ENCYCLOPEDIA
on Early Childhood
Development

Early Intervention and Prevention of Anxiety and Depression

Jordana K. Bayer, PhD, Ruth Beatson, PhD

Murdoch Childrens Research Institute, Australia

March 2013

Introduction

The World Health Organisation predicts that by 2030 depression will be second only to HIV/AIDS in international burden of disease.[1] Mental health problems that are first identified in adolescence and adulthood, including debilitating depression, anxiety disorders and drug misuse, can have their origins in pathways that begin much earlier in life with childhood mental health problems.[2,3,4]

Subject

In childhood, mental health problems primarily consist of emotional and behavioural problems. Australia's national youth mental health survey reported that these affect one in every seven children aged 4-17 years.[5] Similar rates are reported internationally.[6,7,8] Emotional problems include anxiety and depression. Characterised by inner emotional distress that may not be obvious to others, these disorders are also known as "internalising" problems.

©2013-2026 ABILIO | ANXIETY AND DEPRESSION

Problems

Cost-benefit economic studies show that, as a general rule, intervening earlier in the life course can be cheaper and more effective than later treatment.[9] Studies following children in the community over time have highlighted persistence of internalising symptoms, from early- to mid-childhood[10,11] and from childhood into adolescence and adulthood.[12,13]

Research Context

While emotional functioning continues to develop from childhood into adulthood, the early years constitute a potential window of opportunity for early intervention and prevention. Children's internalising problems are in part inherited and in part due to environmental[14] factors. Longitudinal research studies show that the single strongest precursor of internalising problems in young children is "temperamental inhibition," manifested as fearfulness and a tendency to withdraw from new situations.[15,16,17,18] Additional known risks for young children's internalising problems are harsh and/or overprotective parenting interactions, and parents' own internalising problems.[11,18,19,20,21,22,23]

Key Research Questions

What is the best way to intervene very early in children's emotional trajectories to prevent anxiety and depression? This article presents current evidence for this question. Preventive intervention in the early childhood years focuses primarily on optimising the child's environment, with a view to managing or preventing the development of internalising difficulties. Parenting interactions have been shown to be the most important environmental factor to influence a young child's behaviour. Parental over-involvement/protection (i.e., shielding from natural challenges in life) and/or harsh discipline (i.e., smacking and yelling) predict young children's internalising symptoms.[19,24] Therefore the main goal of early intervention and prevention programs is to develop parents' skills to identify and respond to their child's emotionally distressed behaviours in effective ways.

Recent Research Results

A recent systematic review of evidence-based preventive interventions for internalising problems among young children (ages 0-8 years)[25] identified randomised controlled trials as the 'gold standard' methodology to assess program effectiveness. The review highlighted that relatively

few preventive interventions specifically attended to internalising problems compared to a large evidence-base that exists for child behaviour (externalising/conduct) problems.

Regarding interventions commencing in infancy, Early Start[26,27] had the best balance of evidence for reducing child internalising problems.[25] Early Start is a individual home visiting program in New Zealand that targets at-risk and stressed mothers over two to three years. Services in primary care screened all families for risk, and then coordinated weekly home visits by family support workers given five weeks training. One randomised trial evaluation with a three-year follow up found this intervention improved child internalising problems, parenting interactions (including abuse) and preschool attendance.

Regarding interventions commencing at preschool age, two programs had the best balance of evidence for reducing internalising problems.[25] In Canada, a brief (three month) psycho-educational group-based program tested in a controlled trial with parents of children exhibiting behavioural problems was found to also reduce child anxiety. However, the wait-list control design of this trial means that program effectiveness beyond a few weeks is unknown. In Australia, Cool Little Kids is a brief (three month) program targeting parents with temperamentally-inhibited preschool-age children.[28,29,30] Two randomised trial evaluations including six month and three year follow up showed the program effectively prevented child internalising disorders.

