

Role of Grandparents in Childhood Obesity during First Two Years of Life

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Abstract

Introduction: Childhood obesity is a public health problem in the United States. One consideration that remains relatively unexplored is the influence of the grandparent on weight status of the grandchild in ages 0-2 years. The aim of this paper is to synthesize the literature on a) influence of grandparents' involvement on child weight gain; b) influence of grandparents' involvement on breastfeeding behaviors and associated obesity risk; c) effects of grandparents' support about nutrition, cooperative co-parenting, knowledge, attitudes, beliefs and body mass index on feeding practices and weight gain; d) impact of child temperament and weight status on grandparent feeding practices; e) contribution of cultural norms and acculturation on child weight gain in ages 0-2 years.

Method: A literature search of Embase, PubMed, Cochrane Library and Web of Science databases was conducted. A total of 64 studies published between January 1980 and January 2017 met the inclusion criteria.

Results: At present, only few studies have investigated whether grandparent involvement is related to feeding practices and subsequent weight outcomes in children aged 0-2 years, with the actual inclusion of the grandparents. Most of these studies suggest a negative association between grandparent characteristics and child weight gain. Challenges exist in studying this topic, which include, defining a "good diet" for young children, measurement of infant diet, confounding, reporting bias, reverse causality and the difficulties of randomized intervention designs in infant feeding.

Conclusion: Identification of grandparent characteristics associated with lower obesity risk may provide health professionals the tools to create effective interventions for obesity prevention.

Keywords: Grandparents; childhood obesity; nutrition; acculturation; Running title: Grandparents and childhood obesity;

Introduction

Childhood obesity is a public health problem in the United States (U.S.). According to the National Health and Nutrition Examination Survey (NHANES) data of 2015-2016, the prevalence of obesity in children ages 2-5 years is 13.9% [1]. For infant and toddlers from birth to age 2 years, the high-weight for recumbent length was 8.1% in 2012 [2]. A racial disparity exists, with a prevalence of high-weight for recumbent length of 6.6% for Whites, 9.4% for Hispanics and 8.4% for Blacks [2]. The risk of obesity in low-income households is even greater; with 14.5% of those aged 2 to 4 years in Women, Infants and Children programs classified as obese [3]. The obesogenic environment in the U.S. and other countries has been related to the high availability, variety and portion size of food [4]; an exponential increase in screen time [5]; and a greater number of working women, who rely more on caregivers outside the home to feed the infant [6,7].

One consideration for increased obesity that remains relatively unexplored is the influence of the grandparent on the weight status of the grandchild in early infancy.

Grandparents may have a significant impact, as epidemiological evidence suggests that obesity is transmitted across multiple generations [8]. It is well established that obese children tend to have grandparents and parents who also are obese. In the British Millennium Cohort of children, ages 9 months to 3 years, those who were cared for mainly by their grandparents were more likely to be overweight at the age of 3 years, compared to those who had parents that were primarily the caregivers [9]. Whether this is due to genetics or environment is unknown. Yet environment must undoubtedly play a critical role, as the genes of humans have not changed significantly in the past few decades.

The percentage of children living in grandparent-maintained households has doubled from 3% in 1970 to 6% in 2012 [10].

In the households of 7 million grandparents who live with grandchildren, about 2.7 million are the primary caregivers for their co-resident grandchildren (<18 years) (Figure 2). In addition, one-third of infants are cared for by grandparents [11]. With children of Hispanic descent, involvement of grandparents has always been greater than other ethnicities, with 43% acting as care providers [12]. Geographical variation of grandparent-led households also exists, with more grandchildren living in their grandparents' home in the West coast and Southwestern U.S than other locations [10].

