ORIGINAL ARTICLE

Depressive Symptoms Among Siblings of Paediatric Outpatients at University Malaya Medical Centre

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Abstract

Depressive symptoms exist within the paediatric population. Nonetheless, clear clinical manifestations are often absent in this group. Objective: This study aimed to describe the prevalence and correlates of depressive symptoms among siblings of paediatric outpatients. The outpatients presented for acute complaints only. Methods: This was a cross-sectional study, with data collected over a 16-month period (April 2010 to July 2011). Participants were siblings of paediatric outpatients at University Malaya Medical Centre (UMMC), a tertiary hospital in Kuala Lumpur. They were recruited via convenience sampling. They were classified into high, average and low scores based on their responses to questions in the Children's Depression Inventory (CDI; T-score >55: high, T-score 45-55: average; T-score <45: low). Children with high scores were considered to have depressive symptoms. Results: There was a response rate of 93%. One hundred (100) participants were recruited, aged 7 to 17 years and comprised of forty one (41) females and fifty nine (59) males. Twenty seven percent (27%) had high CDI scores. Death of a first degree relative within the past year significantly affected depressive scores ($p < 0.05$). Conclusion: It is imperative to acknowledge the existence of depressive symptoms among apparently well children.

Keywords: Depressive Symptoms, Siblings, Paediatric, Death of First Degree Relative

Introduction

The rates of detection of depressive symptoms in the paediatric population are lower than the actual prevalence[1]. Although children may not fulfill the clinical diagnostic criteria for depression, it has been estimated that as many as 2% of children and 4-8% of adolescents have depression within the population of the United States of America[2]. A study among Australian children revealed that one in five children (20%) aged 4 to 17 years had significant mental health problems[3] . There is no comparable data currently available for the Malaysian paediatric population. However, the occurrence of clinical depression among the general Malaysian population is 2%[4].

The purpose of this study is to describe the prevalence of symptoms of depression among siblings of paediatric outpatients, as well as to identify associated risk factors.

Methods

The study was a cross-sectional survey conducted over a period of 16 months, between 1st April 2010 to 6th July 2011, among siblings of patients attending the paediatric outpatient clinics at the University of Malaya Medical Centre (UMMC), for acute complaints. UMMC is a tertiary university hospital in Kuala Lumpur.

Ethical approval was obtained from the Medical Ethics Committee of University Malaya Medical Centre prior to commencement of the study.

Well siblings, aged 7-17 years, of paediatric patients attending UMMC outpatient clinics during the study period were included in the study. Exclusion criteria were the presence of any chronic illness, developmental delay, developmental regression, reading difficulties and the need for long-term medication or medical follow-up.

The presence of depressive symptoms was documented using a validated Malay language version of the original Children's Depression Inventory (CDI) by Maria Kovacs[5]. The Malay language version was validated by Rosliwati, M.Y., et. al.[6] in 2008 in a study conducted among paediatric outpatients in Kota Bharu, Kelantan located on the east coast of Peninsula Malaysia.

The CDI consists of 27 items that each subject answered by choosing one of three responses he / she considered most accurate as an indicator of his / her feelings over the previous two weeks. A total score was obtained by adding up the subject's answers to all items, which encompassed questions reflecting negative mood, interpersonal problems, ineffectiveness, anhedonia and negative self-esteem. Based on the scores, subjects were classified into those with high, average and low degrees of depressive symptomatology (CDI; T-score >55: high, T-score 45-55: average; T-score <45: low).

The CDI questionnaires were completed by all subjects in the presence of the same researcher (S.J.) to prevent inter-observer bias. Another questionnaire pertaining to socio-demographic information was filled in by the subject's parents. The data was analysed using the Statistical Package for Social Sciences (SPSS).

