

The Effect of Family Therapy On Weight Loss in Children and Adolescents

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Abstract

Objective. To examine the current evidence on the use of family therapy as a treatment for obesity in children and adolescents.

Research Design and Methods. CINAHL, Medline, PubMed, PsycInfo, and the Cochrane Library were searched for studies containing keywords: *family therapy* and *weight loss* and *family therapy* and *obesity*. Articles were limited to primary research articles from 1990 to the present pertaining specifically to children and/or adolescents.

Results. Eighteen articles met the inclusion criteria. All articles found family therapy to be an effective means of treating obesity in children and adolescents as demonstrated through significant reductions in overweight measuring variables following treatment. However, the behavioral and educational components of family therapy varied among studies. Additionally the designs of most studies were poor and failed to control for important variables. Therefore, focusing on the specific variables of family therapy, parental weight loss, adherence, maintenance, and additions to family therapy allowed for accurate conclusions to be drawn.

Conclusions. Although family therapy is shown to be a successful treatment for obesity in children and adolescents, no specific method of treatment proves to be better than the others. Future research needs to build upon current knowledge of family therapy by including control groups receiving alternate treatments or standards of care. Despite the need for more research, the success of family therapy in existing studies suggests that health care providers should utilize families in the treatment of pediatric obesity.

Introduction

Obesity in children, ages 6 to 11, and adolescents, ages 12 to 18, is defined by a body mass index (BMI) greater than the 95th percentile (USDHHS). In the United States, greater than 15 % of children and adolescents are obese (USDHHS). This number has increased drastically over the past 2 decades, putting more and more children at risk for becoming obese adults (Hedley et al., 2004). In addition to that risk, researchers and pediatricians report that increasing numbers of obese children are presenting with co-existing medical conditions including type II diabetes, hypertension, asthma, and orthopedic complications, all previously uncommon in children (USDHHS).

Many modifiable and non-modifiable factors, contribute to childhood obesity. Among the modifiable risk factors are lack of physical activity, increased sedentary behavior, consuming more energy than is expended, a low socioeconomic status, and an environment that promotes the consumption of high-calorie foods and/or is not conducive to exercising (Ogden, Flegal, Carroll, & Johnson, 2002). A non-modifiable risk factor for obesity is genetics (USDHHS). The most influential risk factor contributing to childhood obesity is parental obesity, as a result of its genetic and environmental factors (USDHHS). Many studies have found that having at least one parent

that is overweight puts children at a much greater risk for obesity (Whitaker, Wright, Pepe, Seidel, & Dietz, 1997). The impact of parental obesity can be attributed to the fact that parents model behaviors and provide the nutrition and exercise environment in which their children live (USDHHS). Thus, there may be benefits in involving parents in changing the nutritional and exercise behaviors of obese children ("Surgeon General," 2001). The purpose of this paper is to explore and synthesize the current research on the effect of family therapy on weight loss in obese children and adolescents.

Methods

CINAHL, Medline, PubMed, PsycInfo, and the Cochrane Library were initially searched by combining the results of keyword searches for *family therapy* and *weight loss* and by combining the results of keyword searches for *family therapy* and *obesity*. In addition to numerous papers reporting primary investigations, several recent review articles specific to the research question were found in the above searches. Reference lists from these review articles yielded additional papers relevant to the research question. Related links, suggested in the abstracts of articles from the above PubMed searches, were also investigated as a potential source of articles relevant to the topic of interest. For all searches, only primary articles published in or

after 1990 and pertaining specifically to children and/or adolescents were considered. Eighteen primary articles were found and will be discussed below.