Methods and Materials

Data Sources and Search Strategy

A comprehensive literature search was conducted to identify relevant prospective, case-controlled cross-sectional and review papers investigating the a) influence of grandparents' involvement on weight gain; b) influence of grandparents' involvement on breastfeeding behaviors in mothers and the associated obesity risk; c) effects of grandparents' support about nutrition, cooperative co-parenting, nutrition knowledge, attitudes, beliefs and body mass index on feeding practices and subsequent weight gain trajectories; d) impact of child temperament and weight status on grandparent feeding practices; and e) contribution of cultural norms and acculturation on child weight gain in ages 0-2 years. The electronic databases of PubMed, Embase, Web of Science and Cochrane Library were searched. The reference list of selected articles and reviews on the topic also were searched. A

total of studies were 5310 research papers were extracted, using the search terminologies of (grand* and child*), (grand* and feeding*), (grand* and weight*), (grand* and temperament*), (grand* and nutrition*), (grand* and culture*). The studies finally retrieved were then subject to the exclusion criteria (Figure 1).

Inclusion and Exclusion Criteria

All potentially relevant publications were reviewed independently by two graduate students using the inclusion criteria. The results were later matched and any discrepancy was addressed by the third reviewer, who was the lead professor on this paper. Inclusion criteria were: 1) prospective, cross-sectional, case-control investigations or review papers; 2) population of interest was grandparent, parent and child; 3) outcome of interest was breastfeeding/feeding practices and weight gain in child; 4) studies on influence of child temperament and weight status on grandparent feeding practices; 5) publication date between January 1980 and January 2017, 6) written in the English language, 7) U.S and non-U.S. studies. Studies where grandparent was the primary caretaker and those articles that covered health outcomes other than that of feeding practices and weight were excluded.

Results

Figure 1 illustrates the selection process, resulting in a total of 64 studies. Four tables have been included that highlight characteristics of 36 of these 64 studies.