Results

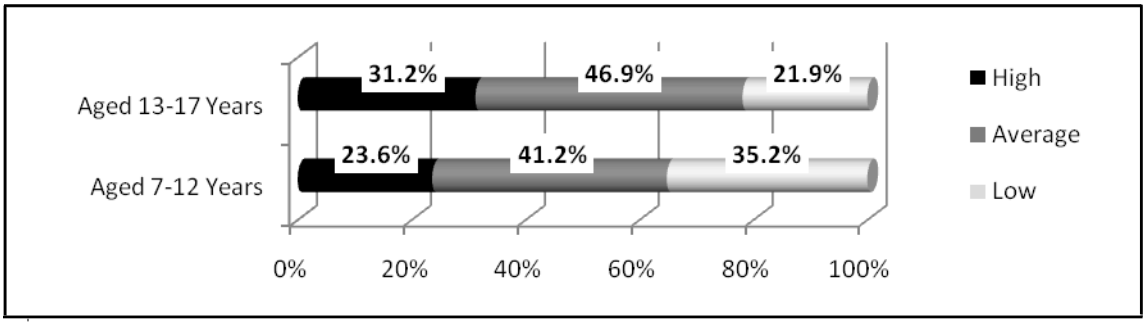
One hundred and seven (107) subjects fulfilled the criteria for inclusion into the study. The response rate was 93% (100). Of the one hundred study participants, forty one (41) were females and fifty nine (59) males. Sixty eight (68) were aged 7 to 12 years and thirty two (32) were 13 to 17 years old. The ethnic distribution was: 58 Malays, 9 Chinese, 32 Indians and 1 Caucasian.

More than a quarter of the subjects (27%) had high scores for depressive symptoms (CDI T-score >55). The majority (39%), however, had average scores (CDI T-score: 45-55), while 34% (34) had low scores (CDI T-score <45). For the five standard subscales: negative mood was found in 26% (26) of subjects, interpersonal problems in 35% (35), a feeling of ineffectiveness in 25% (25), anhedonia in 31% (31) and negative self-esteem in 13% (13).

The distribution of scores by age group is shown in Figure 1. There were no significant differences between subjects aged 7 to 12 years and those aged 13 to 17 years with

regards to the prevalence of high scores for depressive symptomatology (p = 0.48). Boys also did not differ significantly from girls in their scores (p = 0.38).

Figure 1. Distribution of CDI T-scores by age.



*CDI T-scores: >55: high, 45-55: average; <45: low

Risk Factors for Depressive Symptoms

Tables 1 and 2 show the degree of depressive symptoms according to various risk factors. Of all the risk factors analysed the only statistically significant risk factor was: death of a first degree relative within the past year (p < 0.05). Among the 27 subjects with a high degree of depressive symptoms, nine (33.3%) suffered the loss of a first degree relative within the past year. Of the 73 with average / low depressive symptoms, only ten (13.7%) experienced a similar loss. This difference was found to be statistically significant (p < 0.05).

Table 1. Degree of depressive symptoms according to illness- and death-related variables.

Risk Factor	Degree of Depressive Symptoms		p-value
	High* (n = 27)	Average / Low† (n = 73)	
Death of a first degree relative within the past year:			
Yes	9/27 (33.3%)	10/73 (13.7%)	0.03
No	18/27 (66.7%)	63/73 (86.3%)	
Diagnosis of severe illness in a first degree relative in the past year:			
Yes	6/27 (22.2%)	8/73 (11.0%)	0.15
No	21/27 (77.8%)	65/73 (89%)	
Medical or psychiatric illness in the family:			
Yes	11/27 (40.7%)	18/73 (24.7%)	0.12
No	16/27 (59.3%)	55/73 (75.3%)	
Presence of first degree relatives with psychiatric illness:			
Yes	0/27 (0%)	1/73 (1.4%)	0.54
No	27/27 (100%)	72/73 (98.6%)	
Presence of second degree relatives with psychiatric illness:			
Yes	0/27 (0%)	3/73 (4.1%)	0.29
No	27/27 (100%)	70/73 (95.9%)	

* High CDI T-score: >55
† Average / Low CDI T-score: ≤55

Table 2. Degree of depressive symptoms according to patient-related and socio-economic factors.

