 to 35). The MHLS utilizes a Likert-type 4-point rating scale from 1 (very unlikely) to 4 (very likely) and a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). The total score ranges from 35 to 160, with a higher score indicating a higher level of mental health literacy (O'Connor & Casey, 2015). The MHLS has been shown to have a high level of reliability with Cronbach's alpha of 0.83 and concurrent validity (Gorczynski, Sims-schouten, Hill, & Wilson, 2017; O'Connor & Casey, 2015).

Help-seeking preference was evaluated using the General Help-Seeking Questionnaire (GHSQ) (Wilson, Deane, Ciarrochi, & Rickwood, 2005). Participants report to what extent they would seek help from a list of people for their emotional and mental health problems. To understand the frequency of help-seeking preferences and behaviors, a 5-point Likert-type scale from 1 (never) to 5 (always) was used instead of the 7-point Likert-type scale from 1 (extremely unlikely) to 7 (extremely likely). This modification was based on our pilot study where respondents were unable to distinguish between the scores of 1, 2 and 3 on the 7-point Likert-type scale, and no definition for the scores of 2, 4 and 6 is available.

The Vietnamese versions of the DASS-21 and the MHLS that were employed in this study were the same as those used in previous studies in Vietnam, and both scales had been previously translated and evaluated (Le et al., 2017; Trang, 2014). The GHSQ was translated independently by two investigators, and differences were discussed. As the GHSQ contains simple questions about help-seeking choices such as teacher, classmate or psychiatrist, there were no differences found in the two translated versions. Other questions such as demographic characteristics were originally developed in Vietnamese.

Analysis Data

Frequency and percentages were used to describe categorical data. Means and standard deviations were used to describe quantitative data. Chi-square tests were used to compare characteristics between students with symptoms of mental disorders and students without symptoms of mental disorders. Student's t tests were employed to examine the difference in the score of MHLS between students with symptoms of mental disorders and students without symptoms of mental disorders. A p value of < 0.05 was considered statistically significant. All data analyses were carried out using Stata version 14.

Results

Of the 1114 questionnaires returned, 39 were excluded due to missing data. As such, 1075 (96.5%) were used in the analysis. The majority of high school students were female (56.2%), Kinh ethnic (77.3%), had a religious affiliation (69.0%), and lived with both father and mother (84.1%). About one quarter of students reported a low grade point average and were members of a school's club. Nearly 10% of students reported a family member had a mental disorder. The prevalence of students having symptoms of stress, depression and anxiety was 36.1%, 39.8% and 59.8%, respectively (Table 1).

Table 2 shows the distribution of mental health literacy. The lowest score on the MHLS was found for the ability to recognize disorders ($M = 2.49$, SD $= 0.43$), followed by knowledge of self-treatment ($M = 2.63$, SD $= 0.55$) and knowledge of risk factors and causes ($M = 2.67$, SD $= 0.55$). Students had a higher score for the positive attitudes toward mental illness compared to the score for negative attitudes toward mental illness ($M = 2.87$, SD $= 0.69$ and $M = 2.45$, SD $= 0.56$). The overall score of MHLS was 104.12 (SD $= 10.09$) which was significantly lower in students who had depression ($p < 0.001$). There was no significant difference in mental health literacy level between students with and without stress ($p = 0.206$) and anxiety ($p = 0.689$). There

Table 1 Characteristics of Vietnamese high school students stratified by mental health symptoms