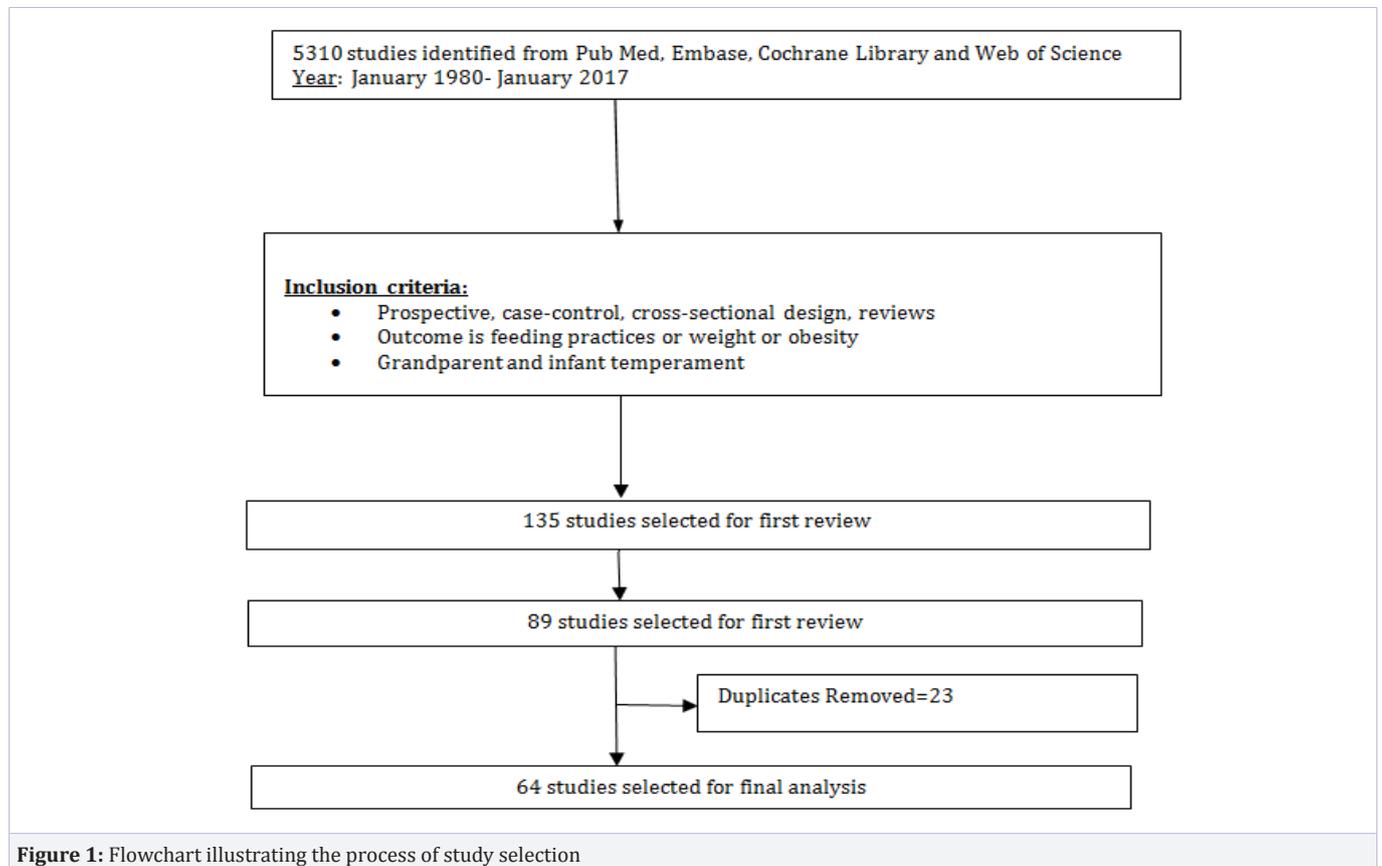


Figure 1: Flowchart illustrating the process of study selection

Influence of grandparents on child weight and obesity risk

In the past and in traditional societies, grandmothers positively impacted nutritional status of grandchildren and augmented survival rates. Yet as societies have evolved, grandmother engagement has been associated with **increased** risk of child overweight [7-9, 13]. Why and how does the presence of a grandparent have potential adverse health effects for enhanced child weight and obesity risk? The paradox certainly merits attention in obesity prevention efforts. Table 1 illustrates detailed findings of studies that have investigated associations between

children living with, or cared for, by grandparents and risk of overweight/ obesity [9, 12, 14, 15, 16, 17, 18, 19, 20]. In a recent systematic review by Pulgaron et al., five studies have shown an adverse association between grandparents' involvement and weight gain in children [20]. In three-generation households in Japan, the risk of being overweight or obese was higher in 3-6-year olds with a grandparent [15]. In contrast, Cunningham et al found no significant associations in South Africa [19]; while Jiang et al. reported a negative association between residence with grandparent and infant's weight in China [14]. Note that minimal research has been conducted on grandparents' influence on child weight in children less than the age of 3 years.

Table 1: Studies that report an association between living with/or cared by grandparents and risk of overweight/obesity in children

Reference, Country	Study Design	Child Age	Major Findings
Pearce et al. (9)	Millennium Cohort	9 mo.-3 years	Children cared for mainly by grandparents were more likely to be overweight at age 3 than with parent caregivers
U.K. ^b	n = 18,296		
Pulgaron et al. (12)	Cross sectional	5-10 years	Grandparent involved in caretaking was associated with lower z BMI for Hispanic children, but not Cubans
U.S. ^c	n = 199		
Jiang et al. (14)	Cross sectional	0-5 years	Prevalence of overweight and obesity was lower (12.8%) in children in three-generational household than in children in nuclear families (18.8%) (p value < 0.0807)
China	n = 686		
Wantanabe (15)	Cross-sectional	3-6 years	Three-generation co-residence was significantly associated with child overweight and obesity after controlling for mother's employment (OR=1.59)
Japan	n = 1765		
Li et al. (16)	Cross-sectional	8-10 years	Children co-residing with grandparents were more likely to be overweight/obese (OR ^a = 1.72)
China	n = 497		
Formisano et al. (17)	Cross-sectional	7-9 years	Children who lived with grandparents had higher z body mass index (zBMI) scores than with parents or one parent and partner
Italy	n = 12,350		
Tanskanen et al. (18)	U.K. Millennium Cohort	9 mo.-3 years	Children who were cared for mainly by grandparents were more likely to be overweight at age 3 than with parent caregivers; risk of being overweight was equal with maternal and paternal grandmothers
U.K.	n = 14,630		
Cunningham et al. (19)	Longitudinal	Newborn	Women had heavier newborns if their mother was alive; no additional association between co-residence with grandparents and birth weight
South Africa	n = 3,993		