Risk Factor	Degree of Depressive Symptoms		p-value
	High* (n = 27)	Average / Low† (n = 73)	
Age category:			
7 – 12	16/27 (59.3%)	52/73 (71.2%)	0.25
13 - 17	11/27 (40.7%)	21/73 (28.8%)	
Gender:			
Male	14/27 (51.9%)	45/73 (61.6%)	0.38
Female	13/27 (48.1%)	28/73 (38.4%)	
Existence of close friendship(s):			
Yes	25/27 (92.6%)	68/73 (93.2%)	0.92
No	2/27 (7.4%)	5/73 (6.8%)	
Marital status of parents:			
Married	25/27 (92.6%)	69/73 (94.5%)	0.72
Not married	2/27 (7.4%)	4/73 (5.5%)	
Father’s education level:			
Tertiary	6/27 (22.2%)	23/73 (31.5%)	0.36
Non-tertiary	21/27 (77.8%)	50/73 (68.5%)	
Mother’s education level:			
Tertiary	7/27 (25.9%)	29/73 (39.7%)	0.20
Non-tertiary	20/27 (74.1%)	44/73 (60.3%)	
Father’s occupational grade:			
Professional	0/27 (0%)	8 (11%)	0.07
Non-professional	27/27 (100%)	65/73 (89%)	

Mother's occupational grade:			
Professional	0/27 (0%)	7/73 (9.6%)	0.10
Non-professional	27/27 (100%)	66/73 (90.4%)	
Loss of family income:			
Yes	3/27 (11.1%)	11/73 (15.1%)	0.61
No	24/27 (88.9%)	62/73 (84.9%)	
Change of address within past year:			
Yes	4/27 (14.8%)	5/73 (6.8%)	0.22
No	23/27 (85.2%)	68/73 (93.2%)	

* High CDI T-score: >55
† Average / Low CDI T-score: ≤55

Discussion

The aims of this study were to ascertain the prevalence of depressive symptoms among siblings of paediatric outpatients of UMMC and to elucidate the significant risk factors for the presence of such symptoms.

The results showed that a large proportion of subjects (27%) had high scores for depressive symptoms although they were not formally assessed for clinical depression.

Interpersonal problems was the most common issue for the study group closely followed by anhedonia. The percentages of respondents with high depressive symptoms for the five components of the CDI were: 26% (Negative Mood), 35% (Interpersonal Problems), 25% (Ineffectiveness), 31% (Anhedonia) and 13% (Negative Self-esteem).

A study in 2003 involving 45 practitioners from the Aquitaine Sentinelle Network, researched the prevalence of depressive disorders among children and adolescents aged 7 to 17 years attending primary care outpatient clinics. Of the 155 participants, 21 (13%) had symptoms at screening. A two-stage process was used before arriving at a formal diagnosis. The final numbers indicated that more than 1 in 10 of those aged 7 to 12 years and 5% of those aged 13 to 17 years were diagnosed with depression[7]. Therefore, a proportion of the paediatric outpatients did exhibit depressive symptoms despite being apparently well.

Our study involved screening for depressive symptoms among siblings. The percentage with depressive symptoms (27%) was more than the former study (13%). A possible reason for this is regional differences in epidemiology, as the former study was conducted in France and our study involved the local Malaysian population. Another possibility is the difference in the sample population. This study involved siblings of paediatric outpatients and not the outpatients themselves. Its relevance is due to the paucity of data on the siblings of paediatric outpatients.

Prevalence of Depressive Symptoms by Gender and Age group

By age group, the prevalence of high depressive symptoms among the 13-17 year olds and the 7-12 year olds were: 31.2% and 23.6%, respectively. However, there was no statistically significant difference between the scores for the two age groups. When considering age and gender, there were no significant differences in scores between the groups either.

Adlina S, et al.[8], studied the prevalence of depressive symptoms among 2048 secondary school students in the west coast state of Selangor, Malaysia using the Children's Depression Inventory (CDI). They found that 10.3% of the students had high scores for depressive symptoms. This was lower than the 27% found in our study. A possible reason for the higher prevalence in our study subjects is the participants in our study were siblings of children who presented to the outpatient clinics of a hospital, whereas the study by Adlina S, et al. [8] involved a different patient population (school students). Although the populations studied vary, it is interesting to note that both studies showed a high prevalence of depressive symptoms among well subjects in Malaysia.