Findings

All 18 studies found a positive correlation between family therapy and weight loss in children and adolescents. However, family therapy was defined differently in each study, making it difficult to derive clear conclusions about the efficacy of the treatment. Although the characteristics of family therapy varied among the studies, the majority of studies applied behavioral and educational components to their therapy. The behavioral aspects of therapy include decreasing calorie intake and increasing healthy eating behaviors, increasing exercise, and monitoring eating and exercise habits. These behavioral changes are typically directed towards the child; however, some of the studies also require these changes to be made by parents as well. Most studies also required parents to modify their child's eating and exercise environment and to praise their children for making lifestyle changes. The educational portion of the program teaches the parents and children about creating a healthy lifestyle and how to implement the behavioral aspects of treatment. In most studies, families attend group meetings and meet individually with a nutritionist or therapist to discuss the child's progress.

Parent and Child Versus Parent Only

Studies by Leonard Epstein (1990a, 1990b, 1994, 2000, 2005) and Moria Golan (1998, 2004, 2006) report contradictory findings regarding the role of children in their own weight loss. Golan suggests that children should not take an active role in their weight loss and that parents should be the sole focus of family therapy (parent-only). Conversely, Epstein proposes that targeting parent and children produces the best weight loss outcomes (parent-plus-child). Unfortunately, only one study compares the weight loss results seen in a parent-plus-child group to the results of a parent-only group. The authors of this study (Golan et al., 2006) report a significant reduction in percent overweight at the end of treatment at the one-year follow-up for children in the parents-only group, but no treatment effect post-treatment or at the one-year follow-up for children in the parent-plus-child group. The authors suggest that it is in a child's nature to resist change and to rebel against demands made of them; however, they did not report exploration of these dynamics in the parent-plus-child group. It is difficult to hold children aged 6 to 11 responsible for major lifestyle changes, independent of parental support. Therefore, Golan et al. recommends that parents model appropriate eating behaviors and create a lifestyle for their children that is optimal for weight

change. By doing so, these young children are less directly accountable for their weight loss, but are surrounded by an environment conducive to weight loss. The healthy lifestyle will become an innate part of their lives rather than being perceived as an imposed burden.

Epstein's studies (1990a, 1990b, 1994, 2000, 2005) compare the effects of a parent-plus-child group against and child-only control. Although Epstein does not measure the effectiveness of a parent-only group, his model of a parent-plus-child group versus a child-only group consistently shows the superiority of the parent and child together group. Two 10 year follow-up studies (Epstein et al., 1990b; Epstein et al., 1994) reported that children in the parent and child groups maintained a decreased percent overweight, while control groups returned to baseline levels of obesity during the follow-up period. Both studies demonstrate that changing eating, exercise, and behavioral habits and involving a parent in treatment were important factors in the weight loss success of the children.

Parental Weight Loss

Several studies measured concurrent weight loss in parents and their children. Israel et al. (1990) found that focusing on weight loss in parents as well as children may not provide the greatest success for the children. Parents in this study chose whether they wanted to take on a helper role, in which they were taught behaviors that would assist their child in weight loss, or a weight loss role, in which they engaged in a weight loss program along with their child, but were not taught ways to support their child in weight loss. Most parents elected the helper role rather than the weight loss role. Half of the parents in the helper group were overweight and many of these overweight parents expressed concern about their ability to lose weight and the possible detriment that this could have on their child's weight loss. Through their inability to adhere to the program or their unsuccessful weight loss attempts, parents model negative behaviors that their child can easily emulate. Because the study shows a strong correlation between parent and child weight change, the authors suggest that it may be precarious for parents to attempt to lose weight along with their children because their potentially unsuccessful attempts could likely hinder their child's success.

In contrast to Israel et al. (1990), Epstein et al. (1990b) found that children's weight loss success did not correlate with the weight loss of their parents. In a study measuring the height and weight of parents and children 5 and 10 years after family therapy treatment ended, Epstein et al. found that parents, though they lost significant weight during the treatment, returned to baseline overweight status

5 years following the completion of treatment. At the 10 year follow-up, the authors found the weight of the parents to exceed their baseline and 5 year follow-up weights. However, children in this study continued to maintain their post-treatment body weight through the 10 year follow-up period. Epstein et al. explains these results by suggesting that children have a shorter history of habits that lead to a positive energy balance and increase in sedentary behavior and therefore may be more receptive than their parents to this form of treatment.

