The prevalence of depressive symptoms among adolescents in Nairobi public secondary schools: association with perceived maladaptive parental behaviour

LI Khasakhala[1,2], DM Ndetei[1,2], V Mutiso[2], AW Mbwayo[2], M Mathai[1,2]
[1]Department of Psychiatry, University of Nairobi, Nairobi, Kenya
[2]Africa Mental Health Foundation (AMHF), Nairobi, Kenya

Abstract
Objective: Depression in adolescents is a matter of concern because of its high prevalence, potential recurrence and impairment of functioning in the affected individual. The study sought to determine the prevalence of depressive symptoms among adolescents in Nairobi (Kenya) public secondary schools; make a comparison between day and boarding students; and identify associated factors in this population. **Method:** A random sample of school going adolescents was taken from a stratified sample of 17 secondary schools out of the 49 public secondary schools in Nairobi province. The sample was stratified to take into account geographical distribution, day and boarding schools, boys only, girls only and mixed (co-education) schools in the capital city of Kenya. Self administered instruments (EMBU and CDI) were used to measure perceived parental behaviour and levels of depression in a total of 1,276 students excluding those who had no living parent. **Results:** The prevalence of clinically significant depressive symptoms was 26.4%. The occurrence was higher in girls than it was in boys $p<0.001$. Students in boarding schools had more clinically significant depressive symptoms compared to day students ($p=0.01$). More girls exhibited suicidal behaviour than boys ($p<0.001$). There was a significant correlation between depressive symptoms and suicidal behaviour ($p<0.001$). CDI scores correlated positively with age ($p<0.001$) with an increase in CDI score with unit increase in age among students 14-17 years old, perceived rejecting maternal parenting behaviour ($p<0.001$), perceived no emotional attachment paternal behaviour ($p<0.001$), perceived no emotional attachment maternal behaviour ($p<0.001$), and perceived under protective paternal behaviour ($p=0.005$).**Conclusion:** Perceived maladaptive parental behaviours are substantially associated with the development of depressive symptoms and suicidal behaviour in children.

Key words: Depression; Adolescent; Parent; Kenya

Received: 17-02-2011
Accepted: 25-05-2011
doi: http://dx.doi.org/10.4314/ajpsy.v15i2.14

Introduction

Depression in adolescents is a matter of concern because of its high prevalence, potential recurrence and impairment of functioning in the affected child.[1] The prevalence of major depression among children aged 9 to 17 years has been estimated at 5 percent worldwide.[2] In the United States the prevalence has been shown to be as high as 8.3 percent. This is similar to findings in European countries.[3-5] In Kenya, depressive symptoms (not depressive diagnoses) have been found to be as high as 43.7%[6] with similar figures found in other studies across the globe.[7-8] Depressive disorders have been shown to occur in approximately 2% of primary school going children, and between 4% to 8% of adolescents.[10,11] Depressive episodes in childhood and adolescence are recurrent and may persist into adulthood if the contributing factors remain unchanged. Early depressive vulnerability is a predictive factor for depression in adulthood.[9]

Correspondence:
Prof. DM. Ndetei
P.O. Box 48423-00100 Nairobi, Kenya.
email: dmndetei@uonbi.ac.ke

Children and adolescents with depressive disorders are also at increased risk of suicide, substance use disorders, early pregnancy, poor academic performance, and impaired psychosocial functioning.[12,13] Psychosocial problems associated with being depressed are relatively well known in adults. However, the extent to which these characteristics are associated with depression in adolescents has received less attention.[14] Although previous studies worldwide vary greatly in their methodology and with a focus on adults[5-13], sufficient convergence has emerged to implicate the following variables as potential risk factors for depression: female gender; living in a dysfunctional family; low parental education; stressful life events and low social support; cigarette smoking; low self-esteem and body image; high self-consciousness; depression-related cognitions; school problems and reduced intellectual competence and coping skills; physical disability and poor physical health; excessive interpersonal dependence; problematic interpersonal behaviours; conflict with parents; and early death of a parent.[15,16,17,18,19] The prevalence of depression among female adolescents has been reported to be from two to five times more than males.[20-21]

Parents play an important and influential role in a child's development through providing emotional support as they interact with their offspring. This interaction and related emotional relationship shapes the child's personality; thereby influencing mental development. However, growing children may perceive parental behaviour as maladaptive. Such perception of parenting behaviour as dysfunctional has long been viewed as an important determinant of offspring psychopathology such as mood, anxiety, substance abuse disorder and suicidal behaviour.[24-26] This has also been found to be associated with lower self esteem, under-achievement and high psychological stress in children raised in such a relationship.[13] Suicidal behaviour as a psychosocial risk factor has been found to be closely linked to dysfunctional or maladaptive parental behaviour in affected children.[27-32] Furthermore, suicidal behaviour has been linked to deficits in behavioural and emotional functioning (low self-esteem, depressive symptoms) which extend into young adulthood.[33-34]

The main objective of this study was to determine the prevalence of clinically significant depressive symptoms among school going adolescents in an urban setting and compare between the boarding students and those who commute daily from their homes. The study also aimed at determining factors associated with depression in these adolescents, including parental behaviour as perceived by the children.

