Journal of Adolescence 59 (2017) 112–123

Contents lists available at ScienceDirect

Journal of Adolescence

journal homepage: www.elsevier.com/locate/jado

Psychiatric outcomes associated with chronic illness in adolescence: A systematic review

Ann Marie Brady [a, *], Jessica Deighton [b], Stephen Stansfeld [a]

[a] Centre for Psychiatry, Wolfson Institute of Preventive Medicine, Bart's and the London School of Medicine and Dentistry, Charterhouse Square, London EC1M 6BQ, United Kingdom
[b] Evidence Based Practice Unit, University College London and Anna Freud Centre, London N1 9JH, United Kingdom

ARTICLE INFO

Article history:
Received 31 August 2016
Received in revised form 13 March 2017
Accepted 21 May 2017

Keywords:
Chronic illness
Adolescents
Systematic review
Depression
Anxiety

ABSTRACT

Recent years have seen an increased focus on the high rates of psychiatric comorbidities in adults with chronic illness. This systematic review explored whether chronic illness in adolescents was similarly associated with poor psychiatric outcomes. The literature search identified 129 articles, only 5 of which were indicated to be at a low risk of methodological bias. Four of these articles found a strong relationship between asthma in adolescence and an increase in the prevalence of anxiety and depressive disorders, while the remaining article, which focused on diabetes mellitus, indicated similarly increased rates of psychiatric illness. Trends among the remaining studies suggested that many illnesses were not associated with poor adolescent mental health. Please note that chronic conditions with a neurological aetiology were excluded from the main review due to indications of qualitative differences in comorbidities. Findings highlight that the well-being of adolescents with chronic illness warrants a specific research focus.

Introduction

Michaud, Suris, and Viner (2007) defined the current milieu as one of epidemiological transition - a transition in which conditions which are controllable, albeit with prolonged medical intervention, are overtaking acute and infectious disease as the primary focus of public healthcare systems worldwide. Due to rapid advances in medical technology and knowledge in the twentieth century, as well as the concurrent growth in more sedentary lifestyle practices marked by high caloric diets, the prevalence of these "chronic" or "long-term" conditions has increased exponentially across all age groups (see Vos et al., 2015; Weisz, 2014). The Department of Health in England and Wales (e.g. 2012) currently estimate that about 30% of the population across the two countries have at least one long-term condition, which they define as "those conditions that cannot at present be cured, but can be controlled by medication and/or other therapies", with 12% of those aged from 10 to 19 estimated to be affected. However, this report notes, that due to the variations in registries, this may be an underestimate of the true population prevalence – for example, in the 'Health Behaviour in School Aged Children Survey 2014' in England, 23% of the over 5000 11–15 year olds surveyed self-identified as having a long-term medical illness and/or disability.

* Corresponding author.
E-mail addresses: a.b.brady@qmul.ac.uk (A.M. Brady), Jessica.DeightonPhD@annafreud.org (J. Deighton), s.a.stansfeld@qmul.ac.uk (S. Stansfeld).

http://dx.doi.org/10.1016/j.adolescence.2017.05.014
0140-1971/

In recent years, the Department of Health of England and Wales has become increasingly focused on the high rates of psychiatric comorbidities amongst people living with chronic illness (Mental Health Network/NHS Confederation, 2012; Naylor et al., 2012). It has been estimated that, overall, adults living with long-term physical health conditions are two to three times more likely to experience a diagnosable mental health condition (Naylor et al., 2012), with rates of comorbid depressive disorders being particularly pervasive (Academy of Medical Royal Colleges, 2009). However, the prevalence of such psychiatric comorbidities among children and adolescents remains unclear (e.g. Sawyer, Drew, Yeo, & Britto, 2007).

Despite a parallel growth in the prevalence of long-term conditions among child and adolescent groups (e.g. Berntsson & Köhler, 2001; Michaud et al., 2007), there has been a relative dearth of focus on the impact of chronic disease within these younger age groups within the wider literature (Sawyer et al., 2007; Schmidt, Petersen, & Bullinger, 2003). Recent years have seen calls for an increased focus on younger age groups (e.g. Holmbeck, 2002; Sawyer et al., 2007), and the rationale for such a specific focus is clear when it comes to the examination of psychiatric comorbidities. Juvenile-onset mental illnesses often have a unique set of predisposing risk factors and neurobiological characteristics when compared with adult onset forms of these disorders (e.g. Jaffee et al., 2002; Kaufman, Martin, King, & Charney, 2001). Moreover, the high rates of psychiatric comorbidities among adults living with long-term conditions have been partially attributed to common lifestyle risk factors (Naylor et al., 2012), and lifestyle factors play a more minor role in the onset of childhood forms of these conditions (Sawyer et al., 2007). Therefore, it cannot be assumed that similarly elevated rates of mental illness will be identifiable among this age group.