^aOdds Ratio ^bUnited Kingdom ^cUnited

Influence of grandparents on breastfeeding and introduction of complementary food

Possible reasons for an increase in the risk of overweight/obesity in children could be that grandmothers influence both breastfeeding behaviors and initiation of complementary foods (Table 2). Some studies have suggested that lack of support from grandparents for breastfeeding has a negative influence on the probability of initiation [21] and duration of breastfeeding in women [22, 23, 24]. In contrast, Mahoney et al. reported that grandmother's encouragement for breastfeeding increased the likelihood of breastfeeding by 12-fold.

The effects of the early introduction of complementary food by grandmothers have been investigated by a number of researchers [27, 28, 29, 30, 31]. In Australia, mothers reported that older women in their house pressured them to introduce complementary food before the age of 6 months [31]. But none of these studies have investigated the effect of these practices on child weight.

Early introduction of complementary food has been linked to rising weight gain trajectories [32] for those weaned prior to 2 [32], 3 [33], 4 [34, 35], or 5 months [36]. Meta-analysis studies have found an inverse association between duration

Table 2: Studies that assessed influence of grandparent on breastfeeding and complementary feeding behaviors

Reference, Country	Study Design	Major Findings
Emmott et al. (21)	Longitudinal cohort	Mothers with less frequent contact with maternal grandmothers were more likely to initiate breastfeeding (162.4%) and less likely to terminate breastfeeding (25.1%)
U.K. ^a	n = 18,827	
Kaneko et al. (22)	Cross-sectional	Positive association between not living with grandparents of infants with breastfeeding status at 6 months (OR ^a = 1.14)
Japan	n = 53,575	
Liu et al. (23)	Prospective cohort study	Shorter duration of breastfeeding associated with grandparents residing within same province
China	n = 681	
Susin et al. (24)	Prospective	Grandparents' advice to use another milk to feed the child increased risk for early termination of breastfeeding by 2.4 times
Brazil	n = 1202	
Mahoney et al. (25)	Cross-sectional	Direct association between encouragement from woman's mother to breastfeed and anticipated breastfeeding (OR ^c =12.4)
U.S. ^b	n = 66	
Baughcum (27)	Focus groups	Introduced rice cereal and other solid food to diets before recommended ages. Grandmothers were main source of information regarding infant feeding
U.S. ^a	n = 29	
Ingram et al. (28)	Educational intervention	Early introduction of solid food at 3 months; rice dishes, cereals, daal and watery soups recommended by grandmothers. An antenatal educational intervention on breastfeeding for grandmothers increased their support for exclusive breastfeeding
South East Asia	n = 93	
Bentley et al. (29)	Women, Infant, Children intervention	Mothers who received information from WIC providers were more likely to delay introduction of complementary foods vs. reliance primarily on grandmother's advice
U.S.	n = 171	
Kerr et al. (30)	Semi-structured interviews	Grandmothers introduced solid food within first month; 65% children given food in the first month
Malawai	n = 183	
Walsh et al. (31)	Semi-structured interviews with mothers	Grandmothers increased likelihood of early introduction of complementary food
Australia	n = 21	

^aUnited Kingdom, ^bUnited States, ^cOdds Ratio

of breastfeeding and risk of childhood obesity [37, 38, 39]. Yet, a systematic review by Vail et al. documented a neutral effect on infant growth in high-income countries for those weaned between 3 and 6 months [40]. To date, there remains a lack of evidence on feeding practices and weight in U.S. children younger than age 2, except for breastfeeding studies. Grandparents are likely to influence when parents introduce solid foods, as well as parents' feeding styles and choices of what to feed. Therefore, the first two years may be a particularly important time to investigate the effects of grandparents on parental feeding practices.