Method

Sample/location

A stratified sample of 17 out of the 49 public secondary schools in Nairobi was selected. This sample was stratified to take into account different types of schools in terms of being either all boys, all girls or mixed; whether students reside at school, or not, during school terms (boarding or day school), location of the school within Nairobi city (east/west/north/south), and the neighbourhood economic status depending on rent costs (high/middle/low). The national schools enroll the best performing students in the national examinations from schools all over the country through a quota system that ensures all the eight administrative provinces (including Nairobi) are equitably represented. Nairobi provincial schools only enroll students from schools within Nairobi city.

Instruments

1. Socio-demographic questionnaire

This consisted of items which focused on the participants' age, gender, type of school, whether boarder or day scholar, whether mother/father are alive/in formal employment, and number of siblings in their family.

2. Egna Minnen Betrafande Uppfostran (EMBU)

This is an 81 item self-administered instrument grouped into 8 constructs following factor analysis: Parental emotional abuse/neglect, parental physical abuse/neglect, authoritarian parent, under-involved parent, permissive parent and authoritative parent.[35] The constructs were further factually derived into 4 perceived parental behaviour dimensions.[36-38] Emotionally attached parent (emotionally/physically abusing and authoritarian parental behaviour); Rejecting parent (emotionally and physically neglecting parenting behaviour), under protective parent (permissive or under-involved parental behaviour) and adaptive parenting behaviour (authoritative parenting behaviour) which are distributed across the four scales. The EMBU was developed as a valid and reliable measure for assessing perceived parental rearing practice. All items are scored on a 4-point likert (1-4) scale for mother and father separately.[39]

3. The Child Depression Inventory (CDI)[40]

This is a 27 item self-rated symptom oriented scale instrument which was developed based on Beck's Depression Inventory (BDI)[41] to distinguish youth with psychiatric diagnoses of major depressive disorders (MDD) or dysthymic disorders from those with other psychiatric disorders or non-selected normal school going children and adolescents.[42] It has been repeatedly shown to be a valid screen for depressive symptoms in children and adolescents in different cultural backgrounds as also seen in China.[40,43] A total CDI score is calculated by summing all items that vary between 0 (no depression) and 54 (all depression symptoms clearly present). A cut-off point of 20 as calculated by Rivera, Bernal and Rossello was used in this study to identify adolescents with clinically significant depressive symptoms.[44] The results by Rivera, Bernal and Rossello showed that CDI scores differed significantly ($P<0.001$) between children with MDD and children without clinically significant depressive symptoms and their results were similar to those by Kovac.[44]

Procedure

The instruments were administered to every 8th student seated at their usual desks from each class from Form 1 to Form 4 in each participating school. The time used to fill out the CDI and EMBU instrument including administration of socio-demographic questionnaires was approximately

one hour. Class teachers were requested to spare an entire lesson time for this activity on one specific day of the week where data was collected in a class room setting. A total number of 1276 students excluding those who had no living parent were recruited to participate in this particular study.

Data analysis

The socio-demographic data, perceived parental behaviour, the clinically significant depressive symptoms and other factors associated with depression were analysed using the chi square test and correlation procedures (SPSS version 16 for Windows).

Results

Socio-demographic variables and depressive symptoms (Table I)

Clinically significant depressive symptoms were present in 26.4% of the students aged between 13 and 22 years, but with no statistical significant differences in age. A higher proportion of females had more clinically significant depressive symptoms than the males (p <0.001); boarding students were found to have significantly more depressive symptoms than the day students (p=0.014) and a higher proportion of students in Form 4 had more clinically significant depressive symptoms than those in the lower classes (p=0.007). There were no significant relationships between depression and having lost one parent (single

Table I: Association between Socio-demographic factors and CDI scores (N=1276)

