

*Research Article*

## **Prevalence Rate of Depression among High School Students, Two Years following the Tsunami in Phang-Nga Province, Thailand**

**Jan-Erik Larsen \***

**Pantyp Ramasoota \*\***

**Jutatip Sillabutra \*\*\***

### **ABSTRACT**

Depression is an illness which can affect individuals of all ages and gender. It is believed that those affected by the disorder have to live with the pain of the illness longer than any other mental disorder. Depression is not a severe disorder per se, it is a common illness which can be treated and cured if help is sought for. However most people who suffer from depression are likely to go undiagnosed and therefore will suffer from the illness for unnecessary extended periods of time.

This cross-sectional descriptive study used the Thai Depression Inventory to identify symptoms among high school students in grade 10, 11, and 12 in Takua Pa Senanukul and Taput Wittaya of Phang-Nga Province, the area most affected by the December 2004 tsunami. The prevalence rate of depression among high school students was divided into four categories; 2.94 percent revealed major depressive disorders, 7.80 percent showed to have moderate depression symptoms, 10.24 percent had low levels of depression, while 79.02 percent were diagnosed with no depression symptoms. The prevalence rate of depression was as high as 29.3 percent. Of the 205 respondents: nearly 60 percent found it slightly harder to make decisions and were disappointed about the future; 16 percent worried a lot about things in general and 12 percent found it difficult to concentrate; 5 percent felt worthless all the time while 4.4% were sad everyday.

Association was found with the number of mental health professionals and grades in Taput Wittaya high school as well as the following historical life events; problems with partner/lover, stress at school, Conflict with family members or friends, and financial problems.

The current findings also suggested that depression levels were not revealed to be higher in tsunami affected areas two years following the disaster. The prevalence rate of depression among high school students was therefore not related to the December 2004 tsunami event; however, depression symptoms were associated with recent life events experienced by the students in the past two weeks.

### **KEYWORDS**

Tsunami    Disasters    Depression    Prevalence    High school students

---

\* B.A., MPH, Oslo Norway

\*\* Dr.P.H. ASEAN Institute for Health Development (AIHD), Mahidol University

\*\*\* Ph.D. ASEAN Institute for Health Development (AIHD), Mahidol University

## INTRODUCTION

Mental health is an issue which affects all people, from all cultures and religions, therefore mental health is an issue which craves much attention and consideration. The most common mental health problems are depression and anxiety. Depression is an illness which can be triggered by many factors, such as a loss of a relative or acquaintance as well as traumatic events such as natural disasters. Depression also refers to an individual's emotional and psychological unwell-being, in which he or she is unable to use his or her cognitive and emotional capabilities to function in society, and meet the ordinary demands of everyday life. Depression symptoms may vary from person to person, it usually refers to a person feeling sad, indifferent and apathetic for over two weeks. Even though depression is a serious illness, it is a common one and one that can be treated and cured. Most people with depression are likely to go undiagnosed and so suffer from the illness for unnecessary extended periods of time. If help, support or advice is not sought for, depression may worsen and intensify.

On December 26th 2004 a major earthquake breaks out at 7:58 am local time somewhere in the Andaman Sea. The second largest earthquake recorded in history created a series of colossal waves sweeping through the Indian Ocean flooding coastal areas. A total of 200,000 lost lives and 2 million displaced people was a result of the catastrophic event also referred to as the worst disaster in modern history. Among the worst affected countries lies Thailand with six

devastated southerly provinces namely Krabi, Phang-Nga, Phuket, Ranong, Satoon and Trang.

The areas affected by the 2004 tsunami were mostly very densely populated areas in mostly poor countries, where fishing, agriculture, and tourism are the main sources of income. These are very demoralizing consequences which may provoke further or new psychological impacts.

Adolescents are among the most vulnerable to mental dilemma for many reasons. Adolescents have an urge to reach adulthood and independence. Many adolescents adopt a no-care attitude often rejecting or challenging authority and rules. Therefore, this study was concentrated on high-school students, carried out in the latter three grades of high school, including ages of 16 to 18. At this age, people clearly understand the environment and society around them and want to be part of it. A disaster such as the 2004 tsunami will be understood by a teenager compared to younger children who have a wider imagination and less knowledge and understanding about consequences.