Effects of Co-Parenting

The effect of the quality of mother-father co-parenting on health outcomes in children has been the subject of several reports [41, 42]. In competitive co-parenting, each parent attempts to have control of the child and places the child in the middle of conflicts. The influence of grandparents on co-parenting with the mother is less clear. When a grandparent disagreed with a parent about

feeding, higher BMI z scores were documented in 5-12 yr. old of Hispanic descent [11]. In contrast, responsiveness and support of parents by a grandparent may promote healthy eating behaviors and reduce overly controlling or indulgent feeding practices associated with child overweight [43]. Observational ratings of support and responsive communication in grandmother/mother interactions have been associated with increased sensitivity and responsiveness of mothers to infant cues during feeding at 6 and 9 months [44, 45]. Additionally, expectant mothers who describe their own parents as responsive and sensitive [vs. unloving, rejecting] exhibited comparable qualities with their children at 8 [46, 47] 12 to 15 [48], 24 months [46,49, 50]. These mothers were more likely to recognize and respond appropriately to cues of satiety by the baby and less likely to restrict food intake [51].

One result of cooperative co-parenting is that it may facilitate the maintenance of a structured environment at home. In a longitudinal analysis in the United Kingdom, Anderson et al.

documented that emotional self-regulation in children at the age of 3 years was a predictor of risk of obesity at age 11 [52]. Cooperative grandparent-parent interactions and grandparent’s support for reducing the inconsistencies in the daily mealtime patterns could lead to better emotional regulation in the child and help prevent weight gain [52]. While some grandparents assume great responsibility for the child’s health, others co-parent jointly or assist only part-time [53]. Those with a higher degree of involvement presumably have a greater impact on the quantity and nutritional quality of the child diet.

Effect of successful grandparent characteristics on eating and subsequent reduction in grandchild obesity risk

A new baby represents a window of opportunity for transmission of knowledge and eating practices across generations. At this time in life, adolescents and young adults often turn to their parents to seek assistance on how, and how much, to feed the new baby. Thus, several grandparent

characteristics [high diet quality, knowledge, attitudes and beliefs about nutrition; and Body Mass Index [BMI]] may influence feeding practices and subsequent weight gain trajectories in the grandchild.

The degree of nutrition knowledge of the grandparent may be critical in influencing obesity risk. Although knowledge of nutrition does not always translate into desirable eating behaviors, sound information is needed to plan a nutritionally adequate diet. Greater fruit and vegetable intakes of children have been linked to better nutrition knowledge of the mother [54]. Table 3 shows the characteristics of studies that assessed nutrition knowledge and eating behaviors of grandparents [55-66]. Ganthavorn et al. (2007) observed increased consumption of fruits and vegetables by grandparents after participation in a nutrition and physical activity intervention [61]. In a nutrition education program in Sierra Leone, it was observed that the percentage of grandmothers who advocated the initiation of breastfeeding within an hour of birth, increased from 78% to 100% at the end of the 3 years of the program [62].

Table 3: Studies on nutrition knowledge and healthy eating behaviors in grandparents

