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ANXIETY AND PROPOSED SOLUTIONS TO IMPROVE MENTAL HEALTH AMONG SECONDARY SCHOOL STUDENTS IN CAN THO CITY

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ABSTRACT

***Background:** There is a rapidly growing public awareness of anxiety among pupils at Vietnamese secondary schools. This study aims to determine the prevalence of anxiety; identify risk factors related to anxiety; and explore students' own proposals for improving their mental health. **Methods:** A cross-sectional study was conducted among 1161 secondary students during September-December 2011. A structured questionnaire was use to assess anxiety and proposed solutions based on feedback from youth. **Results:** The prevalence estimates of symptoms reaching a threshold comparable to a diagnosis of*

anxiety was 22.8%. Major risk factors related to anxiety were physical or emotional abuse by the family and high educational stress. As solutions, nearly 80% of students proposed that the academic workload should be reduced and that confidential counselors should be appointed at schools. About half of the students considered that the attitudes of their parents and teachers needed to change. The great majority of students said that they would visit a website that provided mental health support for students. **Conclusions:** *Anxiety common mental health problems among Vietnamese secondary school students. They have strong significant associations with physical or emotional abuse in the family and high educational stress. Academic curricula and attitudes of parents and teachers need to be changed from a punitive to a more supportive approach to reduce the risk of poor mental health. An internet-based mental health intervention could be a first step to improve students' mental health.*

Keywords: *Mental health, Anxiety, Adolescents, Students, Can Tho, Student*

I. INTRODUCTION

Mental health disorders are among the most important public health issues globally. Estimates of the global burden of disease place mental illness in the top three of diseases in terms of years lost due to disability [1]. The mental health of adolescents and young people is a crucial issue because of the general burden of mental illness and because mental illness has the potential to affect the rest of their adult lives and the future lives of the next generation [2]. The mental health problems that adolescents and young people encounter interfere with the way they think, feel, and act. Such problems cause distress and limit young people's academic achievements and ability to be economically productive. They can also lead to family conflicts, substance abuse, violence, eating disorders and, sometimes, even suicide. Mental health problems are also expensive for families, communities, and the health and social systems as a whole [2].

There has been a rapidly growing public awareness of anxiety among Vietnamese students [3]. In the *Bulletin of the World Health Organization* 2006, Harpham and Tran reported that a fifth of young Vietnamese people experience mental health problems [4]. A cross-sectional study of 972 secondary school students (13 to 16 years old) in the north of Vietnam showed that a high proportion of students had poor mental health with 17.6% of adolescents having felt sad and hopeless every day for two weeks during the past 12 months [5]. In addition, the number of students that had considered suicide was high, with 6.6% of students having seriously considered suicide during the past 12 months, 1.2% having made a suicide plan, and 0.4% having attempted suicide [6]. Three recent studies conducted among 2591 adolescents (2006) in Hanoi City [7], approximately 1000 adolescents (2007) in Hanoi [5], and among 410 university students (2009) in Ho Chi Minh City [8] also revealed that the prevalence of suicide ideation ranged from 9.2-10.6%. Another study of 1226 secondary school students conducted in Ho Chi Minh City indicated that the percentages of students that had seriously considered a suicide attempt, planned to commit suicide or actually attempted suicide during the past 12 months was 6.3%, 4.6% and 5.8% respectively [9]. In addition, the prevalence of depression, anxiety

and psychological distress was 26.3%, 16.2% and 36% respectively. Thai's study demonstrated the high prevalence of depression, anxiety and educational stress amongst adolescents, as well as the strong association between educational stress and poor mental health. However, risk factors for anxiety, and students' perspectives on how to reduce anxiety, have not been investigated.

Although anxiety among students is prevalent disorders, very few studies have examined the prevalence of anxiety, their related factors, and solutions to reduce them. Therefore, the aim of this research was to determine the prevalence of anxiety in secondary school students in Can Tho, to identify risk factors related to their symptoms, and to explore possible solutions to improve their mental health.

II. METHODS

2.1. Study design and population

A cross-sectional study design was applied. All data were collected during the first academic semester (September to December, 2011). The population was purposively selected from the three secondary schools in urban and suburban areas, comprising specialized and general secondary schools. In each school, three classes, one from each grade from 10 to 12, were chosen randomly. In total, 1260 students were invited to participate in the study by sending them an anonymous self-reporting questionnaire. No exclusion criteria, such as demographic and/or socioeconomic characteristics, were applied. However, of the 1260 students, 99 (7.85%) were excluded from our analysis due to insufficiently complete responses.

2.2. Data collection

Self-completed questionnaires were distributed to all participants, who were requested to complete the questionnaire anonymously after class or at home to minimize potential sharing while filling in the forms and to keep information confidential. The questionnaire consisted of 3 components: (1) demographic information including student's family characteristics (student's parent educational and occupational profiles, student's parental marital status, family financial situation, and the rearing of children); (2) an anxiety scale); and (3) questions on possible solutions.

