

# An Integrative Review of the Mind, Exercise, Nutrition....do it!

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**Received:** 21-October-2021; **Manuscript No:** IPJCO-21-11210; **Editor assigned:** 25-October-2022; **PreQC No:** IPJCO-21-11210 (PQ); **Reviewed:** 08-November-2021; **QC No:** IPJCO-21-11210; **Revised:** 21-December-2022; **Manuscript No:** IPJCO-21-11210 (R); **Published:** 29-December-2022; DOI: 10.36648/2572-5394.7.9.113

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**Citation:** Lingad Wu M (2022) An Integrative Review of the Mind, Exercise, Nutrition....Do it! J Child Obesity. 7:113.

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**Appendix A:** Johns Hopkins Nursing Evidence-Based Practice Appendix G: Individual Evidence Summary Tool.

Practice question: In children aged 7 to 13 years old with a body mass index (BMI) greater than 85th percentile, does implementation of the Mind, Exercise, Nutrition, Do it! (MEND 7-13) program, compared to current practice, reduce body mass index (BMI) in 8 to 12 weeks?

Article #	Author and Date	Evidence Type	Sample, Sample Size, Setting	Findings That Help Answer the EBP Question	Observable Measures	Limitations	Evidence Level, Quality
1	Liu, S., Weismiller, J., Strange, K., Forster-Coull L., Bradbury, J., Warshawski T., & Naylor P.J. (2020)	Quantitative	Sample: Children between 7-13 years of age, with a BMI > or equal to the 85 <sup>th</sup> percentile for age and sex, and had no contraindications.  Sample size: 755 participants completed the program in 4 years. Of these	Aim: Objectives for this study were to (a) explore attendance and challenges during a scale-up and implementation of the MEND 7-13 program and (b) monitor program effectiveness	-Survey items to evaluate program reach, attendance, acceptability, and satisfaction.  -Paired t-tests to compare mean changes in BMI scores, waist circumference, dietary and physical	-Lack of control group  -Lack of follow-measures beyond the 10-week program  -Selection bias, 82% of the sample had BMI-for-age above 97 <sup>th</sup> percentile.  -All delivery sites were	Level II  High Quality

			<p>participants 48% male and 52% female.</p> <p>Setting: Recreation centers throughout British Columbia</p>	<p>on BMI score, waist circumference, and dietary and physical activity behaviors. Conducted by trained professionals in recreation, physical activity, and nutrition background.</p> <p>Results: Families were highly satisfied with program delivery and BMI and lifestyle behaviors improved.</p>	<p>activity behaviors pre, and post-intervention.</p>	<p>located in urban areas, so generalizability to rural areas was limited.</p> <p>-Lack of cost-effectiveness analysis</p>	
2	<p>Sacher, P.M., Kolotourou, M., Poupakis, S., Chadwick, P., Radley D., &amp; Fagg J. (2019)</p>	Quantitative	<p>Sample: Children aged 7-13 years who were overweight or obese and had no serious parental or physician-reported clinical conditions.</p> <p>Sample size: 3,782 children who are overweight or</p>	<p>Aim: To upscale the MEND 7-13 program to low-income, ethnically diverse communities and assess outcomes. Conducted by trained professionals in recreation, physical activity, and nutrition</p>	<p>-Mean attendance</p> <p>-Bodyweight (kg), height, BMI calculations</p> <p>-25-item parent-rated strengths and difficulties questionnaire was used to assess the child's mental health.</p>	<p>Lack of control group</p> <p>-Measurement bias (data collection obtained by program deliverers)</p> <p>-Lack of validated physical activity and dietary intake data</p>	<p>Level II</p> <p>High Quality</p>

			<p>obese attended the program and 2482 had complete data.</p> <p>Setting: Community-based programs in 8 U.S. states.</p>	<p>background.</p> <p>Results: Post-implementation results showed improvements in BMI, cardiovascular fitness, and psychological outcomes.</p>		-Short duration	
3	<p>Hardy, L.L., Mihrshahi, S., Gale, J., Nguyen, B., Baur, L.A., &amp; O'Hara, B.J. (2015)</p>	Quantitative	<p>Sample: Children between 6-15 years old with a BMI at or greater than the 85<sup>th</sup> percentile.</p> <p>Sample size: 3,148 children were recruited and 2,812 attended one or more sessions</p> <p>Setting: 15 Local Health Districts across New South Wales.</p>	<p>Aim: This study aimed to report the short-term impact of a scaled-up community-based obesity treatment program on obese or overweight children in real-world settings.</p> <p>Conducted by trained professionals in recreation, physical activity, and nutrition background.</p> <p>Results: Compared with non-completers, beneficial changes were observed in BMI and</p>	<p>-Parent questionnaires pre and post-implementation.</p> <p>-Completers vs. non-completers</p> <p>-Left shift in BMI distribution curve post-implementation</p> <p>-Great beneficial changes were noted in completers vs. non-completers.</p>	<p>-Lack of control group</p> <p>-Missing data on parent surveys were noted</p> <p>-Reliability of anthropometric measurements was not assessed</p> <p>-Lack of long-term follow-up</p> <p>-No definition for completion of community-based intervention</p>	<p>Level II</p> <p>High quality</p>