Factor	*Clinically significant depressive symptoms according to CDI scores*					*Chi square test*		
	No	*Yes*	*Total*	*Mean CDI score*	*Standard Error*	X^2	*df*	*p-value*
Age								
13-15 years	217 (77.50%)	63 (27.5%)	280(21.9%)	19.48	0.341	2.934	2	0.231
16-18 years	643 (72.7%)	242 (27.3%)	885(69.4%)	19.91	0.197			
19-22 years	79 (71.2%)	32 (28.8%)	111(8.7%)	20.23	0.526			
Total	939 (75.6%)	337(26.4%)	1276 (100%)					
Gender								
Male	577(77.4%)	170(22.6%)	747(58.5%)	20.83	0.222	12.371	1	<0.001
Female	362(69%)	167(31%)	539(42.2%)	23.28	0.219			
Residence of student								
Boarding	751(72.1%)	290(27.9%)	1041(81.6%)	20.12	0.177	6.091	1	0.014
Day student	188(80%)	47(20%)	235(18.4%)	18.63	0.391			
Current class								
Form 1	256(80.0%)	60(20.0%)	316(24.5%)	18.87	0.329	11.997	3	0.007
Form 2	280(71.6%)	111(28.4%)	391(30.6%)	19.98	0.299			
Form 3	209(70.6%)	87(29.4%)	296(23.3%)	19.87	0.357			
Form 4	194(65.5%)	79(34.5%)	273(21.4%)	20.74	0.302			
Father alive								
yes	855	306	1161	19.4	0.198	0.019	1	0.889
No	84	32	115	19.8	0.215			
Mother alive								
yes	892	325	1217	19.9	0.218	1.162	1	0.281
No	37	9	46	19.7	0.213			
Father formally employed								
yes	698	248	946(74.1%)	19.92	0.175	p=0.667		
No	130	50	180(14.1%)	19.41	0.437			
Mother formally employed								
yes	638	229	867(68.0%)	20.12	0.191	p=0.578		
No	301	108	409(32.1%)	19.26	0.302			
Number of brothers and sisters								
1-2	221	88	309(24.2%)	19.91	0.333	p=0.357		
>2	591	205	796(62.4%)	20.09	0.196			
Living arrangement								
Both parents	729	254	982(77.0%)	19.89	0.333	p=0.545		
Single parent	162	67	229(18.0%)	20.3	0.375			
others	49	16	65(5.0%)	19.40	0.725			

orphan-hood), parental employment, family size and whether living with both parents, one parent or living with others, CDI scores correlated positively with age (p<0.001) among students between ages 14-17 years.

Socio- demographic variables and suicidal behaviour (Table II)

According to age spectrum (classes), more students had suicidal behaviour (31.8-34.2 %) than clinically significant depressive symptoms (27.3-28.8%). The occurrence of suicidal behaviour in females as compared to males was higher (p=0.001). Although students in Form 4 had more clinically significant depressive symptoms (Table I), a higher proportion of Form 2's had suicidal behaviour (p=0.001). Similarly a higher proportion of boarding students - compared to day students - had suicidal behaviour (p=0.047). There was no association between suicidal behaviour with single orphan-hood (either mother or father), employment status of either parent, family size or with whom the child lived with at home.

Perceived parental behaviour and depressive disorder (Table III)

Clinically significant depressive symptoms in adolescence were associated with perceived maternal rejecting behaviour (p<0.001); perceived no emotional attachment paternal behaviour (p<0.001); perceived no emotional attachment maternal behaviour (p<0.001), and perceived under-protective parental behaviour (p=0.005). Perceived adaptive behaviour by either the father or mother appeared to be protective against features of depression.

Perceived parental behaviour and depressive symptoms correlations (Table IV)

Depressive symptoms were significantly associated with perceived rejection by the mother (p<0.001); no emotional attachment with the father (p=0.023); and even more, no emotional attachment with the mother (p=0.001), and an unprotective mother (p=0.009).

Table II: Association between Socio-demographic variables and Suicidal behaviour (N=1276)

Factor	*No suicidal behaviour*	*suicidal behaviour*	*Total*	*Chi square tests*
Age				
13-15 years	191(68.2%)	89(31.8%)	280(21.9%)	X^2=3.480
16-18 years	584(66.0%)	301(34.0%)	885(69.4%)	df=2
19-22 years	73(65.8%)	38(34.2%)	111(8.7%)	p=0.518
Gender				
Male	515(68.9%)	232(31.1%)	747(58.5%)	X^2=18.100
Female	333(63.0%)	196(37.1%)	529(41.5%)	df=1
				p<0.001
Current class				
Form 1	223(70.6%)	93(29.4%)	316(24.8%)	X^2=22.436
Form 2	235(60.1%)	156(39.9%)	391(30.6%)	df=6
Form 3	198(66.9%)	98(33.1%)	296(23.2%)	p=0.001
Form 4	192(70.3%)	81(29.7%)	273(21.4%)	
Father formally employed				
yes	775(66.8%)	386(33.2%)	1161(91%)	X^2=854
No	73(63.5%)	42(36.5%)	115(9.0%)	df=1
				p=0.652
Mother formally employed				
yes	812(66.7%)	405(33.3%)	1217(95.4%)	X^2=0.682
No	28(60.9%)	18(39.1%)	46(3.6%)	df=1
				p=0.711
Living arrangement				
Both parents	657(66.9%)	325(33.1%)	982(77%)	X^2=1.930
Single parent	148(64.6%)	81(35.4%)	229(18%)	df=2
others	43(66.2%)	22(33.8%)	65(5.1%)	p=0.749
Residence				
Boarding	679(65.2%)	362(34.8%)	1041(81.6%)	X^2=6.760
Day	169(71.9%)	66(28.1%)	235(18.4%)	df=1
				p=0.047
Number of brothers and sisters				
1-2	201(65.1%)	108(34.9%)	309(24.2%)	X^2=1.779
>2	529(66.5%)	338(42.5%)	796(62.4%)	df=1
				p=0.411