Reference, Country	Study Design	Major Findings
Jiang et al. (14)	Cross sectional	Grandparents had less nutrition knowledge than parents (8.9 vs 8.4, p <0.01)
China	n = 686	
Higgins et al (55)	Semi-structured	Primary caregiver grandparents reported providing more nutritious goods to their grandchildren than what they had given to own children
	Interviews	
U.S.	n = 48	
Aubel et al. (58)	Nutrition education	Grandmothers (93%) advised exclusive breastfeeding after learning about healthy infant feeding practices
	intervention, 12 months	
Sengel	n = 150	
Tan et al. (59)	Interviews	Non-parent caregivers (grandparents/relative) had lower nutrition knowledge than parents (52.2 vs 63.8%)
China	n = 3361	
Kicklighter et al. (60)	Nutrition & physical	Nutrition knowledge of grandparents increased post intervention
	activity intervention, 5 months	
U.S.	n = 22	
Ganthavorn et al. (61)	Nutrition & physical	Caregiver grandparents had improved healthy eating behaviors (eating more fruits, green salad, and vegetables). Grandchildren had similar improvements in food choices
	activity intervention, 8 weeks.	
U.S.	n = 24	
Ministry of Health, World Vision Germany Sierra Leone (62)	Nutrition education intervention, 3 years	Grandmothers’ nutrition knowledge increased. Those who received nutrition intervention had higher proportion (90.2%) of exclusively breastfed infants (0-23 months) than those who did not (79.4%)
	n = 884	
Duquin et al. (63)	Health & wellness	Grandparents reported greater awareness and used more nutrition in caregiving of grandchildren
	intervention, 12 weeks.	
U.S.	n = 41	
Eli et al. (64)	Semi structured	Grandmothers and mothers had similar knowledge of adverse health effects of sugary beverages; some conflicts in knowledge regarding health effects of providing juice to children
	interviews	
U.S.	n = 49	
Jingxiong et al. (65)	Semi-structured	Most grandparents wanted nourishing food for their families and believed that meat was a nutritious component of the diet. Others used high salt and sugar in preparing family meals
	interviews	
China	n = 23	

^aUnited States

Yet the translation of knowledge into action is modulated considerably by one's beliefs. A review of qualitative studies of parents of preschoolers identified beliefs about eating that promoted obesogenic behaviors [66]. These included uses of food to shape a child's behavior and perceptions that underweight is a cause for concern [67,68,69]. In an intervention tailored for mothers of young children, Freeland-Graves concluded that overweight/obese mothers who modified their eating related cognitions (attitudes/beliefs) made comparable changes in the diet quality of their 1-3-year-old children [70]. Similarly, an educational intervention in 542 mothers of 4-month olds improved diet quality [71]. No reports have been found that

document how grandparents affect grandchild diet quality in post-weaning.

Only a few studies have investigated the effect of parent/grandparents' BMI on the BMI of the child [72,73]. In 84 three-generational families of Native Americans and African Americans, a significant correlation was observed between BMIz scores of the child and BMI of grandparents [10]. In U.S. elementary school children, grandparent involvement was associated with lower BMI z-scores in Hispanics, but not with Cubans [11]. Thus, a lack of research exists regarding the influence of grandparents' characteristics on feeding practices and weight gain in post weaning children.