Characteristics	All (N = 1075)	Stress DASS-S ≥ 19 (n = 388, 36.1%)	Anxiety DASS-A ≥ 10 (n = 643, 59.8%)	Depression DASS-D ≥ 14 (n = 428, 39.8%)
Sex		*	**	
Male	471 (43.8)	152 (39.2)	259 (40.3)	187 (43.7)
Female	604 (56.2)	236 (60.8)	384 (59.7)	241 (56.3)
Grade		**	*	**
10	382 (35.6)	115 (29.6)	213 (33.1)	131 (30.6)
11	354 (32.9)	129 (33.2)	234 (36.4)	140 (32.7)
12	339 (31.5)	144 (37.1)	196 (30.5)	157 (36.7)
Ethnicity				
Kinh	831 (77.3)	299 (77.1)	492 (76.5)	335 (78.3)
Hoa	238 (22.1)	86 (22.2)	147 (22.9)	91 (21.3)
Other	6 (0.6)	3 (0.8)	4 (0.6)	2 (0.5)
Religious affiliation				
Yes	742 (69.0)	271 (69.8)	452 (70.3)	300 (70.1)
No	333 (31.0)	117 (30.2)	191 (29.7)	128 (29.9)
Living with whom				
Both father and mother	904 (84.1)	327 (84.3)	542 (84.3)	361 (84.3)
Either father or mother	131 (12.2)	48 (12.4)	77 (12)	52 (12.1)
Other	40 (3.7)	13 (3.4)	24 (3.7)	15 (3.5)
Grade point average				**
Good/excellent (≥ 8/10)	143 (13.3)	49 (12.6)	83 (12.9)	50 (11.7)
Average (≥ 7/10–< 8/10)	631 (58.8)	219 (56.4)	368 (57.3)	236 (55.1)
Low (< 7/10)	300 (27.9)	120 (30.9)	191 (29.8)	142 (33.2)
Being member of any school's club				
Yes	243 (22.6)	76 (19.6)	142 (22.1)	92 (21.5)
No	832 (77.4)	312 (80.4)	501 (77.9)	336 (78.5)
Perceived economic status		*		*
Rich	296 (27.5)	93 (24.0)	163 (25.3)	107 (25.0)
Average	709 (66.0)	261 (67.3)	436 (67.8)	282 (65.9)
Poor	70 (6.5)	34 (8.8)	44 (6.8)	39 (9.1)
Family member having any mental disorder				
Yes	104 (9.7)	46 (11.9)	74 (11.5)	50 (11.7)
No	971 (90.3)	342 (88.1)	569 (88.5)	378 (88.3)

p value ranges *** < 0.001 < ** < 0.01 < * < 0.05

was a high number of students who reported seeking information about mental illness via the computer or telephone ($M = 3.53$, SD = 1.00). Many students reported a willingness to spend time socializing ($M = 3.10$, SD = 0.97) or to make friends ($M = 3.12$, SD = 0.95) with someone with a mental illness. However, a considerable number of students thought that people with a mental illness are dangerous ($M = 2.94$, SD = 1.12).

Table 2 Distribution of mental health literacy in Vietnamese high school students stratified by mental health symptoms

Mental health literacy scale	All mean (SD)	Stress mean (SD)			Anxiety mean (SD)			Depression mean (SD)		
		Yes	No	p	Yes	No	P	Yes	No	p
Ability to recognize disorders[a]	2.49 (0.43)	2.53 (0.43)	2.46 (0.43)	0.009	2.50 (0.43)	2.47 (0.43)	0.204	2.51 (0.44)	2.47 (0.42)	0.110
Knowledge of risk factors and causes[a]	2.67 (0.55)	2.70 (0.58)	2.65 (0.53)	0.185	2.68 (0.56)	2.66 (0.53)	0.474	2.69 (0.58)	2.66 (0.53)	0.452
Knowledge of self-treatment[b]	2.63 (0.61)	2.64 (0.63)	2.62 (0.60)	0.640	2.63 (0.61)	2.64 (0.62)	0.798	2.62 (0.62)	2.64 (0.61)	0.710
Knowledge of professional help available[a]	2.85 (0.48)	2.88 (0.48)	2.83 (0.48)	0.131	2.87 (0.48)	2.82 (0.49)	0.074	2.85 (0.49)	2.85 (0.48)	0.809
Knowledge of where to seek information[c]	3.25 (0.72)	3.25 (0.76)	3.25 (0.70)	0.998	3.21 (0.73)	3.32 (0.70)	0.019	3.18 (0.74)	3.30 (0.70)	0.009
Negative attitudes that promote recognition or appropriate help-seeking behavior[c]	2.45 (0.56)	2.50 (0.59)	2.42 (0.53)	0.020	2.49 (0.56)	2.38 (0.54)	0.002	2.54 (0.60)	2.38 (0.52)	<0.001
Positive attitudes that promote recognition or appropriate help-seeking behavior[d]	2.87 (0.69)	2.94 (0.70)	2.83 (0.68)	0.016	2.91 (0.67)	2.81 (0.71)	0.020	2.89 (0.67)	2.86 (0.70)	0.433
Overall mental health literacy[e]	104.12 (10.09)	104.64 (10.81)	103.83 (9.66)	0.206	104.02 (10.13)	104.27 (10.04)	0.689	103.34 (10.21)	104.64 (9.99)	0.039