Table III: Association between perceived parental behaviour with CDI scores (N=1274*)

Perceived parental behaviour	*Perceived parental behaviour*			*CDI*		
	n	*Mean score*	*SE*	*Mean score*	*SE*	*p-value*
Adaptive						
Father	383(30.1%)	28.89	0.041	20.23	0.288	p=0.799
Mother	476(37.1%)	29.11	0.040	20.54	0.246	p=0.693
Rejecting						
Father	341(26.8%)	29.59	0.061	21.12	0.225	p=0.93
Mother	296(23.2%)	29.96	0.057	20.99	0.291	p<0.001
No emotional attachment						
Father	368(28.9%)	17.31	0.111	21.52	0.322	p=0.023
Mother	297(23.3%)	17.22	0.111	21.40	0.303	p=0.001
Under protective						
Father	182(14.3%)	13.18	0.057	21.78	0.424	p=0.009
Mother	205(16.1%)	13.61	0.054	20.96	0.354	p=0.304

** Two students did not fill out the EMBU questionnaire*

Discussion

In this study, the rate of clinically significant depressive symptoms in nearly one third (27-29%) is similar to findings reported in other similar situations in Kenya and other countries in Africa.[6-8,45] However, of concern is that the apparent high rates of depressive symptoms does not necessarily correlate with cases being referred for intervention to medical facilities. This suggests under recognition of these disorders in school settings in Kenya. The finding that the rate of such symptoms was higher in females is in agreement with the universal findings that depression is associated more with the female than with the male gender.[7-8, 34-35,46] That the boarding students were more depressed than the day scholars in the Kenyan setting could be explained thus: Kenyan parents value the education of their children as the embodiment of their future and believe that enrolling them in boarding schools affords their children the best opportunity to concentrate on their studies. Nevertheless, that does not necessarily mean the children will not feel the stress or pain of separation from their parents and other siblings. Secondly, parents who perceive their children as problematic, regardless of the root cause for their problematic behaviour, tend to send those children to boarding schools in the hope that the confined environment will ''control'' their behaviour. Similar findings have been found elsewhere.[47-51] In Kenya, the fourth form is the last year in high school, at the end of which the students undertake a very competitive examination that determines admission to the limited places in tertiary institutions. It is therefore not surprising that Form 4 is associated with high levels of depressive symptoms. An unexpected finding with no immediate explanation however was that depression was not associated with orphan-hood (especially the loss of a mother), parental income or family size. Speculatively, it is the emotional support that matters most, regardless of who provides it.

The finding that suicidal behaviour presented more than depressive symptoms, although only marginally, would suggest that not everybody who is suicidal is necessarily depressed clinically and that the suicidal behaviour may be an expression of temporal stress rather than depression. Nevertheless, a 31.1% rate of suicidal behaviour is a cause for concern on its own, more so given that it was not being managed. However if noted by the teachers or the parents, the students might receive help from their school or home environment rather than be referred for professional intervention. As indicated by the American Academy of Pediatrics, the affected adolescents often feel relieved when someone has heard their cry for help- particularly a parent.[51] Suicidal behaviour as documented by the American Academy of Pediatrics represents an attempt to resolve conflict. As was the case in this study, the majority of the youth were from adaptive, intact family settings, with good social support, and therefore had hope for the future. Thus, a desire to resolve conflicts as indicated by Rivera-Medina et al may require only brief crisis-oriented interventions e.g. making someone understand their desperate feelings.[53] The higher occurrence of suicidal behaviour in female students and students who were in boarding schools can be explained in the same way as was earlier explained in the case of depression. Both the high rates of clinically significant depressive symptoms and suicidal behaviour observed in this study call for urgent education of teachers and in particular class teachers and school counsellors in the recognition and appropriate management of mental health disorders in schools. It is not clear why suicidal behaviour was common among Form 2 students.