In another 5 year follow-up study by Epstein (Epstein et al., 1990a), the authors looked at four previous studies and their 5 year follow-up data to draw conclusions about family therapy and weight and behavioral changes. They found a change in parent percent overweight to be one of the most important factors related to child weight loss success. However, differences in the decrease in percent overweight were seen between parents and children, with children losing more weight than their parents. These results suggest that the variables primarily responsible for weight loss in children differ from those in adults. Therefore, it may be necessary to implement different behavioral and environment changes in children and adults and to expand the scope of family-based treatment in interventions with a parental weight loss aspect.

Adherence

Several studies focused on how child and parental adherence to the programs influenced the results. In a study by Levine et al. (2001) centering on increasing healthy eating behaviors and exercise, role playing, and problem solving, one-third of the subjects dropped out the study before it was completed. Reasons for withdrawing included difficulty attending evening sessions, problems arranging child care for children not participating in the study, and conflicts with other activities. The authors found that families with better attendance at early sessions were more likely to finish the program. Therefore, methods to involve subjects early in the program should be developed in order to improve retention and long-term weight loss in these children. These methods should be geared towards parents as well as children, since the reasons for withdrawing suggest that parents make the decision to leave the study.

Levine et al. (2001) also found that significantly more African American children compared to Caucasian children did not finish the program. The results from a study by Wadden et al. (2006) help to explain this finding. Through interviews of obese African American female subjects and their mothers, Wadden et al. found that neither African American mothers nor their adolescent daughters

seemed to be preoccupied with their current weight or with losing weight. This may be the result of African Americans not preferring the thin body type that is often desired by Caucasian females (Huenemann, Shapiro, & Hampton et al., 1966) and may contribute to the higher degree of obesity seen in African American females (USDHHS). Thus, it is necessary to develop different strategies to encourage weight loss among minority populations (Levine et al.). Wadden et al. suggests that this can be done by focusing on the health concerns related to obesity, since improvement in body image does not appear to be motivational for this population.

Israel et al. (1990) measured adherence of parents to either a helper or a weight loss role. Parent's weekly habit records were scored based on the percentage of tasks completed and used to determine parental adherence in their study. They found that parental adherence significantly decreased during the extended phase of treatment. The authors suggest that poor adherence by parents to either the weight loss or the helper role during this time could have contributed to the weight gain children experienced during the follow-up period. They also suggest that it was easier to adhere to the helper role rather than the weight loss role. This could explain the greater success of children whose parents took on a helper role because those children received the complete treatment, while children whose parents did not adhere to the weight loss treatment did not receive the fully recommended treatment. From their results, the authors conclude that long-term adherence to the parental role is challenging to achieve and better methods of encouraging and measuring adherence need to be developed for future studies.

White et al. (2004) used the number of "hits" on their internet website as well as weekly quizzes to measure adherence to their program. Their study used the internet to educate and change the eating and exercise behaviors of obese African American teenage girls and at least one obese parent. The authors report that adolescent adherence was correlated with parental adherence, which suggests that parents' behavior affected the behaviors of their children. Also, completion and success on assignments, such as turning in weight loss graphs or scores on weekly quizzes, were related to increased weight loss among subjects. This implies that a greater degree of effort put into the treatment was linked to greater weight loss success. The authors note that this study was limited by its single method of measuring adherence and that logging on to a website does not imply that the subjects read the information at the site. For this reason and the lack of measures of adherence in the majority of family therapy studies, the authors recommend

that better ways of measuring adherence be developed in future studies.