In the Cool Little Kids trials, parents of temperamentally-inhibited preschool age children were invited to participate in fortnightly 1.5 hour parenting groups delivered by a clinical psychologist. Targeting child inhibition and overprotective parenting, this program aims to build preschool children's resilience to situational fears and distressing worries. It teaches parents strategies to modify their preschool child's fear and distress, as well as their own (if relevant). The first trial demonstrated that intervention children developed significantly fewer anxiety disorders than controls by age five years (50% vs. 64%), with even larger effects by age seven years (40% vs. 69%). The second trial targeted parents with anxiety disorders and again found the program significantly impacted inhibited preschool children's anxiety disorders (53% intervention vs. 93% controls). Cool Little Kids is thereby the first (and only, thus far) effective early childhood prevention program for internalising disorders.

Research Gaps

Very few effective interventions exist for young children's internalising problems. With a focus on anxiety, Cool Little Kids is at the cutting edge of early intervention research in the field. Long-term effectiveness data (more than 5 years) need to be collected for relatively brief prevention programs such as Cool Little Kids, which requires sufficient research funding. Another challenge is to assess the effectiveness of the program when delivered across large population representative samples.[31] The potential to systematically screen "at risk" children (temperamentally-inhibited) via a universal preschool service platform and deliver this intervention is currently being investigated in a population-level randomised trial. Further, few studies have reported economic evaluations for early intervention programs for children's mental health.[7,25,32] Such evaluations could include implementation service costs (training, program materials, provider salaries), costs to families (time off work, transport costs), and later health/welfare costs saved from implementing an early intervention.

A very new area for research is identifying depression at preschool age and designing innovative early intervention programs. While the existence of depressive disorders as early as preschool age is gaining recognition,[33,34] a recent review of prevention programs for child depression did not include such young children.[35] Very recently the first pilot work has been conducted on Parent-Child Interaction Therapy as a potential early intervention for preschool children's depression.[33] An absence of treatment programs for young children's depression, together with increasing rates of antidepressant medications being prescribed to children with unknown efficacy, highlight the urgent need to develop and evaluate psychotherapeutic interventions.[33]

Conclusions

Since the 1990s, recognition has grown that young children can experience internalising problems (anxiety and depression), with debilitating effects when they persist over time. Key known risks for young children's internalising problems include both inherited and environmental components (i.e., child temperamental inhibition, parental anxiety/depression, overprotective and/or harsh parenting interactions). An evidence base of preventive early intervention programs for young children's anxiety and depression is starting to develop. The current volume of research on preventive intervention for young children's internalising problems remains small, in comparison to 30 years of research on early intervention for behaviour (conduct) problems. Further research is urgently needed on early prevention for both anxiety and (especially) depression. For anxiety, to date the Cool Little Kids parenting program has the best evidence supporting its efficacy. Advantages of this program include its brevity,

targeted approach and evidence that it prevents later anxiety disorders. A population level randomised trial of Cool Little Kids is currently underway in Australia.[31] The existence of depression in preschool age children has only recently been recognised, and the development of innovative early intervention is urgently required.[33]

Implications

Current knowledge of early intervention and prevention for internalising problems has implications for parents, services and policy. Parents can be reassured that effective early intervention for young anxious children exists. Health and education services could plan staff development to implement only early intervention programs with a sound evidence-base. Policy makers could prioritise funding to a) disseminate evidence-based programs and b) conduct more quality early intervention research for young children's anxiety and depression. To disseminate preventive interventions, Geisen and colleagues[36] note the following important principles:

- Programs should have staff that are properly trained and adhere to program content.
- Intervention "dosage" should be maximised by providing out-of-hours sessions for working parents and on-site childcare.
- It is essential that a professional consultant experienced with the program works closely with new providers, to ensure that components essential for effectiveness are maintained while minimal aspects are tailored to local needs.
- The ability to reduce children's anxiety and depression problems early in life could narrow cumulative disparities in mental health and disadvantage later in life.