This study was aimed at finding the status of depression among upper high school pupils in Takua Pa Senanukul and Taput Wittaya, Phang-Nga Province in southern Thailand, and alternate traumatic events such as problems with partner/lover, conflict with family members or friends, stress at school, financial problems and any other additional traumatic events experienced by the student in the past two weeks.

## MATERIAL AND METHODS

This cross-sectional descriptive study collected data through the use of a structured

questionnaire and a standard depression inventory. The questionnaire was divided into four parts, of which; part I is the socio-demographic background of the student, part II is the measurement of depression which is done by using the Thai Depression Inventory. Part III is a set of six questions which refer to the immediate effects the tsunami had on the respondent, the final part (Part IV) asks whether there were any additional events which may influence the students' current state of mental health.

The Thai Depression Inventory defines levels of depression as follows; a sum of less than 20 refers to no symptoms of depression, between 21 and 25 low depression symptoms, 26 to 34 the respondent is considered to have a mild level of depression, people suffering from major depressive disorders score between 35 and 40, and a total score of above 40 is considered clinical depression levels. Specialised computer programs were used to describe all variables and to find association between independent and dependent variables.

## **RESULTS**

The respondents were picked from two high schools in Phang-Nga Province. There was a big gender difference, of which two-to-one of the respondents were female (68.3%). Almost all (93.2%) of the respondents are being cared for

by their own parents, while 11 respondents (5.4%) are cared by other family members. The marital status of the respondent's caretaker is largely married with 81.95 percent, while as much as 18.05 percent reported to live in a household with a single parent. The number of household members range from 1 to 10, with a median of 4 people. The occupation of the respondents' caregiver pre- and post-tsunami shows the same trend where the majority are working in farming and gardening, while one fifth are merchants and business owners. The household monthly income pre-tsunami ranged from 3,000 Baht to 60,000 Baht ( $\mu = 10,904$ ,  $SD = 10,072$ ) and 1,500 Baht to 65,000 Baht ( $\mu = 10,996$ ,  $SD = 11,738$ ) post-tsunami.

It is worth to note that all the students that had been relocated and sustained damage following the tsunami are only studying at Takua Pa Senanukul high school of which 16 households (7.80%) sustained some level of destruction and 7 respondents (3.41%) were relocated.

Only 32 respondents (15.6%) received help following the tsunami, but 84.4 percent of them found the help given was sufficient. 50 percent (50.73%) found that there is a lack of psychiatrists and psychologists while 88.8 percent found that mental health professionals are accessible (Table 1).

**Table 1** Situational factors of respondents

Situational Factors	Frequency (n=205)	%
Damage to household	16	7.80
Family/respondent relocation	7	3.41
<b>Place of relocation (n=7)<sup>a</sup></b>		
Relatives	2	28.57
Foster	1	14.28
New Home	4	57.14
<b>Help received <sup>b</sup></b>		
Food	20	62.50
Shelter	8	25.00
Clothes	15	46.88
Money	20	62.50
<b>Sufficient help (n = 32) <sup>c</sup></b>		
Yes	27	84.38
<b>Outside help from family/friends <sup>b</sup></b>		
Food	15	50.00
Shelter	8	26.67
Clothes	15	50.00
Money	19	63.33
<b>Enough psychiatrists and psychologists</b>		
Yes	101	49.27
No	104	50.73
<b>Psychiatrists and psychologists are accessible</b>		
Yes	182	88.78
No	23	11.22

a Relocated respondents (only)    b Multiple answer

c Respondents who had received help (only)

The students who had discussed with psychiatrists and/or psychologists following the 2004 tsunami reveal that only 3.41 percent, or 7 respondents had consulted mental health professionals, and all of them were satisfied with the sessions and found them effective.

Stress at school is a major life event followed by financial problems with 64.88 percent and 50.73 percent respectively. Conflicting problems with family members or friends are seen to be of similar proportion. These are issues which were expected as this age group is prone to undergo common teenage problems (Table 2).

