CHAPTER III

METHODOLOGY

3.1 Research design

This study was a cross-sectional descriptive study that is used to measure the prevalence of depression, stress and related factors among the first year Medical students.

3.2 Study population

Target population of this study was the first year students in Medical Universities at HoChiMinh city, Vietnam

Study population composed 404 first year students in Medical Faculty in University Medicine and Pharmacy, Hochiminh city, Vietnam

3.3 Sample size

Sampling formula for estimating a population proportion with specified absolute precision was calculated for this study:

$$n = \frac{Z^2_{1-\alpha/2} \ P(1-P)}{d^2}$$

$Z_{1-\alpha/2} = 1.96$: critical value for 95% confidence level

$\alpha = 0.05$: level of significant

$d = 0.05$: absolute precision required

P = 0.20 : anticipated population (according to previous study, prevalence of

mental health problem in the Vietnamese youth) (Ministry of Health

[MOH]-Vietnam, 2005)

n = 246 : minimum sample size

3.4 Sampling technique

Using above formulation for result of 246 subjects and to predict number of

absent students or refusing to join this study, sample was added more 10% (24

students) so the total sample included 270 students.

Sampling technique: this study was the first study in order to measure the

prevalence of depression and related factor among Medical students so a census

investigation was conducted with total population of 387 students, though, collected

sample was 351 students.

3.4.1 Inclusion criteria

The entire 404 first year Medical student in Medical Faculty in

University Medicine and Pharmacy, Hochiminh city, Vietnam were chosen in this

study.

3.4.2 Exclusion criteria

17 repeat students were sort out this study population

3.5 Data collection tool

The questionnaire consisted of 3 parts with 79 questions; the first part was 19

questions about general information, the second part was depression measurement in

20 items of the CES-D questionnaire, and the third was 40 questions about Student

stress.

The questionnaire was translated into Vietnamese language and versus to make sure the accurateness.

3.6 Data collection procedure

Data collection method: self – administrated

Pre-test (pilot) was implemented prior data collection in first year students in other medical university at HoChiMinh city.

In the field, data were collected in classrooms with the approval by the Dean of Medical Faculty. The purpose of study was explained to students before delivering questionnaire

3.7 Data analysis

Questionnaire was coded before entering the data to computer by the researcher. The sample database was checked by double entry.

For data analysis, the Statistical Package for the Social Sciences (SPSS version 13) was used. The analysis part composed 2 parts, descriptive and analytical statistic. In analytical statistic, data were tested in bivariate and multivariate analysis.

Descriptive statistics such as frequency, percentage, mean, and standard deviation was applied for general characteristics, prevalence depression, sources of medical stress description.

Analytical statistics

Bivariate analysis: Chi-square test and Fisher's Exact test were used to test the relationship between depression and the students stress sources, and also for relationship between depression and living condition, perception of financial status,

practice of religion, parent's marital status, and exercise/leisure activity, coping with problems, quality of friendship.

Non-parametric Spearman correlation was used to find association between 2 continuous variables: depression and age; also between depression scores and total stress scores.

Testing of the hypothesis will be performed at 5% level of significances.

Multivariate analysis: Logistic regression was applied to find predictors of effect of multivariable in dichotomous depression variable after controlling confounding factors. Level of significant was set at 5%.

For depression variable, question scores were summed to provide an overall score ranging from 0 to 60. Four positive questions 4, 8, 12 and 16 were reversed by subtracting the score from 3. If more than 5 items on the scale are missing, a score is generally not calculated.

If one to five items on the scale were missing,

$$\text{Score} = \frac{\text{sum x 20}}{\text{number items answered}}$$

Depression score was categorized by cut-off point into 2 groups below:

– Scores less than 22 = Non- depressive symptoms group

– Scores are 22 or more = Depressive symptoms group

About students stress sources including 40 questions, in non-parametric spearman correlation, students stress scores were summed up as a

continuous variable with non normality distribution. In chi-square test, then, students stress was used separately in each 40 sources to find relationship with depression.

Table 2: Variables, measurement scale and statistic inference

Variables	Measurement scale	Statistic inference
Age	Ratio scale	Mean, max, min, S.D
Gender	Nominal scale	Frequency, Percentage
Ethnic	Nominal scale	Frequency, Percentage
Living status	Nominal scale	Frequency, Percentage
Perception of financial status	Ordinal scale	Frequency, Percentage
Religious practice	Ordinal scale	Frequency, Percentage
Parents' marital status	Nominal scale	Frequency, Percentage
Excise practice	Ordinal scale	Frequency, Percentage
Leisure activity	Nominal scale	Frequency, Percentage
Coping problems	Nominal scale	Frequency, Percentage
Quality of relationship	Ordinal scale	Frequency, Percentage
Depression group	Nominal scale	Frequency, Percentage
Depression scores	Continuous variable	Mean, Min, Max, S.D
Student stress sources	Binary variable	Number, Percentage
Student stress scores	Continuous variable	Mean, Min, Max, S.D

3.8 Reliability and Validity

Validity

The content and face validity was checked by experts after constructing the draft questionnaire, special focus on some terms and explanation in translation English to Vietnamese.

Reliability

The reliability was done in pre test on 30 first year students in other Medical university at Hochiminh city. Cronbach's alpha coefficient was used to measure reliability of the CES-D questions. Cronbach's alpha coefficient for CES-D = 0.775

3.9 Ethical consideration

The questionnaire will be administered anonymously to the student in their classrooms. Then, verbally consent information was explained to students before delivering questionnaire. They can refuse to join this study without any effects on their study's result and no need to explain the reason. Data were used for research's purpose only. Their information will be kept confidentially.