References

1. Mathers, C.D., & Loncar, D. Projections of global mortality and burden of disease from 2002 to 2030, *PLoS Med* 2006; 3(11): e44.
2. Jokela M, Ferrie J, & Kivimaki M. Childhood problem behaviours and death by midlife: the British National Child Development Study. *J Am Acad Child Adolesc Psychiatry* 2009; 48(1): 19-24.
3. Kessler RC, Amminger GP, Aguilar-Gaxiola S, Alonso J, Lee S, Ustun TB. Age of onset of mental disorders: a review of recent literature. *Curr Opin Psychiatry* 2007; 20: 359-364.
4. Mrazek PJ & Haggerty RJ. *Reducing the risk for mental disorders*. Washington: National Academy Press; 1994.
5. Sawyer MG, Arney FM, Baghurst PA, Clark JJ, Graetz BW, Kosky RJ, Nurcombe B, Patton GC, Prior MR, Raphael BR, Rey JM, Whaites LC, Zubrick SR. The mental health of young people in Australia: key findings from the child and adolescent component of the national survey of mental health and well-being. *Aust NZ J Psychiat* 2011; 35: 806–814.

6. Rescorla L, Achenbach T, Ivanova MY, Dumenci L, Almqvist F, Bilenberg N, et al. Behavioural and emotional problems reported by parents of children ages 6 to 16 in 31 societies. *Journal of Emotional and Behavioral Disorders* 2007; 15(3): 130-142.

7. Kieling C, Baker-Henningham H, Belfer M, Conti G, Ertem I, Omigbodun O, Rohde LA, Srinath S, Ulkuer N, Rahman A. Child and adolescent mental health worldwide: evidence for action. *The Lancet* 2011; 378(9801): 1515-1525.

8. Verhulst FC, & Koot HM. *The Epidemiology of Child and Adolescent Psychopathology*. London: Oxford University Press; 1995.

9. Heckman J. *Invest in the very young. Chicago: Ounce of Prevention Fund and the University of Chicago Harris School of Public Policy Analysis*; 2000.

10. Bayer JK, Sanson AV, & Hemphill SA. Early childhood aetiology of internalising difficulties: a longitudinal community study. *Int J Ment Health Promotion* 2009; 11(1): 22-32.

11. Bayer JK, Ukoumunne OC, Lucas N, Wake M, Scalzo K, Nicholson J. Risk factors for childhood mental health symptoms: National Longitudinal Study of Australian Children. *Pediatrics* 2011; 128(4): 865-879.

12. Asendorpf JB, Denissen JJA, van Aken MAG. Inhibited and aggressive preschool children at 23 years of age: personality and social transitions into adulthood. *Dev Psychol* 2008; 44(4): 997-1011.

13. Bosquet M, & Egeland B. The development and maintenance of anxiety symptoms from infancy through adolescence in a longitudinal sample. *Dev Psychopathol* 2006; 18: 517-550.

14. Cicchetti D & Toth SL. The development of depression in children and adolescents. *American Psychologist* 1998; 53(2): 221-241.

15. Biederman J, Rosenbaum JF, Bolduc-Murphy EA, Faraone SV, Chaloff J, Hirschfield DR, & Kagan J. A 3-year follow-up of children with and without behavioural inhibition. *J Am Acad Child Adolesc Psychiatry* 1993; 32(4): 805-821.

16. Prior M, Smart D, Sanson A, & Oberklaid F. Does shy-inhibited temperament in childhood lead to anxiety problems in adolescence? *J Am Acad Child Adoles Psychiatry* 2000; 39(4): 461-468.

17. Rapee RM & Szollos AA. Developmental antecedents of clinical anxiety in childhood. *Behav Change* 2002; 19(3): 146-157.

18. Rosenbaum JF, Biederman J, Bolduc-Murphy EA, Faraone SV, Chaloff J, Hirshfeld DR & Kagan J. Behavioural inhibition in childhood: a risk factor for anxiety disorders. *Harv Rev Psychiatry* 1993; 1(1): 2-16.

19. Bayer JK, Sanson AV, & Hemphill SA. Parent influences on early childhood internalising difficulties. *J Appl Dev Psychol* 2006; 27: 542-559.