[a] 1 = very unlikely; 2 = unlikely; 3 = likely; 4 = very likely

[b] 1 = very helpful; 2 = unhelpful; 3 = helpful; 4 = very unhelpful

[c] 1 = strongly disagree; 2 = disagree; 3 = neither agree or disagree; 4 = agree; 5 = strongly agree

[d] 1 = definitely unwilling; 2 = probably unwilling; 3 = neither unwilling or willing; 4 = probably willing 5 = definitely willing

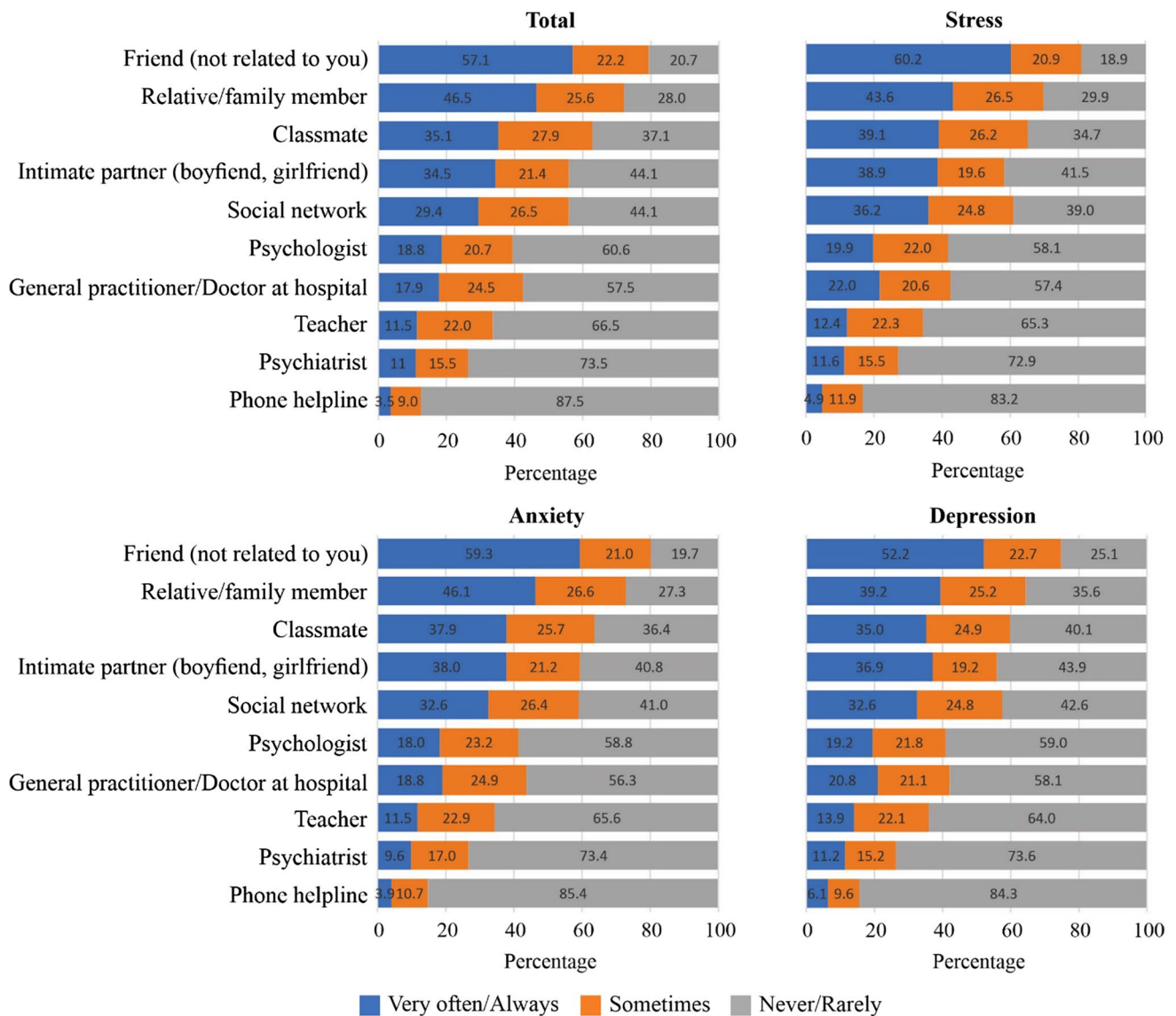[e] Scores of item 10, 12, 15, 20-28 were reversed