It is gratifying to note that perceived adaptive rather than conservative parental behaviour seemed a protective factor against depression. The assumption here is that adaptive behaviour implies positive and constructive communication between the parents and their children and that this allows for conflict resolution. Expectedly, perceived rejection by the mother was highly associated with depressive symptoms as children spend more time with their mothers who might not be able to meet all their emotional and physical needs. The fact that fathers are often perceived as bread winners and overall providers of protection for the family may explain the finding in this study that perceived under-protective fathers was associated with depressive symptoms in the children. The correlation tests confirm the different significant associations between depressive symptoms in children and perceived parental behaviour.

Table IV: Correlations between perceived parental behaviour and depression

		1	2	3	4	5	6	7	8	9
	Factor	*Class*	*Ages*	*CDI score*	*RPPB*	*RMPB*	*NEAPPB*	*NEAMPB*	*UPPPB*	*UPMPB*
1	Class									
	Pearson Correlation	1								
	Sig. (2-tailed)									
	N	489								
2	Ages									
	Pearson Correlation	.640**								
	Sig. (2-tailed)	.000								
	N	489	489							
3	CDI score									
	Pearson Correlation	.018	.045							
	Sig. (2-tailed)	.688	.319							
	N	489	489	489						
4	Rejecting paternal parental behaviour									
	Pearson Correlation	.020	-.009	-.030						
	Sig. (2-tailed)	.661	.840	.512						
	N	489	489	489	489					
5	Rejecting maternal parental behaviour									
	Pearson Correlation	-.051	-.118**	.449**	.571**					
	Sig. (2-tailed)	.260	.009	.000	.000					
	N	489	489	489	489	489				
6	No emotional attachment paternal Parental Behaviour									
	Pearson Correlation	.065	.020	.663**	.421**	.356**				
	Sig. (2-tailed)	.148	.660	.000	.000	.000				
	N	489	489	489	489	489	489			
7	No Emotional Attachment Maternal parental behaviour									
	Pearson Correlation	.018	-.038	.338**	.305**	.438**	.655**			
	Sig. (2-tailed)	.691	.406	.000	.000	.000	.000			
	N	489	489	489	489	489	489	489		
8	Under protective paternal parental behaviour									
	Pearson Correlation	-.064	-.085	.118**	.236**	.217**	.379**	.312**		
	Sig. (2-tailed)	.155	.060	.006	.000	.000	.000	.000		
	N	489	489	489	489	489	489	489	489	
9	Under protective maternal parental behaviour									
	Pearson Correlation	-.024	-.016	.330**	.275**	.342**	.331**	.410**	.570**	
	Sig. (2-tailed)	.600	.717	.005	.000	.000	.000	.000	.000	
	N	489	489	489	489	489	489	489	489	489

**Correlation is significant at the 0.01 level (2-tailed).

Key: CDI - Child Depressive Inventory Score; NEAPPB - No Emotional Attachment Paternal Parental Behaviour; RPPB - Rejecting Paternal Parental Behaviour; NEAMPB - No Emotional Attachment Maternal parental behaviour; RMPB - Rejecting Maternal Parental Behaviour; UPPPB - Under-Protective Paternal Parental Behaviour; UPMPB - Under Protective Maternal Parental Behaviour

Conclusion

Parental behaviour, and in particular a rejecting mother and an unprotective father should be explored in the management of children with depression while at the same time, promotion of adaptive behaviour in both parents should be encouraged and supported. This is important in particular in traditional Africa and to a large extent in contemporary Africa as a parent is the identified authority figure in a family setting.[54] Thus, a parent is expected to filter the beliefs, attitudes and practices of the society in general in order to instruct children as to how to become acceptable members of the family and hence society, therefore protecting a child from developing emotional or behavioural problems. As children grow, they learn partly through observation and through modeling and

therefore the way the parent interacts with them determines how they will respond to their authority as well as how they react emotionally and behaviourally. The fact that there was a significant association between depressive symptoms/suicidal behaviour and perceived maladaptive parental behaviour means that parental interactive behaviour influences emotional and behavioural outcomes in children.