**Table 2** Life events occurred within the past two weeks (multiple answers)

Life Events	Frequency (n = 205)	%
Problems with Partner/Lover	51	24.88
Stress at School	133	64.88
Conflict with Friends	46	22.44
Conflict with Family Member	49	23.90
Loss of Family Member and/or Friend	25	12.20
Financial Problems	104	50.73
Other	18	8.78

Table 3 represents the depression symptoms of the high school students. The results reveal that of the six respondents who have major depressive disorders, four (3.77%) were from Taput Wittaya, a high school sheltered from the tsunami.

**Table 3** Distribution of depression symptoms of respondents by high school

Depression Symptoms	Takua Pa Senanukul		Taput Wittaya	
	n(99)	%	n(106)	%
No Depression (0-14)	83	83.84	79	74.53
Low Depression (15-19)	9	9.09	12	11.32
Moderate Depression (20-28)	5	5.05	11	10.38
Major Depressive Disorders (29-33)	2	2.02	4	3.77

The prevalence rate of major depressive disorder was found to be as high as 29.3 percent among high school students in Phang-Nga. When considering individual high schools, a prevalence rate of major depressive disorders was found to be 20.2 percent for Takua Pa Senanukul and as much as 56.6 percent for Taput Wittaya.

Significant relationship was found with marital status of the respondents' guardian ( $\chi^2=5.589$ ,  $df=1$ ,  $P=0.018$ ) and the sufficiency of mental health professionals ( $\chi^2=6.946$ ,  $df=1$ ,  $P=0.008$ ).

Only a few variables were statistically significantly correlating to depression and high schools which are; grades ( $\chi^2=6.470$ ,  $df=1$ ,  $P=0.039$ ), availability of mental health professionals ( $P=0.048$ ), problems with partner/lover ( $P=0.024$ ) and financial problems ( $P=0.006$ ).

**Table 4** Depression symptoms and grade, availability of mental health professionals, problems with partner/lover and financial problems by high schools

Factors	Takua Pa Senanukul		Taput Wittaya	
	$\chi^2$	P-Value	$\chi^2$	P-Value
Grade	0.231	2.928	6.470	0.039*
Availability of mental health professionals	-	0.200	-	0.048*
Problems with partner/lover	-	0.024*	-	0.064
Financial Problems	-	0.705	-	0.006*

\*Fisher Exact Test Used

## DISCUSSION

This study reported that 89.26 percent had no or low levels of depression, while 7.80 percent and 2.94 percent had moderate and clinical depression symptoms respectively. The prevalence rate of depression was recorded to be as high as 29 percent. On the national average nearly 20 percent (19.9%) percent are diagnosed with clinical depression (1). Griesven stated that 30 percent of people who had been displaced following the tsunami revealed high symptoms of depression (2). This figure is very much alike what was found in Phang-Nga. Griesven's reported that the prevalence rate of depression among non-displaced groups was as high as 21 percent (2). This shows that depression in Phang-Nga is still high, however the depression symptoms recorded may not be directly due to the tsunami event but rather from alternate stressors such as recent life events. Griesven's study revealed high levels of depression however his study did not concentrate solely on high school students. Another study concerned with depression was conducted by Wacharasindhu and Panyyayong. It was aimed at finding the prevalence rate of psychiatric disorders among school-aged children in Thailand. The study revealed that 7.1 percent were diagnosed with depressive disorders (3). This is much lower than what was seen in Phang-Nga high schools, the reason for this may be due to the fact that Wacharasindhu and Panyyayong conducted their study on the whole nation and did not study Thai school aged

children who had experienced a dramatic event. The results of this study showed that two-thirds of the students who reported major depressive disorders were found in the district which had not been affected by the 2004 tsunami, therefore we may not conclude that the high rate of depression was due to the tsunami.

#### CONCLUSION

The prevalence of post tsunami depression among students were around 10% over half the respondents reported that mental health professionals were of insufficient numbers and poorly distributed throughout the province. 53 percent of students in Taput Wittaya and 48 percent of student in Takua Pa Senanukul stated that there is a lack of mental health professionals in their district.

Nearly 16 percent of the respondents had received help following the tsunami disaster, of which nearly 85 percent were satisfied with the help received. 91 percent of the help received was given to students in Takua Pa Senanukul.