Golan et al. (2006) encouraged parents to use an authoritative parenting style in assisting their child in weight loss. They found an association between the number of parents that attended treatment meetings and their child's success. Eighty percent of the meetings were attended by both parents in the parents-only group, the group that experienced the best results in the study. In contrast, only 55% of meetings were attended by both parents in the parent and child group. These findings suggest that when more people are responsible for a child's weight loss, better results are achieved due to the greater influence directed towards the outcome. Unfortunately these results cannot be directly applied to children raised in single-parent homes. The authors suggest that future research needs to focus on finding a form of family intervention most appropriate for obese children in this situation.

Maintenance

Although all studies attributed positive weight loss at the end of the study to family therapy, weight loss results vary at follow-up sessions. Eight of the 18 articles contained follow-up periods and four of the articles were actual follow-up studies. The amount of time from the termination of the study to the follow-up period ranged from three months to 10 years. Weight maintenance was obtained in the majority of studies and was attributed to the family-based treatment utilized during the intervention period. Epstein et al. (1990b) compared the weight loss maintained by children in a parent-plus-child group, a child-only group, and a non-specific control group in their 5 and 10 year follow-up study. The authors found that most of the differences between groups were observed between 21 and 60 months following completion of treatment, with children in the parent-plus-child group maintaining the greatest amounts of weight loss. This suggests that weight maintenance during this crucial period is linked with greater chances of long-term weight management success. Flodmark et al. (1993) measured BMI, skinfold thickness, and overall fitness in two groups, one receiving family therapy and the other receiving only the dietary and medical counseling that the family therapy group also received, at the one year follow up visit. The family therapy group not only maintained weight loss during their one year follow up, but also maintained decreases in skinfold thickness and overall fitness. This suggests that family therapy elicits decreases in cardiovascular risk factors as a result of weight loss.

Participants in 4 of the 12 studies had regained significant amounts of weight at the follow-up assessment;

however, two of the studies did not utilize a control group that did not receive family therapy. Therefore, it was difficult to determine the effects of family therapy on weight maintenance in these studies. In a study by Levine et al. (2001), children regained an average of 8.6 kilograms between the termination of treatment and the follow-up session 4 to 13 months later. This study focused on severely obese children and suggests, based on the results, that weight maintenance rather than weight loss may be a more practical goal for severely obese children when more intensive treatments, such as drug or surgical treatments, are not implemented along with family therapy. Wadden et al. (2006) found that the mean BMI of subjects at the 6 month follow-up was almost identical to the BMI at which the subjects began the study. The authors suggest that weight maintenance and weight loss result from different behaviors, that maintenance of weight is more difficult than loss, and that maintenance can be facilitated with greater contact during the follow-up period.

Additions to Standard Family Therapy

Two studies added supplementary variables to the standard family therapy. Epstein et al. (2000) added problem solving skills to his family therapy aimed at decreasing caloric intake and increasing exercise. Problem solving skills taught either to the parent and child or only to the child did not increase the effectiveness of standard family-based treatment. The standard group actually showed greater decreases in BMI compared to the other groups, suggesting that the problem-solving skills may compromise standard treatment. The authors attribute this effect to the possibility that time expended in learning the extra requirements would otherwise be spent on changing eating and exercising habits, behaviors more beneficial for weight loss.

Epstein et al. (1994) required families to master important aspects of weight loss and parents to reinforce positive behaviors of their children in addition to the standard family intervention. The authors found that the effects of mastery criteria and contingent reinforcement produced greater changes in BMI than standard family therapy at 6 months and a year, but were not effective at 2 years. These outcomes suggest that mastering certain behavioral skills and positive reinforcement for doing so can enhance standard family-based treatment. However, since the positive effects of the treatment did not last through the follow-up period, the authors suggest that different skills may need to be mastered or that knowledge of skills needs to be re-examined after treatment in order to produce long-term weight loss and maintenance.