Fig. 1 General help-seeking strategies in Vietnamese high school students stratified by mental health symptoms

Figure 1 presents the help-seeking preferences for mental illness stratified by mental health conditions. The most common sources students asked for help from in order to deal with a mental illness were friends, classmates and relative or family members. In contrast, less than one-fifth of students sought health professionals to address their mental illness, including psychologists (18.8% very often or always), general practitioners at hospital (17.9%) and psychiatrists (11.0%). Very few students used a phone helpline when they had mental illness (3.5%). Help-seeking preference patterns were almost identical among students with stress, anxiety or depression.

Discussion

Overall, the high school students who took part in this study had a moderate level of mental health literacy. While no study measuring mental health literacy among high school students using the MHLS has previously been conducted in Vietnam, the MHLS score in our study was lower compared to scores obtained in other studies, including university students in England ($M = 122.9$, $SD = 12.1$) (Gorczynski et al., 2017) and in Australia ($M = 127.4$, $SD = 12.6$) (O'Connor and Casey (2015). This difference is consistent with the current literature, whereby mental health literacy level is higher

in European and North American countries compared to Asian and African countries (Altweck, Marshall, Ferenczi, & Lefringhausen, 2015). A possible explanation for this is the difference in educational level (i.e., high school students compared to university students) because students who attend university are likely to have had more life experiences overall and more opportunities to learn about issues related to mental health. For example, Gorczynski et al. (2017) noted that mental health literacy among male first-year undergraduate students was lower compared to final-year female, postgraduate students. Mental health literacy level was also higher in the study conducted by O'Connor and Casey (2015) perhaps because participants were recruited from those enrolled in a psychology course. As such, they may have been provided with more information about mental health disorders during their studies. Given that health literacy in the early stages of one's life has an important influence on a person's subsequent health and behaviors during their lifetime and given the high prevalence of mental health disorders reported worldwide, our findings indicate an urgent need to improve adolescents' mental health literacy.

Although students in the current study demonstrated a good ability to recognize some common mental disorders, their knowledge of sources of professional help appears to be insufficient. Similar to findings from the general Vietnamese population, the Vietnamese students in our study demonstrated preferences for non-professionals such as friends, relatives or family members over professionals such as psychologists, psychiatrists or general practitioners when seeking advice for their mental health issues. This finding was consistent with previous studies where friends and parents were the first choices from whom students asked for help when they had health problems (Gorczynski et al., 2017; Nguyen Thai & Nguyen, 2018). A possible explanation for not choosing professional support may be either the students' lack of knowledge of available resources, or their doubt about the reliability of these resources (Nguyen Thai & Nguyen, 2018). In countries like Vietnam, beliefs that mental disorders are consequences of behaviors in a previous life, which means that people living with a mental illness may experience discrimination and be hesitant to seek help (Nguyen, 2003). This may also prevent students with mental health problems from seeking professional help (van der Ham et al., 2011). Therefore, students may only access professionals as a final option when their symptoms become more severe and support from non-professionals failed to help (Nguyen, 2003). This finding supports the need for an integrated, school-based mental health literacy education program focusing on destigmatising mental health problems, providing information about the nature and causes of mental illness and information about available appropriate mental health resources.