The anxiety scale [10] consists of 13 items using a 3-point scale (never, sometimes, often). The scale showed a high level of internal consistency (Cronbach's alpha ranged from 0.76 to 0.81) and has also been validated for use among Vietnamese students. The scale was assessed as providing a highly reliable measure of anxiety when used in a community survey of Vietnamese adolescents, showing a high internal consistency (Cronbach's alpha = 0.82) [10]. A receiver operating characteristic (ROC) analysis was done in a study by Thai [9] to choose a cut-off point for further analysis using the Kessler 10 – Psychological Distress Scale as a reference standard. The chosen threshold was 26 with specificity of 92.2% and sensitivity of 31.3% (AUC = 0.72) [9] which was similar to psychometric properties of Kessler 10 [11].

Some closed-open questions about possible solutions were also used to explore students' perspectives on improving mental health.

2.3. Statistical analysis

Data are presented as means ± standard deviation (SD) and analyzed descriptively to determine the demographic and basic characteristics of the study population. The Chi squared test ($\chi2$) was used to assess the significance of differences in the distribution of selected socio-demographic characteristics, risk factors, and outcome variables among the participants. In addition to the descriptive analyses, logistic regression analysis was performed to identify associations between depression or anxiety and family characteristics, educational stress, and academic achievement. Univariate independent predictors of anxiety (including being physically or emotionally abused by adults in the household, being physically or emotionally abused by teachers or other staff members at school, academic performance from the previous semester, educational stress), with $p<0.10$ were entered in a multivariate logistic regression model, applying the Backward Wald method to study their influence on the presence of anxiety and depression. All tests were 2-tailed and a p-value <0.05 was considered statistically significant. The 95% confidence intervals of Odds Ratios (OR) were also calculated. To address the issue of validity of Chi-square results, all the variables in all models must also have an expected cell frequency above 10 before entering them into the logistic regression model. Each model was also checked for Goodness of Fit by checking the significant value of the Hosmer-Lemeshow which must be higher than 0.05. All analyses were performed with SPSS, Version 16.0.

III. RESULTS

The research population consisted of 1159 secondary school students including 424 (36.5%) boys and 737 (63.5%) girls, ranging in age from 15-19 years (overall mean age 16.1 years). The difference in the number of girls and boys reflects the actual situation in the classes selected. The number of students for each grade from 10 to 12 was equal among the three grades, with a response rate of about 33% (grade 10: 33.5%, grade 11: 33.9%, and grade 12: 32.6%). The majority of students (95.3%) were ethnically Kinh (ethnic majority in Vietnam); other ethnic groups included Chinese and Khmer.

3.1. Anxiety among secondary school students in Can Tho

Scores on the 13-item anxiety scale based on current feeling range from 13-39, with a mean score (±SD) of 22.6 (± 4.19). 23% of students demonstrated anxiety symptoms at a clinically significant level. Female students had three times the odds of having anxiety symptoms as compared to male students (29% vs. 12.1%) (OR=2.94; 95% CI OR = 2.13-4.15, p<0.001).

3.2. Characteristics associated with anxiety

Multivariate logistic regression analysis was performed to study the relationship between anxiety and several familial and educational characteristics. Anxiety was shown to be independently associated with: experiencing physical and emotional abuse from

parents or other adults in the family; physical and emotional abuse from teachers or other staff members at school; and high educational stress (Table 1).

Table 1: Risk factors for anxiety

Characteristics	Anxiety		Univariate logistic regression		Multivariate logistic regression	
	Yes n (%)	**No** n (%)	OR (95% CI)	p	OR (95% CI)	p
Being abused by parents, or other adults in the household* (n=1152)						
No	223 (21.4)	819 (78.6)	-	-	-	-
Yes	39 (35.5)	71 (64.5)	2.02 (1.33-3.06)	0.001	1.58 (1.02-2.45)	0.043
Being abused by teachers or other staff members at school* (n=1150)						
No	175 (20.4)	681 (79.6)	-	-	-	-
Yes	88 (29.6)	209 (70.4)	1.64 (1.22-2.21)	0.001	1.46 (1.06-2.00)	0.019
Educational stress (n=1148)						
Low stress	44 (13.3)	288 (86.7)	-	-	-	-
Medium stress	66 (16.8)	328 (83.2)	1.32 (0.87-1.99)	0.191	1.31 (0.87-2.00)	0.193
High stress	153 (36.3)	269 (63.7)	3.72 (2.56-5.41)	<0.001	3.49 (2.39-5.09)	<0.001
Total (1155)	263 (22.8)	892 (77.2)				

* Abused consisting: physically or emotionally in the past 12 months

3.3. Strategies to improve mental health of students

Students were able to propose a number of measures that could improve their mental health. First, nearly four fifths of the students thought that the demands of the academic curricula should be reduced (79.8%) and that schools should have a confidential counselor to help students (78.8%). About half of the students thought their parents' (47.6%) and teachers' (43.9%) attitudes and behaviors toward them needed to change and that teaching should take a supportive rather than punitive approach. Furthermore, approximately 64% of respondents strongly agreed that students would share private problems and seek help on a suitable website. Most (90%) of the respondents said they would visit such a website if it existed. Finally, some students wanted parents and teachers

to be supported to gain counseling skills so that they would be better able to sympathize with and help students when they were at risk of mental health problems.