20. Bayer JK, Hiscock H, Ukoumunne OC, Price A, & Wake M . Early childhood aetiology of mental health problems: a longitudinal population-based study. *J Child Psychol Psychit* 2008; 49(11): 1166-1174.

21. Coplan RJ, Arbeau KA, & Armer M Don't fret, be supportive! Maternal characteristics linking child shyness to psychosocial and school adjustment in kindergarten. *J Abnorm Child Psychol* 2008; 36: 359-371.

22. Rapee RM, Schniering CA, & Hudson JL. Anxiety disorders during childhood and adolescence: origins and treatment. *Annu Rev Clin Psychol* 2009; 5: 311-341.

23. Rubin KH, Burgess KB & Hastings PD. Stability and social-behavioural consequences of toddlers' inhibited temperament and parenting behaviours. *Child Dev* 2002; 73(2): 483-495.

24. Bayer JK, Ukoumunne OC, Mathers M, Wake M, Abdi N, Hiscock H. Development of children's internalising and externalising problems from infancy to five years of age. *Aust NZ J Psychiat* 2012; 46(7): 659-668.

25. Bayer JK, Hiscock H, Scalzo K, Mathers M, McDonald M, Morris A, Birdseye J, & Wake M.. Systematic review of preventive interventions for children's mental health: what would work in Australian contexts? *Aust NZ J Psychiat* 2009; 43: 695-710.

26. Ferguson D, Grant H, Horwood L, Ridder E. Randomized trial of the early start program of home visitation. *Pediatrics* 2005; 116(6): 803-809.

27. Ferguson D, Grant H, Horwood L, Ridder E. Randomized trial of the early start program of home visitation: parent and family outcomes. *Pediatrics* 2006; 117: 781-786.

28. Rapee RM, Kennedy S, Ingram M, Edwards S, & Sweeney L. Prevention and early intervention of anxiety disorders in inhibited preschool children. *J Consult Clin Psychol* 2005; 73(3): 488-497.

29. Rapee RM, Kennedy SJ, Ingram M, Edwards SL, & Sweeney L. Altering the trajectory of anxiety in at-risk young children. *Am J Psychiatry* 2010; 167(12): 1518-1525.

30. Kennedy SJ, Rapee RM, & Edwards SL. A selective intervention program for inhibited preschool-aged children of parents with an anxiety disorder: effects on current anxiety disorders and temperament. *J Am Acad Child Adoles Psychiatry* 2009; 48(6): 602-609.

31. Bayer JK, Rapee R, Hiscock H, Ukoumunne OC, Mihalopoulos C, Clifford S, & Wake M (2011). The Cool Little Kids randomised controlled trial: Population level early prevention for anxiety disorders. *BMC Public Health* 2011:11: 2-9.

32. Mihalopoulos C, Vos T, Pirkis J, Carter R. The economic analysis of prevention in mental health programs. *Annu Rev Clin Psychol* 2011; 7: 169-201.

33. Luby J, Lenze S, & Tillman R. A novel early intervention for preschool depression: findings from a pilot randomised controlled trial. *J Child Psychol Psychiat* 2012; 53(3): 313-322.

34. Wichstrom L, Berg-Nielsen TS, Angold A, Egger HL, Solheim E, & Sveen TH. Prevalence of psychiatric disorders in preschoolers. *J Child Psychol Psychiat* 2012; 53(6): 695-705.

35. Merry SN, Hetrick SE, Cox GR, Brudevolde-Iversen T, Bir JJ, & McDowell H. Psychological and educational interventions for preventing depression in children and adolescents. *Cochrane Database of Systematic Reviews* 2011; Issue 12, Art No CD003380. DOI: 10.1002/14651858.CD003380.pub3.

36. Giesen F, Searle A, Sawyer M. Identifying and implementing prevention programmes for childhood mental health problems. *J Paediatr Child Health* 2007; 43: 785-789.

©2013-2026 ABILIO | ANXIETY AND DEPRESSION