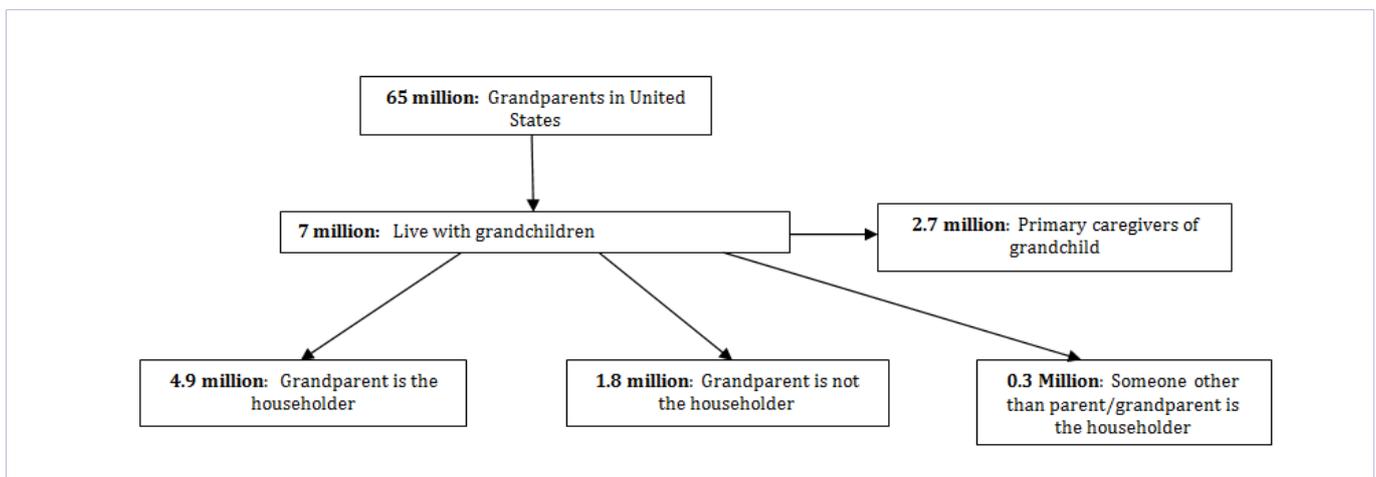


Figure 2: Grandparents living with/or cared by grandparents: United States (U.S.) Census 2012 (10)

Effects of child temperament and weight on grandparent and parent feeding practices

It is well established that child temperament and weight status affect parent feeding practices, resulting in weight gain in children [74,75]. When children are calm and easy, it is enjoyable to feed them. But fussy and irritable infants are more demanding for both grandparent and parent who may disagree about the best responses to the child. Such disagreements can reduce receptiveness of the parent to advice, resulting in less grandparent responsiveness and support of parents' feeding practices. Although previous studies have established the existence of a bidirectional relationship between parent and child the tri-directional effects of child temperament and weight status on parent and grandparent feeding practices are yet to be studied [74,75].

It is believed that the fussy child may be more prone to gaining weight. Slining et al. reported that infant distress to limitations was associated with increased weight at 3, 6, 9, 12 and 18 months of age and greater weight-for-length at 12 months [75]. In a cross-sectional investigation of 217 mothers, mothers were more likely to initiate complementary food before 4 months if they perceived their infants to be fussy [76]. In a systematic review, Bergmeier et al. Documented that the temperament characteristics of being

difficult to feed, distress to limitations and low soothability were all significantly associated with weight gain rates in infants [77]. These relationships appear to be mediated by maternal feeding practices of using food to calm a fussy or difficult child.

Infant Weight and Feeding Practices

The effect of infant's weight on feeding practices of parents has been investigated [78, 79]. A high concern by mothers about the weight of the infant, assessed retrospectively at 3 years, influenced the amount and type of food fed and predicted higher fat mass in children at age 5 [78]. It is well known that perceptions of grandparent and parent that "bigger is healthier" may contribute to obesogenic feeding practices of young children [80]. Thus, weight status may influence grandparent and parent beliefs about child feeding practices, with subsequent effects on child diet and weight.

Influence of cultural norms, race/ethnicity and degree of acculturation on child weight

Human behavior is shaped extensively by the social and cultural environment. Transmission of cultural norms over generations is known to affect feeding practices and child weight. Table 4 highlights studies that reported the influence of cultural norms and race/ethnicity in feeding practices and subsequent

obesity risk in children [81, 82, 83, 84, 85, 86, 87]. In Hispanics, mothers perceived a “chubbier” body type as ideal for infants and toddlers [88]. Latino mothers have reported that child weight was reflective of parenting skills, such that a skinny child suggested a bad parent and only fat kids were perceived to be healthy [81]. In African-American mothers, it was reported that it was culturally acceptable to have a large body size, as long as the child was healthy and held high self-esteem [83]. Furthermore, the degree of acculturation may significantly change breastfeeding behaviors in women [89, 90]. Kimbro et al. observed that Mexican immigrants were more likely to breastfeed for longer time periods

than Mexican-Americans who exhibited similar behaviors as U.S. white mothers [84]. In mothers enrolled in the Women, Infant and Children’s Program, less acculturated mothers were more concerned about the weight of their children and pressured them to eat more [91]. Also, Spanish-speaking Hispanic participants had a greater tendency to use food to calm their children, as compared to those who spoke English [86]. Additional research is needed to understand the influence of grandparents’ involvement on childhood obesity within the context of culture, race/ethnicity and degree of acculturation.