In this study, maternal rejecting parental behaviour, paternal under-protective behaviour and no emotional attachment parental behaviour in both parents were shown to be associated with depressive symptoms and suicidal behaviour in children. This result is comparable to many other studies which have shown that maladaptive parental behaviours are mediating factors for children to develop depressive disorders and suicidal behaviour.[55-67] These maladaptive parental behaviours as documented in these previous studies were shown to form dysfunctional family settings that are associated with high rates of parent-child conflict. Comparable with results of previous studies, children raised in these environments are highly vulnerable to develop psychiatric disorders.[55-67]

References

1. *Akiskal H. Mood disorders. Introduction and overview. In: Sadock BJ, Freedman AM, Kaplan, HI, eds. Comprehensive Textbook of Psychiatry. 7th ed. Philadelphia: Williams and Wilkins; 2000: 1284 – 1298.*
2. *Murray CJ, Lopez AD. Evidence-based health policy--lessons from the Global Burden of Disease Study. Science. 1996; 274: 740 – 743.*
3. *Shaffer D, Fisher P, Dulcan MK, Davies M. The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA study. Journal of the American Academy of Child & Adolescent Psychiatry 1996: 35: 865–877.*
4. *Rutter M, Yule B, Quinton D, Rowlands O, Yule W, Berger W. Attainment and adjustment in two geographical areas: III—Some factors accounting for area differences. Br J Psychiatry 1975;126:520-33.*
5. *Arnarson EO, Smari J, Einarsdottic H, Jonasdottir E. The prevalence of depressive symptoms in pre-adolescent school children in Iceland. Scand J Behav Ther 1994;23:121-30.*
6. *Ndetei DM, Khasakhala L, Nyabola L, Ongecha-Owuor F, Seedat S, Mutiso V, et al. The prevalence of anxiety and depression symptoms and syndromes in Kenyan adolescents. Journal of Child and Adolescent Mental Health 2008; 20 (1): 33-51.*
7. *Cooper PJ, Goodyear LA. Community study of depression in adolescent girls; estimates of symptom and symptom prevalence. Br J Psychiatry 1993; 163: 369 – 374.*
8. *Scheidt P, Over P, Wyatt W, Aszmann A. Adolescent general health and well being in health and health behaviour among young people. WHO policy series, health policy for children and adolescents, International Report Copenhagen. Denmark: WHO Company; 1998: 177 – 178.*
9. *Petersen AC, Compas BE, Brooks-Gunn J, Stemmler M, Ey S, Grant KE. Depression in adolescence. Am Psychol 1993;48:155-68.*
10. *Lewinsohn PM, Clarke GN, Seeley JR, Rohde P. Major depression in community adolescents: age at onset, episode duration, and time to recurrence. J Am Acad Child Adolesc Psychiatry 1994;33:809-18.*
11. *Kessler RC, Walters EE. Epidemiology of DSM-III-R major depression and minor depression among adolescents and young adults in the National Comorbidity Survey. Depress Anxiety 1998;7:3-14.*
12. *Brent DA, Baugher M, Bridge J, Chen T, Chiappetta L. Age- and sex related risk factors for adolescent suicide. J Am Acad Child Adolesc Psychiatry 1999;38:1497-505.*
13. *Rhode P, Lewinsohn PM, Seeley JR. Comorbidity of unipolar depression: II. Comorbidity with other mental disorders in adolescents and adults. J Abnorm Psychol 1991;100: 214-22.*
14. *Lewinsohn PM, Rohde P, Seeley JR, Klein DN, Gotlib IH. Natural course of adolescent major depressive disorder in a community sample: predictors of recurrence in young adults. Am J Psychiatry 2000;157:1584-91.*
15. *Barnett PA, Gotlib IH. Psychosocial functioning and depression: distinguishing among antecedents, concomitants, and consequences. Psychol Bull 1988;104:97-126.*
16. *Kandel DB, Davies M. Adult sequelae of adolescent depressive symptoms. Arch Gen Psychiatry 1986;43:255-62.*
17. *Hammen C, Adrian C, Hiroto D. A longitudinal test of the attributional vulnerability model in children at risk for depression. Br J Clin Psychol 1988;27:37-46.*
18. *Lewinsohn PM, Hoberman HM, Rosenbaum M. A prospective study of risk factors for unipolar depression. J Abnorm Psychol 1988;97:251-64.*
19. *Velez CN, Johnson J, Cohen P. A longitudinal analysis of selected risk factors for childhood psychopathology. J Am Acad Child Adolesc.*
20. *Graham G, Verhulst F. Child Psychiatry: A Developmental Approach. Oxford; New York: Oxford University Press; 1999: 228 – 229.*
21. *Kashani JH, Carlson GA, Beck NC, Hoeper EW, Corcoran CM, McAllister JA, et al. Depression, depressive symptoms, and depressed mood among a community sample of adolescents. Am J Psychiatry. 1987; 144: 931 – 934.*
22. *American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.*
23. *Kessler RC, Walters EE. Epidemiology of DSM-III-R major depression and minor depression among adolescents and young adults in the National Comorbidity Survey. Depression and Anxiety 1998; 7: 3–14.*
24. *Kendler KS. Parenting: a genetic-epidemiologic perspective. Am J Psychiatry 1996; 153:11-20.*
25. *Jones DPH. Communicating with vulnerable children: A guideline for practitioners. London: Gaskell, 2003.*
26. *Wells J, Barlow J, Stewart-Brown S. A systematic review of universal approaches to mental health promotion in schools. Oxford, UK: Health Services Research Unit, University of Oxford, 2001.*
27. *Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Arch Gen Psychiatry 1999; 56:617–626.*
28. *Cooper-Patrick L, Crum RM, Ford DE. Identifying suicidal ideation in general medical patients. JAMA 1994; 272:1757–1762.*
29. *Goldney RD, Dal Grande E, Fisher LJ, Wilson D. Population attributable risk of major depression for suicidal ideation in a random and representative community sample. J Affect Disord 2004 ; 74:267–272.*
30. *Pfeffer CR, Klerman GL, Hurt SW, Kakuma T, Peskin JR, Siefker CA. Suicidal children grow up: rates and psychosocial risk factors for suicide attempts during follow-up. J Am Acad Child Adolesc Psychiatry 1993; 32:106–113.*
31. *Reinherz HZ, Giaconia RM, Silverman AB, Friedman A, Pakiz B, Frost AK, et al. Early psychosocial risks for adolescent suicidal ideation and attempts. J Am Acad Child Adolesc Psychiatry 1995; 34:599–611.*

