Chapter 3
Research Methods

Chapter 1 presented general information on mental health problems among adolescents, both across the world and in Vietnam. That chapter focused on factors known to influence mental health problems and their consequences, and articulated an urgent need to investigate mental health problems among adolescents in Can Tho City, Vietnam. Chapter 2 provided detailed information on the theoretical framework and objectives of this study. This Chapter presents the main research questions, the research approach, setting, design, and methods; it concludes with an exploration of validity and ethical considerations.

3.1. Research questions

The main research question for this thesis is:

*How can the complex field of mental health problems among adolescents in Vietnam be understood and addressed with sustainable and accessible developments at the school-level?*

Corresponding to this main question, and to the research objectives outlined in Chapter 2, four research sub-questions were formulated that informed the studies in this thesis. They are as follows:

1) What are the perspectives of key stakeholders (students, teachers, parents, experts) about the problems and causes of adolescent mental health problems and possible approaches to mitigate them, in Can Tho City, Vietnam?

2) What are the prevalences of different types of mental health problems among Vietnamese secondary school students in Can Tho City, Vietnam?

3) What are the major risk factors associated with mental health problems among these students?

4) How could mental health problems be mitigated to improve quality of life of Vietnamese secondary school students?
Table 3.1 below presents the research questions and a map of their corresponding chapters in the dissertation.

**Table 3.1. Research questions and corresponding dissertation chapters**

<table>
<thead>
<tr>
<th>Research sub-question</th>
<th>Chapter</th>
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<tbody>
<tr>
<td></td>
<td>4 (perspectives)</td>
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<tr>
<td>1. What are the perspectives of key stakeholders (students, teachers, parents, experts) about the problems and causes of adolescent mental health problems and possible approaches to mitigate them, in Can Tho City, Vietnam?</td>
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<tr>
<td>2. What is the prevalence of different types of mental health problems among Vietnamese secondary school students in Can Tho City, Vietnam?</td>
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<tr>
<td>3. What are the major risk factors associated with mental health problems among these students?</td>
<td>X X X</td>
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<tr>
<td>4. How to mitigate mental disorders in order to improve quality of life of Vietnamese students?</td>
<td>X X X X X</td>
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3.2. Research approach

To study the complex and ever-changing field of mental health among adolescents in Vietnam, this study employed a transdisciplinary approach and community based participatory research approach.

As part of the transdisciplinary approach, the first step was to meet and discuss with stakeholders from different sectors, with varying expertise and perceptions, including teachers, students, parents, and mental health experts. These groups jointly identified which areas of mental health and which problems were recognized and which should be addressed in the research. We then applied both quantitative and qualitative methods with the engagement of multiple stakeholders, including teachers, parents, students, health officers and mental health experts, in the different stages of research such as exploration, priority setting, planning based on bottom-up needs identification for intervention, and finally in the dissemination of the information gained. The planned approach is described in Figure 3.1 below.
Figure 3.1. Research approach
3.3. Research setting, population and selection

The study took place in Can Tho City (CTC), the capital of Can Tho province. It is the biggest city in the Mekong Delta region of Southern Vietnam, with a population of about 1.273 million (General Statistics Office of Vietnam, 2017b) living in both urban and peri-urban (rural) areas. CTC has over 95,734 lower and upper secondary school students (General Statistics Office of Vietnam, 2017a) attending about 100 schools in nine districts of the city, including both the rural and the urban areas (General Statistics Office of Vietnam, 2017b).

In the first, qualitative phase of the research, a purposive sample of experts from the Vrije Universiteit Amsterdam, Hanoi School of Public Health, Can Tho University of Medicine and Pharmacy, Can Tho Psychiatric Hospital, and other child health professionals, as well as students from commune and district levels, was recruited from March to May 2010. For the qualitative component of Chapter 4, an exploratory qualitative approach included six in-depth interviews conducted with professionals (researchers, psychiatrists, and secondary school teachers); 13 focus group discussions with teachers, parents, and pupils; and 10 individual in-depth interviews with pupils who did not take part in the FGDs. This study was conducted from September to October, 2010, in CTC.