Table 4: Studies that illustrate influence of cultural norms, race/ethnicity and acculturation on feeding practices.

Reference, Country	Study Design	Ethnicity	Major Findings
Jingxiong et al. (65)	Semi-structured interviews	Chinese	Grandparents believed that children who were heavier at young age would have better nutritional status when grown and urged child to eat heavier portions
China	n = 23		
Lindsay et al. (81)	Focus groups	Latino	Mothers reported that grandmothers perceived child to be skinny even when child had healthy weight. Grandmothers promoted consumption of large amounts of food to grow healthy and strong
U.S.	n = 31		
Valencia et al. (82)	Focus groups	Latino	Mothers had difficulty in negotiating about healthy feeding practices with grandparents. Grandparents often thought that the grandchild was underfed, and had to be fed more to promote weight gain in infancy
U.S.	n = 53		
Jain et al. (83)	Focus groups	Black (n=13),	Mothers believed that having a large body size was culturally acceptable if child was healthy and active. Mothers reported difficulties in negotiating with grandparents on how much to feed child
U.S.	n = 18	White (n=5)	
Kimbro et al. (84)	Cross-sectional	Hispanic, White	Mexican immigrant mothers were more likely to breastfeed longer (> 6 months) as compared to whites (5.24 months) or Mexican-Americans (3.68 months)
U.S.	n = 3,626		
Power et al. (85)	Longitudinal observation	Hispanic	Immigrant mothers used pressure tactics to make children consume more food, used food as a reward and limited unhealthy food than U.S. born mothers
U.S.	n = 169		
Evans et al. (86)	Cross-sectional	Hispanics, Black	Using food to calm the child was higher in Spanish-speaking Hispanic and Black parents than English-speaking Hispanics
U.S. ^a	n = 721		
Lee et al. (87)	Semi-structured interviews	Chinese	Less acculturated Chinese-speaking grandmothers supported infant formulas because of non-availability of information on benefits of breastfeeding in Chinese
China	n = 22		

^aUnited States

Conclusion

The birth of a new baby gives grandparents a new chance to reenter and reconnect with their adult children who typically seek parental assistance. Thus, the first two years are a unique opportunity for grandparents to promote healthy eating for children. At present, few studies that include the actual grandparent have investigated whether grandparent involvement is related to feeding practices and subsequent weight outcomes in children aged 0-2 years. Most of these studies are either focus group studies that include parents or self-reported data from parents, without the actual inclusion of grandparents. None of these studies clearly define what a healthy diet is and how is it measured in young children. In addition, there are many confounding variables that have not been accounted for such as maternal or paternal grandparents, actual time spent by grandparents with the grandchildren and the degree of involvement of grandparents in co resident households. Majority of studies included are qualitative reviews as there exists many challenges in studying this topic. These include difficulties of randomized intervention designs in infant feeding and longitudinal studies as children may move out of grandparents' house or grandparents may not live long enough to provide any conclusive results.

Interventions for childhood obesity are increasingly incorporating a family-focused approach. Whereas, co-parenting between parents is well documented, the nature of co-parenting between parents and grandparents, (competitive or cooperative) and its influence on feeding practices and weight gain in the child remains a missing link. Identification of successful characteristics of grandparent/parents who co-parent in triadic feeding interactions might promote healthy feeding practices and reduce the risk of obesity in the child.

Other areas that warrant further investigation are the effect of grandparents' healthy eating, appropriate nutrition knowledge, attitudes and beliefs about nutrition; and Body Mass Index [BMI] on child feeding practices and obesity risk at multiple time points between 3-24 months.

Finally, it is critical to investigate the relative contribution of the above factors within the context of race/ethnicity, degree of acculturation and cultural norms of the grandparents and parents. These critical barriers to obesity prevention need to be addressed in order provide child and health care professionals the tools to create robust, effective interventions that incorporate grandparents as important partners in obesity prevention.

Conflict of Interest

Jeanne Freeland-Graves: The author declares that there is no conflict of interest regarding the publication of this article.

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