Existing meta-analyses have highlighted the need for a specific focus on younger populations in isolation from their adult counterparts. Although evidence from these reviews suggest that children and adolescents living with chronic illness are more likely to suffer from elevated rates of internalising and externalising symptomatology (Lavigne & Faier-Routman, 1992; Pinquart & Shen, 2011b), depressive symptomatology (Bennett, 1994; Pinquart & Shen, 2011c), and anxiety (Pinquart & Shen, 2011a), the overall small to medium magnitude of the effects sizes, and findings of variation in effect across conditions, would suggest the association between chronic illness in the formative years and poorer mental health outcomes is not as strong as that found in older populations. However, methodological artefacts among the studies included could have limited the insight of these meta-analyses. Barlow and Ellard (2006) argue that sampling issues are endemic in this field, with use of small, selective convenience samples widespread. Indeed, the dependence on small, clinic-based samples was noted among these reviews, with Lavigne and Faier-Routman (1992) hypothesising this as the source of the significant variability in mental health outcomes within conditions in their review. Moreover, concerns have also been raised regarding the use of psychometric ratings scales, such as the 'Child Behaviour Checklist', as prevalence measures of psychiatric illness among this population, due to the presence of a large number of items focusing on somatic symptoms (Canning & Kelleher, 1994), and significant variations in the assessment of the child's well-being between raters (Pinquart & Shen, 2011b).

One clear limitation in these reviews is the lack of specific focus on differentiating outcomes between child and adolescent populations. Such a limitation should be considered in the context of wider discussions, which theorise chronic disease as being particularly tied to poor mental health outcomes in adolescence (e.g. Sawyer et al., 2007), due to the likely disruption these conditions pose to normal developmental milestones of this period, such as increased autonomy from parents (e.g. Schmidt et al., 2003; Surís, 2003). This lack of age-specific focus may be due to the methodological approach of the studies included in these analyses. Many studies focusing on these younger age groups include a broad age range, often from early childhood into early adulthood (e.g. Dantzer, Swendsen, Maurice-Tison, & Salamon, 2003), with McClellan and Cohen (2007) noting that many studies are unable to assess the effects of age due to their small, selective samples. When including age as covariate in the larger meta-analyses, Bennett (Bennett, 1994) and Pinquart and Shen (2011a, 2011b, 2011c) indicated that age of the study child did not seem to have a significant impact on outcomes, with the only age-related effects being noted were an age-related reduction in anxiety disorders (Pinquart & Shen, 2011a) and an early childhood reduction of internalising and externalising behavioural symptoms (Pinquart & Shen, 2011b). However, Williams, Holmbeck, and Greenley (2002) argue that such methods are imprecise due to the limitations in sample power overall. Indeed, the lack of identifiable age-related variations would seem counter-intuitive when other age-related variations in chronic disease outcomes are considered – for example, it has been found that adherence to medical regimens is as its lowest in adolescence (Holmbeck, 2002; Viner & Davies, 2012, pp. 1–11).

Given the concerns surrounding the empirical support underlying previous reviews in the area of paediatric chronic illness, an extensive systematic review of the literature was conducted with a strict focus on the quality of the evidence in order to build a more solid empirical insight into the mental health outcomes associated with the presence of chronic illness in youth. It was considered important, given the limitations in the empirical base, to start with a focus on the establishment of associations, rather than looking specifically at causative relationships. Therefore, the over-arching question of this review was: "Is there evidence to suggest that living with a chronic illness in adolescence is associated with poorer mental health outcomes?"

Methods

Search strategy

Eligible studies were identified through a comprehensive literature search of the following four bibliographical databases: PsycInfo, Medline, Embase and Web of Science using the popular denoted terms for long-term conditions (e.g. "chronic