Only 3.41 percent of the respondents had consulted professional mental health workers, such as psychiatrists and psychologists, of who all reported these sessions were effective and satisfactory. Only one respondent from Taput Wittaya had consulted a mental health professional following the tsunami, the rest of the consultations were given to the students in Takua Pa Senanukul. Over half of the respondents stated that the number of mental health professionals is inadequate and reported that there was a lack of hospitals. The decentralisation of doctors was also reported to be inadequate, where students

found it difficult to contact mental health professionals in rural areas.

Most of the direct aid received by the students was in monetary form and food of which the large majority found the aid to be sufficient. All the respondents who stated the aid was insufficient said they currently lack funds.

Nearly two-thirds revealed they were experiencing stress at school and over half the respondents demonstrated to currently have financial problems. A quarter of the respondents reported to have problems with their partner or lover, nearly 60 percent found it slightly harder to make decisions and were disappointed about the future. 16 percent worried a lot about things in general and 12 percent found it difficult to concentrate. 5 percent felt worthless all the time while 9 respondents (4.4%) were sad everyday. On a brighter note, 80 percent felt no lack of interest in others and no loss of appetite, while nearly 70 percent did not stay awake at night. Sleep and appetite disturbances are seen to be directly linked to depression, and so it is reassuring to see that the respondents did not reveal to have problems with either of these issues.

Situational factors such as damage to household, relocation of student, or whether the student had received help following the tragedy did not show to be statistically linked to depression symptoms. However, it is interesting to note that all the students who were relocated were studying in Takua Pa Senanukul high school. Relocation to alternate household was not linked to depression, of six respondents with the highest levels of depression, four were from Taput Wittaya a school not affected by the tsunami.

Life events such as problems with a partner or lover, academic difficulties, conflict with friend(s) and family member(s), as well as financial problems affected the students' depression levels in both high schools. Interestingly enough, a loss in a family member or friend in the past two weeks did not show to correlate with depression symptoms.

#### **RECOMMENDATION**

Six students revealed to have major depressive disorders which should be further studied. More interviews and talks should be carried out with these respondents. Larger scale surveillance should be carried out by the MOPH or the MOI as well as providing better distribution of mental health professionals and limit the clustering of such health workers in urban areas. Follow up should also be strongly considered for long-term periods. As stated above people who have experienced depressive episodes or have suffered from depression symptoms are likely to re-live these feelings within the following 5 years. Therefore it is important to inform the population that mental health professionals are available for consultation.

Social and mental or emotional support groups are strong assets to alleviate psychological impairment and so such groups should continue to work in disaster prone areas in order to limit the offsets of depression among the population.

More studies should be carried out on adolescents, only limited numbers of studies of this scope have ever been done, and so, only limited information is available. Previous studies identified depression symptoms among the entire affected population, however adolescents show different signs and symptoms as they go through maturity, therefore school aged children should be given more attention in order to identify stressor leading to depression. A similar study could be conducted in other schools of Phang-Nga such as vocational or private schools.

Studies targeting all adolescents in Phang-Nga should be done and not solely concentrate on high school students. Further studies should be carried out directly following a disaster in order to identify the direct effects the traumatic event may have on adolescents.

Psychological balance is strongly related with local culture, traditions and the environment. It is recommended that further studies with a more qualitative approach should be engaged in order to clearly understand the factors related to mental health and depression.

A similar study should be carried out in early 2010 as to identify whether the respondents are undergoing relapse of depression. If that is the case then response teams and social support groups should be available throughout the province and not concentrate the workforce in urban areas.

อัตราความชุกของโรคซึมเศร้าในกลุ่มนักเรียนมัธยมปลายในจังหวัดพังงา ประเทศไทย  
หลังเกิดเหตุการณ์สึนามิ 2 ปี

ยัง อีริค ลาเซน  
พันธุ์ทิพย์ รามสูต  
จุฑาธิป ศีลบุตร

ภาวะซึมเศร้าเป็นอาการที่อาจเกิดกับบุคคลทุกเพศวัย ซึ่งทำให้ผู้มีอาการดังกล่าวตกอยู่ในภาวะเศร้าโศกกว่าอาการเจ็บป่วยทางจิตอย่างอื่น แม้ว่าภาวะซึมเศร้าไม่ใช่อาการร้ายแรงและสามารถรักษาให้หายได้ ถ้าได้รับการช่วยเหลือที่ถูกต้อง แต่ส่วนมากผู้ป่วยไม่ได้รับการวินิจฉัยและต้องทนต่อภาวะเศร้าโศกอย่างไม่มีที่สิ้นสุด

