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Obesity in Children in Out-of-home Care: A Review of the Literature

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Abstract

Children placed in out-of-home care are a particularly disadvantaged group in society, who have often been exposed to trauma and socioeconomic disadvantage. As a result, they experience poorer health outcomes than children in the general population, especially mental health outcomes. One health outcome that has yet to be researched thoroughly is overweight and obesity of children placed in out-of-home care. Hence, the overall goal of this paper was to review the extant literature over the last decade on weight-related issues for children in out-of-home care, with particular emphasis on overweight and obesity. The findings of the review revealed that there is a lack of rigorous Australian research in relation to prevalence rates of overweight and obesity in children in out-of-home care; there is a lack of strategies or interventions designed specifically to combat overweight and obesity in children in out-of-home care; and one of the major limitations of Australian research to date is the use of self-report measures to assess the weight status of children in out-of-home care. It was concluded that prevention and intervention strategies are needed that target children as they enter out-of-home care.

Keywords: Out-of-home Care; Obesity; Overweight; Health

There is strong evidence that childhood trauma and adverse childhood events have pervasive effects on adult health (Barber & Delfabbro, 2004; Chernoff, Combs-Orne, Rusley-Curtiss & Heisler, 1994; Community Affairs Reference Committee, 2004; Felitti et al., 1998; Lantz et al., 1998; Poulton et al., 2002; Wolfenden, Falkiner, & Bell, 2010). This is especially true for adults who were removed from their family of origin as children, because of inadequate care and protection, and placed in out-of-home care (the placement of children and adolescents in the care of a person who is not their parent). Evidence to support this proposal is clear from the Senate Inquiry into children in institutional care in Australia from the 1920s to the 1970s that received hundreds of submissions from care leavers who had been in government and non

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government institutions or foster homes across all states in Australia (Australian Government Department of Senate Community Affairs Reference Committee, 2004). This inquiry generated the largest volume of highly personal, emotive, and significant evidence of any Senate inquiry, providing graphic details of the traumatic childhood events that have contributed to the poor physical and mental health outcomes that care-leaver adults continue to experience.

Much has been done since the 1970s to ensure the rights of children are protected in Australia, including Australia's ratification in 1990 of the United Nations Convention on the Rights of the Child (United Nations, 1989) and the setting of basic standards in health care, education, legal, civil, and social services. In addition, each state and territory in Australia has appointed children's commissioners or guardians, or both, with varying powers to represent and ensure the rights of all children, with calls to establish a National Commissioner for Children and Young People to improve the protection of these rights (Lamont & Holzer, 2009). Despite these positive efforts, children and young people in out-of-home care today still experience poorer health than their counterparts in the general community, including lower levels of immunisation and attainment of educational objectives, and higher levels of mental health issues, behavioural disorders, risky health behaviours, illnesses, accidents, and obesity (Carbone, Sawyer, Searle, & Robinson, 2007; Felitti et al., 1998; Nathanson & Tzioumi, 2007; Wise & Egger, 2007). Indeed, Wise and Egger (2008) provided a broad view of the health of 614 Victorian children in different out-of-home settings across all eight Department of Human Services regions. Assessment and action records, which are part of the UK Looking after Children framework, were used to assess 29 measures of children's wellbeing across seven developmental domains; including a health domain (recent medical review; attainment of health objectives; risky health behaviour; immunisations up-to-date; ongoing health conditions; illness or accident in the last year). Wise and Egger revealed that one quarter of the sample had an ongoing health condition with only 54.4% of the sample meeting all the health objectives. Similarly, Broad (2005) made note that young people in or leaving care in the UK displayed high levels of emotional and physical disorders including significant self-harm, eye or sight problems, speech or language problems, bed wetting, coordination problems, asthma, and alcohol problems.

Given that as of 30 June 2009, there were 34,069 Australian children living in out-of-home care (Australian Institute of Health and Welfare, 2010), there is an urgent need to develop prevention and intervention strategies, targeting these children as early as possible, in order to mitigate the negative health consequences of the social and emotional disadvantage or socioeconomic adversity, or both, which they frequently experience (Poulton et al., 2002; Wolfenden et al., 2010). One health risk that has yet to be studied systematically is the risk of overweight and obesity when children are placed in out-of-home care. Historically, a negative consequence of institutionalisation has been malnutrition, with children mostly underweight from not being given enough food, especially as a form of punishment (Australian Government Department of Senate Community Affairs Reference Committee, 2004).