32. Dhossche D, Ferdinand R, van der Ende J, Hofstra MB, Verhulst F. Diagnostic outcome of adolescent self-reported suicidal ideation at 8-year follow up. J Affect Disorder 2002; 72:273–279.
33. Goldney RD, Smith S, Winefield AH, Tiggemann M, Winefield HR. Suicidal ideation: its enduring nature and associated morbidity. Acta Psychiatr Scand 1991; 83:115–120.
34. Groleger U, Tomori M, Kocmur M. Suicidal ideation in adolescence—an indicator of actual risk? Isr J Psychiatry Relat Sci 2003; 40:202–208.
35. Perris C, Jacobsson L, Lindstrom H, Von Knorring L, Perris H. Development of a new inventory for assessing memories of parental rearing behaviour. Acta Psychiatrica Scandinavica 1980; 61:265-274.
36. Arrindell WA, van der Ende J. Replicability and invariance of dimensions of parental rearing behaviour: Further Dutch experiences with the EMBU. Personality and Individual Differences 1984; 5: 671-682.
37. Arrindell WA, Sanavio E, Aguilar G, Sica C, Hatzichristou C, Eisemann M, et al. The developmentof a short form of the EMBU: its appraisal with students in Greece, Guatemala, Hungary and Italy. Personality and Individual Differences 1999; 27: 613-628.
38. Arrindell WA, Perris C, Eisemann M, vander Ende J, Gaszner P, Iwawaki S, et al. Parental rearing behaviour from across-cultural perspective: A summary of data obtained in 14 nations. In: C Perris, WA Arrindell, M Eisemann (eds.), Parenting and psychopathology. New York: Wiley. 1994, 145-171.
39. Arrindell WA, Perris C, Eisemann M, van der Ende J, Gaszner P, Iwawaki S, et al. Parental rearing behaviour from across-cultural perspective: A summary of data obtained in 14 nations. In: C Perris, WA Arrindell, M Eisemann (eds.), Parenting and psychopathology. New York: Wiley, 1994, 145-171.
40. Kovacs M. Children Depression Inventory. New York: Multi-Health Systems, 1992.
41. Beck AT, Beamesderfer A. Assessment of depression: The depression inventory. In P. Pichot & R. Oliver-Martin (Eds.), Psychological measurements in psychopharmacology Oxford, England: Karger, 1974, pp. 151-169.
42. Kovacs M, Gatsonis C, Paulauskas S, Richards C (1989), Depressive disorders in childhood: A longitudinal study of comorbidity with and risk for anxiety disorders. Arch Gen Psychiatry 46:776–782[Abstract/Free Full Text]
43. Yeung A, Howarth S, Chan R, Sonawalla S, Nierenberg AA, Fava M. Use of the Chinese version of the Beck Depression Inventory for screening depression in primary care. J Nerv Ment Dis. 2002; 190: 94 – 99.
44. Rivera CL, Bernal G, Rosselló J. The Children Depression Inventory (CDI) and the Beck Depression Inventory (BDI): Their validity as screening measures for major depression in a group of Puerto Rican adolescents. International Journal of Clinical Health Psychology 2005; 5(3): 485-498.
45. Ndetei DM, Khasakhalsa L, Mutiso V, Mbwayo A. Recognition of Depression in Children in General Hospital Based Paediatric Units in Kenya – Practice and Policy Implications. Annals of General Psychiatry 2009, 8:25 Available online at http://www.annals-general-psychiatry.com/content/8/1/25.
46. Dahlmann BH. Depressive syndromes and suicide. In: Remschmidt H, ed. Psychotherapy with Children and Adolescents. Cambridge; New York: Cambridge University Press; 2001: 291 – 306.
47. Bahls S. Epidemiology of depressive symptoms in adolescents of a public school in Curitiba, Brazil. Rev Bras Psiquiatr 2002;24:63-7.
48. Chan DW. Depressive symptoms and perceived competence among Chinese secondary school students in Hong Kong. J Youth Adolescence. 1997; 26:303–319.