For the quantitative components of Chapters 5 and 6, a cross-sectional study among 1,161 secondary school students was conducted from September to December, 2011. This allowed us to capture the experiences and ideas of a large sample of secondary school students at one time and allowed us to estimate the size of the problem with mental health among the students.

For the qualitative data in Chapter 7, an investigation using semi-structured interviews was conducted among a number of school health officers from November to December, 2015 in CTC.

For the quantitative component of Chapter 8, a cross-sectional study including 643 secondary school students was conducted in November 2016 in the same secondary schools in Can Tho City.

3.4. Study Design

To address the question about mental health problems among secondary school students in CTC, the activities can be divided into the phases described below, involving different instruments for data collection.
1. **Exploratory interviews with local experts**: This study aimed to explore how stakeholders perceive mental health problems of young people and the related risk factor, to gain insight into their opinions and experiences, and their recommendation on which aspects of mental health problems should be included in the research instruments. Two experts with majors in behavioral science and health education from a university of public health and two psychiatric doctors with knowledge and experience related to adolescent mental health problems and working in a psychiatric clinic participated in these interviews. Depression, anxiety and stress were reported to be the main mental health problems of young people. Game addiction, low concentration in education, attention deficit hyperactivity disorder, low self-esteem, and low self-efficacy were also mentioned. Related risk factors included difficulties in educational performance, family-related problems, school violence, academic pressure, and lack of social skills. Regarding the mental health of young people in CTC, depression, anxiety, low self-esteem and low self-efficacy were suggested as the main problems to be explored. For the research instruments, the experts recommended including the following aspects: i) school related items: school connectedness and studying environment, perspective and academic performance, school violence, mental health program at school, studying plan, teachers’ caring; ii) family related items: family caring, relationships; and iii) surrounding environment related items: physical activities (sports, leisure activities), soft skills (social integration, coping skills), and Internet use (including exposure to violence on the Internet). It was also noted that some mental health problems are affected by more than one factor so it is important to apply a problem tree to identify the main problem and causes. This information was used to guide the next steps in the collection of data, including identification of mental health problems to be studied and the guidelines for interviews and FGDs.

2. **FGDs with students, students’ parents and teachers**: 13 FGDs (4 with teachers, 4 with parents, and 5 with students), with a purposive sample of 8 to 12 participants each, were conducted in three secondary schools in CTC. Pupils aged between 15 and 18 years old attending grades 10 to 12 were invited by head teachers on a day that pupils had available time. The pupils were selected on the basis of the researcher’s request for wide representation with regard to gender and to a range from high to low school performance. Parents were invited by head teachers by letter or by telephone. The focus groups were conducted by two Vietnamese facilitators to take notes and to make
recordings. The aim was to explore their perceptions about the problems and causes of adolescent mental health problems and possible approaches to mitigate them, in Can Tho City, Vietnam.

3. **Exploratory interviews**: three individual exploratory interviews with three students from three different schools (as above). The purpose of this activity was to inform researchers about young people’s familiarity with the mental health problems, and risk factors for these problems; explore sensitive issues which might not appear in the FGD; obtain opinions and suggestions on the structure and words to use when asking about sensitive problems.

Following this step, the questionnaire for the quantitative research was formulated and piloted on one group of 10 students. After they had completed the questionnaire individually, they were invited to discuss in a group. The purposes of this activity were to obtain feedback from the students on the structure, content and wording of the study instruments to guide revisions, and to identify any suggestions for additions to the questionnaire.

4. **Semi-structured interviews**: These were carried out with the school health officers, using an interview guideline but allowing divergence from the questions and probing where it seemed to be helpful, to generate the data used for the paper in Chapter 7. These interviews were done after the data on the main issues experienced and reported by the students had been collected and analyzed, so that the school health officers could be asked about those issues in particular.