More recent findings suggest that individuals who have adverse childhood experiences, particularly abuse and neglect, may instead be at increased risk for obesity (Felitti e al., 1998; Kendall-Tackett, 2002; Noll, Zeller, Trickett, & Putnam, 2007). One proposed explanation for this link is that childhood trauma may cause psychobiological disturbances in the regulation of eating behaviour (Gustafson & Sarwer, 2004). Furthermore, as it is likely that the children have come from a disadvantaged and impoverished background, prior to entering out-of-home care, where food is supplied at irregular intervals (Rees, Holland, & Pithouse, 2010), this may lead to behaviours such as binge eating and hoarding. In creating a homelike environment for children, reports from children and their carers have noted that food and meal times are an integral part of developing relationships and a sense of belongingness (Dorrer, McIntosh, Punch, & Emond, 2010; Punch, McIntosh, Emond, & Dorrer, 2009; Rees et al., 2010). Alternatively, food may be used as a coping mechanism to escape depressive mood associated with adverse childhood experiences (Heatherton & Baumeister, 1991; Kendall-Tackett, 2002).

Given that epidemiological studies indicate childhood overweight and obesity is a serious problem in Australia, with an estimated one in four Australian school-aged children and adolescents either overweight or obese (Booth, Dobbins, Okely, Denney-Wilson, & Hardy, 2007), and that childhood trauma may be a predisposing factor for obesity, the weight status of children in out-of-home care should not be ignored. Indeed, there have been recent calls to consider not only the medical and mental health of children in out-of-home care, but also their physical weight gain (Wolfenden et al., 2010). Interestingly, the Victorian Child Safety Commissioner in partnership with the Department of Human Services (DHS) has developed a charter for children in out-of-home care. The charter lists 16 rights and privileges that each child and young person deserves and should expect while in out-of-home care. One of the rights included in the charter is: "to stay healthy and well and go to a doctor, dentist, or other professional for help when I need" (p. 2). This right includes the health of body and mind, and access to healthy food (Department of Human Services [DHS], 2010), which also has implications for normal, not excessive, weight gain of children in out-of-home care.

The main question addressed in this paper is: "What measures are have been taken, and are currently being taken, to ensure healthy weight among children in out-of-home care?" The overall goal of this paper was to review the extant literature over the previous decade on weight-related issues for children in out-of-home care, with particular emphasis on overweight and obesity. The specific questions for the review were:

1. What do we know about the overweight and obesity prevalence of children in out-of-home care in Australia and internationally?
2. What strategies and interventions are currently in place to mitigate excessive weight gain among children in out-of-home care?

3. What are the limitations of current research on overweight and obesity in children in out-of-home care?
4. What directions for future research and practice can be recommended based on the literature review?

Method

Search Strategy

Articles were sourced from the following databases: Medline, PsychINFO, Socialwork Abstracts, Academic Search Premier, Health Policy, Global Health, Health Source, and CINAHL. Searches were also conducted using Google scholar and government and independent sites including the Victorian Department of Human Services, Australian Institute of Health and Welfare, and Berry Street; this included searches for policies and reports pertaining to children in care. The search was limited to English papers published between January 2000 and August 2010. Literature searches were conducted using various combinations of the following key words: foster care, child welfare, foster, out-of-home care, residential care, obesity, overweight, weight, body issues, nutrition, health, wellbeing, child, youth, and adolescent. This yielded 83 abstracts, which were screened by one author for possible inclusion; studies that were designed for children with special needs (such as cerebral palsy or autism), those aimed exclusively at infants (2 years and younger), or focused on treating clinical malnutrition, deficiency, or toxicity were excluded. The remaining 31 articles were read by the authors in their entirety. A further 23 articles were rejected because they included one of the above exclusion criteria or did not specifically measure overweight and obesity of in out-of-home care children; one article was a prior systematic review of wellbeing in kinship care (Winokur, Holtan, & Valentine, 2009), leaving six articles that were relevant for the current review. Three of the articles were based on international studies, two of which were American (Schneider et al., 2009; Steele & Buchi, 2008), with the other study from the United Kingdom (Hadfield & Preece, 2008). The other three articles were based on Australian samples (Nathanson & Tzioumi, 2007; Osborn, 2006; Tarren-Sweeney, 2006).