Recommendations

Although the studies included in this paper provide ample support for the use of family therapy as a treatment for obesity, further research is necessary to determine the best ways to administer therapy. Because many of the studies use different methods of administering family therapy and do not utilize appropriate controls, it is difficult to draw comparisons among the studies. More research is needed on the effects of therapy provided to parents only, child only, parents and children together in the same sessions, and parent and children together in different sessions. By using controls and by building upon knowledge gained from previous studies, more information in these areas can be obtained.

More studies need to focus on better methods for weight maintenance or continued weight loss following the initial treatment. All of the studies produce weight loss during treatment, but many studies do not demonstrate continued weight loss or weight maintenance after treatment. Several of studies found significant weight increases, with weights returning to baseline or exceeding baseline measurements following treatment. Additional weight loss or weight maintenance could be achieved by gradually withdrawing treatment or by increasing the number of follow-up sessions held after formal treatment is completed.

More studies also need to center on adherence to treatment. It is shown in the studies mentioned that the better parents and children adhere to treatment, the more successful they are at weight loss. Researchers need to consider the ability and motivation of parents and children to follow the given treatment. If they are not able or willing to participate fully in the guidelines of the study, they are not going to achieve the best results. Since research shows that greater participation seen at the beginning of a study leads to better results, focusing on initial enthusiasm and motivation could increase subjects' overall adherence. Additionally, improved methods of measuring adherence need to be developed in order to determine the extent to which parents and children participate in the study. Thus, a more accurate account of adherence can better relate adherence to success.

It is also important to develop weight loss strategies for different subgroups that may be less responsive to family therapy. Minorities reportedly hold different body type ideals and therefore may benefit from a more individualized form of treatment (Huenemann et al. 2006). Additionally, children of single parents may respond differently to treatment because Golan et al. (2006) shows that effectiveness of treatment is greater when two parents attend treatment sessions. Also, Levine et al. (2001)

demonstrates that subjects who drop out of studies do so because parents cannot make the sessions, cannot find care for children not in sessions, or because they have conflicts with other activities that do not allow them to fully participate in the study. Since only one parent is available to participate, the chance of withdrawing from the study due to these reasons is greater in this group of participants. Therefore, studies that focus on minorities and children of single parents require strategies that can provide greater effects for these groups.

None of the studies looked at family dynamic when administering family therapy. Families are unique and since they are the agent of change in these studies, it seems that the different ways families interact with each other and the methods they use to communicate would be investigated to determine their effects on the treatment. It is likely that certain family dynamics respond differently to different forms of family treatment and that the composition of some families may prohibit the use of family therapy altogether. Future studies should examine every family individually in order to understand how the treatment can be altered by the different personalities, relationships, and configurations of each family participating in the study.

Conclusion

Parents play an important role in the weight status of their children and family-based therapy can be a successful way for children and adolescents to lose weight and sustain weight loss. To date, family therapy has many different definitions, but generally centers on behavioral and educational aspects. More research is necessary to optimize family interventions and tailor them to the specific needs of each family undergoing treatment. Since childhood obesity is becoming more prevalent, pediatricians, nurses, and dietitians should consider family therapy, alone or as an adjunct to other therapy, when prescribing a treatment for obese patients. Healthcare providers can share the current evidence on family therapy with obese patients and their families. They can educate them about ways to decrease calorie intake, increase healthy eating behaviors, and increase physical activity. The behavioral component should involve utilizing the educational portion to make changes in one's eating and exercise habits and should include self-monitoring of those habits. Parents should be taught how to create a healthy environment for their children and how they can assist their child changing their eating and exercise habits appropriately. They should also be encouraged to praise their children for making necessary lifestyle changes. If healthcare professionals find that a large portion of their patient population could benefit from family therapy, they can initiate group treatment addressing

the important educational and behavioral components of weight loss to a group rather than an individual. Research on family therapy is still in its early stages; however, the need for effective weight loss programs for children and adolescents will hopefully prompt research in this area to expand and family therapy to develop as an effective and widely prescribed method of treating pediatric obesity.

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