การศึกษานี้เป็นการศึกษาภาคตัดขวาง โดยใช้แบบประเมินภาวะอารมณ์เศร้าเพื่อวัดระดับภาวะซึมเศร้าของนักเรียนชั้นมัธยมศึกษาปีที่ 4-6 ของโรงเรียนตะกั่วป่าเสนานุกูล และโรงเรียนทับปุดวิทยา จังหวัดพังงา ซึ่งเป็นพื้นที่ที่ได้รับผลกระทบจากการเกิดสึนามิมากที่สุด จากการศึกษาพบว่า อัตราส่วนของเด็กนักเรียนที่เป็นโรคซึมเศร้าแบ่งออกเป็น 4 กลุ่ม โดยร้อยละ 2.94 มีภาวะซึมเศร้าขั้นรุนแรง ร้อยละ 7.80 มีภาวะซึมเศร้าขั้นปานกลาง และร้อยละ 10.24 มีภาวะซึมเศร้าขั้นอ่อน ขณะที่ร้อยละ 79.02 ไม่มีภาวะซึมเศร้า อัตราความชุกของโรคซึมเศร้ามี่ค่าสูงถึงร้อยละ 29.3 เกือบร้อยละ 60 พบว่าลึกลับใจ ตัดสินใจไม่ค่อยได้แม้แต่เรื่องเล็กๆ น้อยๆ และท้อแท้ใจและหมดหวังในอนาคต ร้อยละ 16 คิดมาก กังวลใจไปหมดทุกเรื่อง และร้อยละ 12 ใจลอยไม่มีสมาธิ ร้อยละ 5 รู้สึกเศร้ามาก และร้อยละ 4.4 รู้สึกเศร้า

จากการศึกษาความสัมพันธ์ของตัวแปร พบว่าจำนวนนักจิตวิทยามีความสัมพันธ์กับระดับชั้นของนักเรียนในโรงเรียนทับปุดวิทยา เหตุการณ์ในอดีต ปัญหาเกี่ยวกับคนรัก ความเครียดที่โรงเรียน ความขัดแย้งกับสมาชิกในครอบครัว เพื่อน และปัญหาทางการเงิน

การศึกษารังนี้ พบว่า หลังจากเกิดเหตุการณ์ธรณีพิบัติ 2 ปี ระดับความซึมเศร้าของนักเรียนมัธยมศึกษาตอนปลายในพื้นที่ที่ได้รับผลกระทบจากสึนามิมีค่าไม่สูง ดังนั้นอัตราความชุกของภาวะซึมเศร้าในกลุ่มนักเรียนมัธยมศึกษาตอนปลายไม่มีความสัมพันธ์กับเหตุการณ์สึนามิที่เกิดขึ้นในเดือน ธันวาคม 2547 แต่อาการซึมเศร้าของนักเรียนมีความสัมพันธ์กับเหตุการณ์ในชีวิตประจำวันที่เกิดขึ้นกับนักเรียนในช่วง 2 สัปดาห์ที่ผ่านมา

**คำสำคัญ**

สึนามิ ผู้ประสบภัยพิบัติ โรคซึมเศร้า อัตราความชุก นักเรียนชั้นมัธยมศึกษา

**REFERENCES**

1. Thavichachart N et al. Epidemiological survey of mental disorders and knowledge attitude practice upon mental health among people in Bangkok Metropolis. Department of psychiatry, Chulalongkorn University, Bangkok.
2. Griensven van F et al. Mental health among adults in tsunami-affected areas in southern Thailand. Thailand Ministry of Public Health-US Centers for Disease Control and Prevention Collaboration, Nonthaburi, Thailand. JAMA. 2006; 296(5): 576-578.
3. Wacharasindhu A, Panyyayong B. Psychiatric disorders in Thai school-aged children. Department of psychiatry, faculty of medicine, Chulalongkorn University, Bangkok, Thailand.