Results

Australian Studies

Osborn (2006) interviewed the case workers of 364 "high support needs" children (58.2% males) in out-of-home care (kinship and residential/group care) across four states in Australia (Queensland, South Australia, Victoria, and Western Australia) with an age range of 4 to 17 years (mean age = 12.92 years, $SD = 3.28$). Case workers were asked questions pertaining to the physical and psychological health of their clients. Just over half of the children required some form of professional attention for a health issue in the last 6 months, mostly for chronic disabilities and disorders (56.8%). Not surprisingly, 89.5% of the children had some form of diagnosed

psychological health problem. In relation to weight status, 20.3% of the children were reported to be "slightly to very underweight" and 18.9% as "slightly to very overweight" by their case workers. However, this assessment was based solely on self-reports by the case workers with no objective measure of Body Mass Index (BMI, kg/m^2) obtained.

Tarren-Sweeney (2006) investigated aberrant eating patterns among 347 preadolescent children (mean age of 7.8 years) in foster (86%) and kinship (14%) care in New South Wales. He was one of the first researchers to move beyond an investigation of common forms of child psychopathology, which we know are common among children in out-of-home care (e.g., behavioural conduct disorder, attention deficit), to an investigation of problems that are less common among preadolescent children. Attachment disturbances, sexualised behaviour at an inappropriate age, and aberrant eating patterns are examples of such problems; the first two of these are common among children in out-of-home care. Tarren-Sweeney sought to evaluate the eating patterns among children in out-of-home care, given that the eating and food-related difficulties of these children had been under-researched. A quarter of the sample (24%) scored in the borderline or clinical ranges on one or both of the domains of aberrant eating identified in the sample—food maintenance and pica-type behaviours. The first was defined as "a pattern of excessive eating and food acquisition and maintenance behaviours without concurrent obesity" (p. 623), and the second was derived from responses to questions about eating non foods, unhealthy drinking, and eating from the garbage. No gender differences were reported. Not surprisingly, children with either type of eating problem also presented with a high prevalence of psychopathology, including conduct problems, aggression, hyperactivity, attachment disturbance, and sleep problems. Interestingly, the majority of children with aberrant eating behaviours were not overweight, despite the fact that excessive eating is associated with obesity. Obesity was derived from the Child Behaviour Checklist (Achenbach, 1991), where children's weight status was self-reported by carers who assigned a score of 0 if the child was considered to be non obese, a score of 1 if the child was considered somewhat overweight, and a score of 2 if the child was considered to be clearly overweight or obese. Hence, the measure of weight status was subjective. Moreover, in classifying children, there was no distinction made between overweight or obesity; the two terms were used interchangeably.

In another Australian study, Nathanson and Tzioumi (2007) assessed rates of identified health problems of 122 children (71 boys and 51 girls) in out-of-home care in comparison with the general population; they also compared the health of Australian children in out-of-home care and children in care overseas. Their sample of children had attended the health screening clinic for children living in out-of-home care at the Child Protection Unit of Sydney Children's Hospital. The majority of children were less than 10 years of age (86%), and just over half of the children (51%) were under the age of 5 years. Measurements of health included height and weight status, as well as rates of immunisation, developmental delays, and

behavioural and emotional health problems. Overall, 97% of children had at least one form of health issue (medical, developmental, emotional, and/or behavioural problems). Only four children in their sample were considered to be overweight, which was defined as being above the 97th percentile. The results were reported to be comparable with children in out-of-home care overseas and were reported to be higher than children in the general Australian community. However, neither the overseas sample that was used as a comparison nor the general Australian community were specified.

International Studies

In a US-based study, Steele and Buchi (2008) sought to examine the medical and mental health status of 6,177 children who entered foster care over a 4-year period. The children were aged from 0 to18 years, with 60% being 6 years and over. Data were derived from the initial medical and mental health assessments that took place upon entry of children into care. More than half of the children had one or more acute or chronic medical condition(s). Overweight or obesity and dental problems were the most common medical issues. Height and weight measurements were available for 70% of the 4,598 children who were 3 years of age and over. BMIs were calculated for each child and classification for overweight was above the 85th percentile and obese was classified as above the 95th percentile, 18% of children in out-of-home care had a BMI in the obese range, and 35% had a BMI in the overweight range. These percentages were significantly higher than the 15–20% found in the general population. Steele and Buchi noted that previous research had reported significant growth deficits in this population of children and that their study was the first to report such a high prevalence rate of overweight and obesity at entry in care. They concluded that the "high prevalence of overweight among these children is a significant concern and has implications for their long-term health" (p. 707).