49. Angold A, Rutter M. Effects of age and pubertal status on depression in a large clinical sample. Development Psychopathol. 1992; 4: 275 – 280.
50. Jellinek MS, Snyder JB, Depression and suicide in children and adolescents. Pediatr Rev 1998;19:255-64.
51. Poli P, Sbrana B, Marcheschi M, Masi G, Self-reported depressive symptoms in a school sample of Italian children and adolescents. Child Psychiatry Hum Dev 2003;33:209-26.
52. American Academy of Pediatrics. Suicide and Suicide Attempts in Adolescents Pediatrics 2000; 105 (4) :871-874.
53. Rivera-Medina CL, Bernal G, Rossello J, Cumba-Aviles E. A Study of the Predictive Validity of the Children's Depression Inventory for Major Depression Disorder in Puerto Rican Adolescents. Hispanic Journal of Behavioural Sciences 2010; 32(2): 232 - 258.
54. Nsamenang AB. A west African Perspective. In M. Lamb (ed.). The father's role: cross cultural perspective. London: Lawrence Erlbaum Associates, 1987: 273-287.
55. Leinonen JA, Solantaus TS, Punamaki RL.Parental mental health and children's adjustment: the quality of marital interaction and parenting as mediating factors. Journal of Child Psychology and Psychiatry 2003; 44: 2, 227-241.
56. Rutter M. Protecting factor in children's response to stress and disadvantage. Primary preventing in psychology vol. 3, University press of New England, 1979.
57. Puig-Antich J, Goetz D, Davies M, Kaplan T, Davies S, Ostrow L, Asnis L, Twomey J, Iyengar S, Ryan ND. A controlled family history study of prepubertal major depressive disorder. Arch Gen Psychiatry. 1989;46:406-418.
58. Williamson DE, Ryan ND, Birmaher B, Dahl RE, Kaufman J, Rao U, et al. A case-control family history study of depression in adolescents. J Am Acad Child Adolesc Psychiatry 1995;34:1596-1607.
59. Harrington R, Rutter M, Weissman MM, Fudge H, Groothues C, Bredenkamp D, et al. Psychiatric disorders in the relatives of depressed probands, I: comparison of prepubertal, adolescent and early adult onset cases. J Affect Disord 1997;42:9-22.
60. Greenberg PE, Stiglin LE, Finkelstein SN, Berbdt ER. The economic burden of depression in 1990. J Clin Psychiatry. 1993;54:405-418.
61. Neuman R, Geller B, Rice JP, Todd R. Increased prevalence and earlier onset of mood disorders among relatives of prepubertal versus adult probands. J Am Acad Child Adolesc Psychiatry 1997;36:466-473.
62. Kendler KS. Is seeking treatment for depression predicted by a history of depression in relatives? implications for family studies of affective disorder. Psychol Med 1995;25:807-814.
63. Gerlsma C, Kramer JJAM, Scholing A, Emmelkamp PMG. The influence of mood on memories of parental rearing practices. British Journal of Clinical Psychology 1994; 33: 159-172.
64. Halverson CF. remembering your parents: Reflections on the retrospective method. Journal of Personality 1988; 56: 435-443.
65. Weissman MM, Wickramaratne P, Nomura Y, Warner V, Verdeli V, Pilowsky DJ, Grillo C, Bruder G. Families at high and low risk for depression: a 3-generation study. Arch Gen Psychiatry 2005; 62:29–36.
66. Hammen C, Shih J, Altman T, Brennan PA. Interpersonal impairment and the prediction of depressive symptoms in adolescent children of depressed and non depressed mothers. J Am Acad Child Adolesc Psychiatry 2003; 42:571–577.
67. Pilowsky DJ, Wickramaratne P, Nomura Y, Weissman MM. Family discord, parental depression, and psychopathology in offspring: 20-year follow-up. J Am Acad Child Psychiatry 2006; 45:452–460.