Research into the prevalence of depressive symptoms as well as the risk factors among 9863 American adolescents was conducted by Saluja G, et al.[9]. The study was conducted among school students aged 11 years, 13 years and 15 years (grades 6, 8 and 10) via a self-administered questionnaire. Eighteen percent of the study subjects had depressive symptoms. This proportion is similar to our study. Girls (25%) were more affected than boys (10%) and for both genders, the prevalence of depressive symptoms increased with age. There were no significant gender or age differences for our study population.

Factors Associated with Depressive Symptoms

The only factor that significantly affected depressive symptoms was death of a first degree relative within the past year (Chi-square = 4.937, df = 1, p-value < 0.05). Of the subjects with low depressive scores, the majority (63 out of 73, 86.3%) did not suffer the loss of a first degree relative.

Our study highlights the importance of death in the family as a factor affecting the presence of depressive symptomatology. Other studies have shown that the death of a family member has an especially negative impact on the psychological well-being of the individual[10-11].

This is consistent with the findings of a study by Melhem NM, et al.[10]. In that study, 182 children and adolescents aged 7 to 18 years, who had suffered the sudden loss of a parent, were studied from the time of parental death till 3 years later. Prolonged grief was associated with an increased risk of incident depression during the study period. Almost one third (31%) of the participants had increased grief reactions 9 months after the loss of a parent and had associated increased risk of depression.

Brent D, et al.[11] had similar findings when they studied one hundred and seventy six subjects aged 7 to 25 years, who lost a parent due to suicide, accident or sudden natural death. They were studied at 9 months and 21 months after the death and compared to matched controls. The subjects who lost a parent were more likely at 9 months post-event to have depression. Also, at 21 months, the same group were more likely to have depression (and alcohol or substance abuse).

Death in the family can have longlasting effects on mental health and has a bearing on the development of depressive symptoms. Therefore, it is no wonder that death of a first degree relative emerged as a significant factor in our study.

Research by Adlina S, et al.[8], found that those with more depressive symptoms were likely to be girls, to have more more siblings and to have parents with no formal education or only primary school education. These factors were analysed in our study, but none of them were statistically significant.

A study conducted by Pochard F, et al.[12] indicated that the prevalence of anxiety symptoms and depressive symptomatology among family members of intensive care patients were 69.1% and 35.4% respectively. This high level of symptoms was due to the presence of a relative with an illness. In our study, an ill relative was not found to significantly affect the scores.

Conclusion

A significant proportion of well siblings (27%) had high CDI scores. Therefore, even though depressive symptoms in children are difficult to detect, this does not equate to the total absence of depressive symptoms in this population. The negative impact of the death of a first degree relative on depressive scores was consistent with several other studies which cited death of a family member as a major factor[10,11]. It is vital to recognise the existence of depressive symptoms among apparently well children, as they may require early intervention.

Recommendations

Insight into the mental health of children is crucial in order to ensure that those with depressive symptoms are identified at an early stage. This will enable better long term outcomes. Areas for further research are: depressive symptoms among paediatric patients with chronic illnesses and depressive symptoms among the siblings, parents and caregivers of these patients.

Acknowledgements

The authors would like to thank Prof. Dr. Mohd. Jamil, Consultant Psychiatrist, Psychiatry Department of University Science Malaysia, for permitting the utilization of the Malay version of the Children's Depression Inventory (CDI) validated by his team of researchers. We would also like to thank Assoc. Prof. Karuthan Chinna of the Epidemiology and Biostatistics Unit, Department of Social and Preventive Medicine, University of Malaya for his invaluable statistical input.

Declaration of Conflicting Interests

The authors declare no conflicts of interests with regard to the authorship and / or publication of this article.

Funding

The author(s) did not receive any financial support for the research and / or authorship of this article.

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