Hadfield and Preece (2008) assessed the weight of 106 children who were in out-of-home care, over the age of 5 years (55 boys and 51 girls), and who had statutory health assessments (including growth assessments) within the first 4 weeks of entering into care. Their aim was to assess the onset of obesity in children in out-of-home care, and to evaluate the relationship between weight status and receipt into care, period in care, and frequency of changes of care. Previous community child health records were also reviewed for growth measurements at each visit and calculated BMIs were plotted on a BMI reference chart (Child Growth Foundation, 2003) for each child. The children assessed were separated into four categories: those in pre-care (up to 1 year prior to going into care), those in first year care, those who had been between 1 and 3 years in care, and those who had been in care for more than 3 years. There were at least two measurements available for each child; only 19% of the children had all four measurements available. Once in care, 35% of children with normal BMIs at entry became overweight or obese during their out-of-home care period; overweight was judged to be above the 91st percentile

and obesity was above the 99th percentile. Alarmingly, while only one child was obese in pre-care, eight (10.3%) children who had been in care for more than 3 years became obese while in care. The age of children at receipt of care and the number of placements were not related to overweight or obesity in the children. Hadfield and Preece concluded that weight and height should always be measured during health assessments and commented on in healthcare plans. Excessive weight gain is potentially avoidable. Given the physical and mental health vulnerabilities of these children, the fact that children in out-of-home care appear to be prone to obesity whilst in care is of serious concern.

Finally, in another US-based study, Schneider et al. (2009) investigated the health outcomes of women who had a history of out-of-home care placement. Three hundred and sixty-eight women with a history of care placement and 9,240 women with no history of placement were assessed using the California Women's Health Survey which assessed their recent mental and physical health problems. Women in the out-of-home placement group were significantly younger, and more likely to self-identify as African American, Hispanic/Latina, or Native American than women in the comparison group. Obesity was determined using the self-reported height and weight of the women, which was then used to calculate their BMI score. A BMI of 30 or greater was judged to be obese; 30.2% of women with a history of care were reported to be obese, in comparison to 23.9% of women with no history. This difference in reported obesity was significant. Given the multitude of long-term poor health outcomes for the women who had been in care, Schneider et al. proposed that: "Teaching children in foster care and the juvenile justice system to eat healthy foods, exercise regularly, and abstain from smoking and substance use could help them to avoid long-term, costly physical health problems" (p. 443).

Discussion

Overweight and Obesity Prevalence of Children in Out-of-home Care in Australia and Internationally

Unfortunately, as the review of studies in the previous section has shown, there is a lack of rigorous Australian research in relation to prevalence rates of overweight and obesity in children in out-of-home care. Given the paucity of research in this area, further Australian research is clearly warranted. However, results from studies conducted overseas, particularly the study conducted by Hadfield and Preece (2008), provide a clear indication that rates of overweight and obesity increase while children are in care, placing children at an increased risk of developing serious health problems, such as diabetes, hypertension and other cardiovascular diseases later in life. As Schneider et al. (2009) showed, women with a history of out-of-home care reported a significantly higher rate of obesity during their adult years, suggesting that the effects of weight gain during out-of-home care is pervasive and enduring. The prevalence rates of overweight and obesity in children in out-of-home care also appear to be greater than in the general population. Given the small number of

international studies that have documented prevalence rates, further research is needed to ensure the higher prevalence rates documented to date are robust.

Current Strategies and Interventions to Mitigate Excessive Weight Gain of Children in Out-of-home Care

It is not surprising that there is a paucity of strategies or interventions designed specifically to combat overweight and obesity in children in out-of-home care, as part of children's overall health assessments. However, strategies to provide effective health care for children in out-of-home care and to mitigate the negative effects associated with disadvantage, trauma, or both, are also relevant to weight gain in these children have been recommended by the Royal Australasian College of Physicians (RACP) (Royal Australasian College of Physicians [RACP], 2008). The following recommendations by the RACP (2008) were made for the best optimal care:

1. Routine health screening and assessment of all children entering alternate care.
2. Formulation of a health plan.
3. Enhanced care, management and treatment services.
4. Data collection to develop easily transferable health records.
5. Improved access to health records of birth parents.
6. Enhanced communication between health professionals, Community Service Departments, carers, parents, teachers and the children themselves.
7. Improved support and training for foster carers (pp. 6–9).

The recommendations made by RACP complement and extend the National Plan for Foster Children, Young People and their Carers (2004). This Plan focuses on supporting children and young people in foster care and their carers by establishing national standards, sharing information on good practice, and improving cross-disciplinary collaboration in areas of training, research, uniform data collection, and support. Furthermore, Webster and Temple-Smith (2010) interviewed 20 general medical practitioners (GPs) in Victoria, Australia, and concluded that: "GPs with a special interest in child and adolescent health are willing to be involved in identifying and meeting the health care needs of children in out-of-home care, provided business and medico-legal barriers are addressed" (p. 301).