5. **Questionnaires**: The first structured questionnaire was formulated based on the research questions, the aims and objectives of the study, the information from the literature, and the results of the investigations described above. The anonymous self-report questionnaires were given to 1260 secondary school students in a classroom setting, to be completed after school without observation, to make the students more comfortable to share information, maximize confidentiality and minimize potential sharing and copying among students, as opposed to filling them in at class in the presence of teachers and researchers. Completed questionnaires were collected and checked for their completion and quality by the researcher. The sampling, stratified for schools and classes, was done according to standard calculations as described in Chapters 5 and 6. The quantitative data from this step was analyzed using SPSS 18.0, and
used to answer the questions identified above, as described in Chapters 5 and 6. The second questionnaire was provided to 643 students who had been introduced to the website providing information about mental health. They were asked to complete the questionnaire three weeks after being introduced to the website. The analysis and results are described in Chapter 8.

**Table 3.2. Methods used in each chapter**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Methods for data collection</th>
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<tbody>
<tr>
<td>4: perspectives of pupils, parents, teachers</td>
<td>Exploratory interviews, FGDs</td>
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<tr>
<td>5: occurrence of anxiety, depression, suicidal ideation</td>
<td>Cross-sectional survey</td>
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<tr>
<td>6: low self-esteem related to mental health issues</td>
<td>Cross-sectional survey</td>
</tr>
<tr>
<td>7: role of school health officers</td>
<td>Semi-structured interviews</td>
</tr>
<tr>
<td>8: role for Internet-based information</td>
<td>Cross-sectional survey</td>
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**3.5. Validity**

Exploratory interviews with two experts with major in behavior science and health education from a university of public health and two psychiatrists with knowledge and experience related to adolescent mental health problems and working in a psychiatric clinic were conducted to gain insight into which aspects of mental health problems should be included in the qualitative research instruments and design. In addition, the focus group discussion questions and guidelines were revised by a supervisor with more than 30 years’ experience of public health research in Vietnam and were pre-tested with first-year students of CTUMP before being applied in the field. Revisions to the guideline were made after the pilot testing to produce the final version applied in the schools.

The key tests used to measure potential issues with mental health were drawn from the international literature. For the quantitative components of Chapters 5 and 6, the Center for Epidemiology Studies Depression test was employed, which has a high internal consistency with Cronbach’s alpha coefficients ranging from 0.85 to 0.90 among general population samples (Radloff, 1977). This scale has been validated in Vietnam using confirmatory factor analysis (Nguyen et al., 2007). The Anxiety Scale also 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 (Nguyen et al., 2007). The Educational Stress Scale for Adolescents (ESSA) used to measure educational stress has been also validated to measure the educational stress of adolescents.
in Vietnam, with a high level of internal consistency, Cronbach’s alpha of 0.83 (Thai et al., 2012). Our international data collection tools had been translated into Vietnamese and validated in previous studies in Vietnam, so they would be as good as possible to obtain the information we needed (Nguyen et al., 2007).

Using different methods to gain information about the priority questions and key issues, and obtaining that information from a wide range of stakeholders increased the likelihood that the results were an accurate reflection of reality.

3.6. Ethical considerations

This study was approved by the Scientific and Training Committee of the Can Tho University of Medicine and Pharmacy. All participants and the parents of student respondents (as well as the students themselves) were informed about the study and given the option of participating. They were all informed that they could withdraw from the study at any time they wished, with no explanation and no consequences. Data were kept confidential; the records from surveys and interviews were numbered, with no names linked to the data. The students completed the questionnaires anonymously.

References


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Pham, T. X. (2011). Study on the situation of sexual abuse in high school students in Nha Trang City (Nghiên cứu tình hình bị làm dụng tình dục ở học sinh phổ thông trung học tại thành phố Nha Trang). (Thesis of Specialization level II), Hue University of Medicine and Pharmacy, Hue.