There are several important implications from our findings. First, the relatively high prevalence of mental health symptoms alongside moderate levels of mental health literacy suggests that students might be unable to identify their own mental health problems. This reveals a need for interventions to increase mental health literacy because improving mental health literacy has been shown to be effective in reducing mental disorders (Kelly et al., 2007). Several intervention approaches to improve mental health literacy have been examined in previous studies and have been found to be useful, including helping adolescents to support their peers, web-based interventions or game-based school programs (Brijnath, Protheroe, Mahtani, & Antoniades, 2016; Hart et al., 2018; Tuijnman, Kleinjan, Hoogendoorn, Granic, & Engels, 2019). It is suggested that future research investigates the usefulness of these interventions in a Vietnamese student sample. Additionally, routine school-based mental health screening and referral where students who are identified by health professionals as having symptoms of mental disorders can be referred to mental health professionals for further diagnosis and treatment are needed. Unfortunately, such activities are lacking in Vietnam. The low level of help-seeking from mental health professionals and high preference for peer and family support should be considered in the mental healthcare model for Vietnamese adolescents. To respect and leverage this help-seeking pattern, non-professional 'helpers' should be provided with more mental health information in order to increase their confidence in their ability to be of help (Xu et al., 2018). Friends, family and relatives can then become a gatekeeper to help recognize students' symptoms of mental disorders and to connect students who have mental disorders to professional services. It is required by Vietnam law that every school must have at least one assistant doctor who is involved in the development of health education and promotion programs for students. However, as most students in our study would seek help from non-professionals it is likely that the majority of students with mental health issues would not currently seek the help of the school-based assistant doctor. Given the limited number of psychologists and psychiatrists in Vietnam (Niemi et al., 2010), we propose that assistant doctors should be trained to become mental health counselors who can then provide students with mental health education particularly for the most-at-risk students. Of course, to facilitate students to seek help from this person more education firstly needs to occur so that students will be confident that they will not be discriminated against, as well as increasing students' confidence that the assistant doctor will be able to provide reliable and effective help.

This study has several limitations. First, our study was conducted in Ho Chi Minh City, one of the biggest cities and the center of social, cultural and economic activities

in Vietnam. This may limit the generalizability of our findings. For other areas such as sub-urban or rural areas where mental health information and mental health professionals are not always available and traditional views on mental disorders are more dominant, mental health symptoms may be more pronounced. It is anticipated that mental health literacy in adolescents may be lower in these areas, and thus this may negatively affect their mental health. More studies and interventions are needed for adolescents in these areas in Vietnam. Second, our study was a preliminary cross-sectional survey and thus was unable to identify risk factors contributing to low mental health literacy. For example, we could not determine the casual relationship between having symptoms of mental disorders and mental health literacy. Third, help-seeking preferences depend on the type and severity of mental disorders. We were unable to examine whether seeking help and advice from friends and relatives was helpful for the students or not. Although in some situations, such advice may be sufficient for students to overcome mild symptoms of mental disorders, professional help is considered optimal. Further studies are needed to explore this.

Conclusion

While Vietnamese high school students had high levels of symptoms of mental disorders and moderate levels of mental health literacy, non-professionals were preferred as their first help-seeking choice. Mental health literacy was lower in students with symptoms of depression, while help-seeking preferences were almost identical among students with high levels of symptoms of depression, anxiety and stress. Our findings revealed the need for school-based mental health education programs in high schools in Vietnam.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were conducted in accordance with the ethical standards of the research committee at University of Medicine and Pharmacy at Ho Chi Minh City and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained individually from all participants included in the study.

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