While the recommendations made by the RACP and the qualitative findings of Webster and Temple-Smith's (2010) study are of practical significance, intervention studies are needed to determine whether implementation of these strategies translates into improvements in health outcomes for children in out-of-home care. In one such US-based study, Kessler et al. (2008) evaluated the mental and physical health of 479 adult foster care alumni who were placed into care between the ages of 14 to18 years. However, they did not measure BMI. Adults were interviewed up to 13 years after leaving either a model private foster care program ($n = 111$) or a public foster care program ($n = 368$). The model foster care program was better resourced than the public program with workers having higher levels of education, lower case loads,

higher salaries, and access to a wide range of ancillary services for young people. Kessler et al.'s findings showed clearly that private program foster care alumni had significantly fewer mental and physical health issues. Indeed, adult care-leavers from the private sector were found to have fewer obesity-related diseases such as diabetes, hypertension, and heart disease. The injection of funds, resources, and more highly educated, skilled, and less time-poor caseworkers resulted in substantive positive health outcomes for adults who, as children, had been in out-of-home care. Consequently, Kessler et al. advocated for public service investment in higher-quality foster care services. An intervention study such as this emphasises the importance of early intervention to reduce the prevalence of morbidity later in life. Clearly, the healthy weight management of children and young people in out-of-home care is also dependent upon highly skilled, educated, resourced, and less time poor case workers who act upon recommendations set by medical authorities, albeit the appropriate health services and professionals need to be resourced to deal with overweight and obesity.

Limitations of Current Research on Overweight and Obesity in Children in Out-of-home Care

One of the major limitations of Australian research to date has been the use of self-report measures to assess the weight status of children in out-of-home care. A related concern is the use of different criteria across studies to categorise children as "overweight" or "obese". Furthermore, two of the Australian studies under review (Osborn, 2006; Tarren-Sweeney, 2006) relied on the visual perceptions of case workers and not based on the measurement provided by any instrument. There were differences between study definitions of overweight or obesity, with different BMI cutoffs making findings between studies difficult to compare. It is not uncommon in research studies to have data based solely on the report of case managers and carers when assessing the health and wellbeing of children in out-of-home care. Consequently, it is important for case managers and carers to have a sound knowledge of what constitutes good health, including healthy weight status. The issue of case managers' knowledge regarding healthy eating and physical activity, what it involves, and their role as enforcers was investigated in a study by Falkiner, Wolfenden, Bell, and Nathan (2010), following on from recommendations made by Wolfenden et al. (2010). Recommendations focused on health services providing knowledge and guidance so that the children and their families would engage in a healthy and non sedentary diet. A survey was conducted on case manager perceptions of healthy eating and physical exercise as well as assessing support structures and resources. It was found that few staff members had adequate levels of knowledge or training in physical activity or healthy eating. Furthermore, at an organisational level, few had policies or satisfactory resources to support physical activity and healthy eating among their clients.

Directions for Future Research

There is little doubt that future research needs to have a stronger focus on the overweight and obesity status of children in out-of-home care. Although the currently available literature has investigated the physical health of children in out-of-home care, this research is ad hoc and primarily focuses on the presence of illnesses and disabilities and whether the children have had access to a doctor (Carbone et al., 2007; Fernandez, 2009). This is surprising given that Australia has a high rate of obesity nationwide (National Preventative Health Taskforce, 2008). International research has shown that when focusing on the weight to height ratio or BMI of children in out-of-home care, there is a distinct increase in BMI during the time children are in care (Hadfield & Preece, 2008).

Prevention and intervention strategies are needed that target children as they enter out-of-home care. These strategies should involve communication between medical professionals assessing the health of children and the carers and caseworkers who work closely with the children. However, interventions should not cease when the child leaves care, interventions need to follow care leavers to ensure the health and wellbeing of children no longer in out-of-home care. Furthermore, educational support and resources for carers and caseworkers in the specific area of obesity prevention is required. In recent times, the emphasis on using a combination of psychological, behavioural, and education-based interventions has been stressed in order to produce significant changes in health behaviour, given the growing recognition that information, education and advice alone is not sufficient for these changes to be made. Adoption of new behaviours is more likely if patients are encouraged to form a behavioural intention at the time of being provided with health information. Hence, obesity prevention and intervention strategies should be informed by principles that are likely to lead to changes in children's behaviour (e.g., unhealthy eating and sedentary lifestyle) that otherwise contribute to excessive weight gain. Given the association between high weight status, self-esteem, depression, and body image, strategies that target these factors in combination with healthy eating and physical activity habits are more likely to lead to healthy weight gain management.

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