IV. DISCUSSION

This study demonstrated that according to their own responses to standard questionnaires, nearly one fourth (22.8%) of secondary school students in Can Tho were at risk of anxiety. Female students reported a higher level of signs of anxiety. Key risk factors were physical and emotional abuse within the household, low study results and high educational stress. A majority of students thought that reducing the demands of the academic curriculum, appointing confidential counselors and sharing their concerns on an appropriate website would help to improve their mental health.

The prevalence of anxiety among this group of students was higher than in previous studies of secondary school students in Ho Chi Minh City (16.2%) [9]. Regional and national differences in the mental health scores of children and adolescents may be explained by several factors including individual, familial, and environmental/cultural aspects. Environmental stressors, such as poverty, traumatic events and illness, have been consistently linked to poor mental health among youth across the globe [12]. The socio-economic development status in Can Tho City, the location of this study, is much lower than in Ho Chi Minh City or the USA, which may explain the higher levels of anxiety among our study population.

In this study, high educational stress was also a main predictor of anxiety among students, consistent with findings from a national study [3, 9] and from international studies [13]. Overall, our findings also suggest, perhaps not surprisingly, a relationship between abuse and mental health problems. Our results also confirmed that frequent physical or emotional abuse from adults (parents or other adults in the family, teachers or other staff members at school) was an independent predictor of anxiety. This finding was similar to other recent studies in Ho Chi Minh City [9] and in Hanoi and rural Hai Duong [14]. This is also consistent with findings from other studies in Western countries that demonstrate that maltreatment in childhood predicted difficulties in psychological adjustment in adolescence [15].

Nearly 80% of students thought that mental health problems could be improved by reducing the academic curriculum and by the appointment of a confidential counselor for students at school. These are new findings for which we did not find comparable results. Reducing the academic curriculum is not a quick and easy matter because it is a process involving thousands of schools around the country, not only the schools in the study. The appointment of confidential counselors for students is also difficult to implement because schools in Vietnam lack staff and financial support to provide such skilled counselors. However, most of the students reported that they would share their private problems and seek help from a website if it was available. Developing such a website should be feasible in order to provide an internet-based psycho-educational intervention for students in Vietnam.

IV. CONCLUSIONS

The rates of anxiety among the students who participated in the study confirm the findings of other studies that this prevalence is high among secondary school students. Emotional abuse within the family and high educational stress were the main causes of anxiety. The most feasible strategy to contribute to reducing mental health problems and promoting mental health among secondary school students in Vietnam today would be the development of a website to provide psycho-educational interventions designed to meet the needs identified in this study. In addition, schools should establish school-based counseling services for students, possibly by collaborating with volunteers from the Youth Union, the largest social-political organization of Vietnamese youth, at local universities. Teachers and parents should also participate in psychological education programs to raise awareness of the effect of their approach to the students and how it may be counterproductive. This may help to address some of the issues related to teacher and parent attitudes rose by the students and may allow for discussion of physical or emotional abuse which parents and teachers may consider to be appropriate punishment for bad behavior or poor academic performance.

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FACTORS RELATED TO SELF-EFFICACY IN CARING FOR YOUNG CHILDREN WITH PNEUMONIA AMONG VIETNAMESE MOTHERS IN CAN THO CHILDREN HOSPITAL

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ABSTRACT

Background: Pneumonia is a common disease in children, especially young children. For providing a proper care when children get pneumonia, mothers' self-efficacy in caring is an important factor. Objectives:(1) examine self-efficacy in caring and (2) determine relationship between perceived severity of illness, maternal stress, social support and self-efficacy in caring for young children with pneumonia among Vietnamese mothers. Methods: A descriptive correlational design was used in a convenience sample of 90 mothers of young children with pneumonia in Can Tho Children hospital. Data was collected by using five self-report questionnaires including demographic questionnaire, the Canadian Acute Respiratory Infection and Flu Scale, the Parental Stress Scale, the Multidimensional Scale of Perceived Social Support, and the Perceived Self-Efficacy of Caregivers in Caring for Children with Pneumonia at Home Questionnaire. Their reliability were .93, .81, .89, .87, respectively. The descriptive statistic and Pearson's correlation coefficients were used for data analyses. Results:A high mean score of self-efficacy in caring for young children with pneumonia among Vietnamese mothers (M = 75.70, S.D. = 11.91). Besides, there was a negative correlation between maternal stress and self-efficacy in caring for young children with pneumonia among Vietnamese mothers (r = -.65, p < .001). Conclusion: Maternal self-efficacy is an important factor of caring for her child, so the suggestion is pediatric nurses should enhance it for bringing a better care for young children with pneumonia.

Keywords: self-efficacy, providing care, maternal stress, young children, pneumonia, Can Tho city

I. INTRODUCTION

Pneumonia is an inflammatory condition of the lung affecting primarily the microscopic air sacs known as alveoli [10]. It is one of the most common health problems