				BMI z-score among those who completed the program.			
4	Eynde, E., Camfferman, R., Putten, L.R., Renders, C.M., Seidell, J.C., Halberstadt J. (2020).	Quantitative	<p>Sample: Overweight and obese children between 7-13 years, attended primary school and had no medical, physical, or psychological restrictions.</p> <p>Sample size: 340 children between 7-13 years old.</p> <p>Setting: 16 local community centers or schools across the Netherlands.</p>	<p>Aim: Assess changes in health-related quality of life and weight status among obese and overweight children. Although preferred, facilitators had no medical background and education.</p> <p>Results: At the end of the 10-week program, researchers found improvement in generic and weight-specific health-related quality of life and BMI scores.</p>	<p>-The Pediatric Quality of Life Inventory and Impact of Weight on Quality of Life-Kids questionnaires</p> <p>-Wilcoxon signed-rank test, Mann-Whitney U test, and paired t-test to test BMI results.</p>	<p>-Study design, lack of control group</p> <p>-High percentage of non-starters, 1/3 of children who signed up to participate did not engage in the program.</p> <p>-Facilitators had no medical background</p>	Level II High Quality
5	Kolotourou, M., Radley, D., Gammon, C., Smith, L.,	Quantitative	<p>Sample: Overweight and obese children between 7-13 years and their parent/caregiver</p>	<p>Aim: Outcomes of MEND 7-13 program 2.4 years from baseline. The</p>	<p>-Body mass index, height, and waist circumference</p> <p>-Strengths and</p>	<p>- Participants in the study may be different than the general</p>	Level III High quality

	Chadwick, P., & Sacher, P.M. (2015)		<p>r.</p> <p>Sample size: 165 overweight or obese MEND participants.</p> <p>Setting: Community settings in London.</p>	<p>facilitators of this study were non-specialists who were provided standardized MEND intervention content and training.</p> <p>Results: Significant improvements were found in all outcomes, anthropometry, psychological indices, body esteem, and self-esteem. However, BMI only improved among the boys and showed no statistical significance in the girls after 2.4 years.</p>	<p>Difficulties</p> <p>Questionnaire</p> <p>-Mendelson's Body Esteem Scale</p> <p>-Rosenberg's Self-Esteem Scale</p>	<p>population.</p> <p>-Intervention not delivered by a specialists</p> <p>-Gender differences observed not in accordance with available literature.</p> <p>-Puberty not assessed</p> <p>-Lack of control</p>	
6	Butte, N.F., Hoelscher, D.M., Barlow, S.E., Pont, S., Durand, C., Vandewater, E.A., Liu, Y., Adolph,	Quantitative	Sample: Low income and ethnically diverse children between 2-5, 6-8, and 9-12 with a BMI at or greater than the 85 <sup>th</sup> percentile.	Aim: To determine the comparative efficacy of a 12-month community-centered weight management program	<p>-Height, weight, BMI, blood pressure</p> <p>-Marginal mean BMI at baseline, 3 and 12 months from mixed-linear</p>	<p>-The MEND program showed low retention and attendance</p> <p>-Short-term success</p> <p>-Need for long-term</p>	<p>Level I</p> <p>Randomized control trial</p> <p>High-quality</p>

	<p>A.L., Perez, A., Wilson, T.A., Gonzalez, A., Puyau, M.R., Sharma, S.V., Byrd-William, C., Oluyomi, A., Huang, T., Finkelstein, E.A., Sacher, P.M., &amp; Kelder, S.H. (2017)</p>		<p>Sample size: 549 children. 315 to the intervention and 234 to the comparison.</p> <p>Setting: Primary care centers and YMCA's in Austin and Houston.</p>	<p>(MEND 6012) versus a primary care-centered program (Next steps).</p> <p>Results: Children in the MEND program showed larger reductions in BMI compared to those enrolled in the primary-care center at 3 months, but not at 12-months. At 12 months, BMI rebounded in children ages 2-8 and maintained among ages 9-12.</p> <p>Age group 6-8 showed the most improvement</p> <p>-Preschool children 2-5 years did not differentiate</p> <p>-Transition phase showed BMI maintained or rebounded in</p>	<p>regression models.</p> <p>-Peds Quality of Life survey</p> <p>-Compliance and retention based on instructor checklist.</p>	<p>interventions to sustain family engagement</p> <p>-Intervention compliance influenced outcomes</p>	
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				both groups.			
7	Wilson, T.A., Liu, Y., Adolph, A.L., Sacher, P.M., Barlow, S.E., Pont, S., Sharma, S., Byrd-William, C., Hoelscher, D.M., & Butte, N.F. (2019).	Quantitative	<p>Sample: Low income and ethnically diverse children between 2-5, 6-8, and 9-12 with a BMI at or greater than the 85<sup>th</sup> percentile.</p> <p>Sample size: 549 children. 315 to the intervention and 234 to the comparison.</p> <p>Setting: Primary care centers and YMCA's in Austin and Houston.</p>	<p>Aim: To examine the effects of primary outcomes (BMI) and secondary outcomes (diet and parental feeding practices) in low-income children who have a BMI at or greater than the 85<sup>th</sup> percentile.</p> <p>Results: Short-term BMI decreased was observed in all participants, however, those in the MEND program had a greater improvement than participant's in the primary care center program. The researchers noted that even with the more intensive MEND</p>	<p>-Height and weight</p> <p>-BMI</p> <p>-Food frequency questionnaire (FFQ)</p> <p>-F-test statistic</p> <p>-Mixed-effects linear regression models for parent feeding practices and assessment.</p> <p>-MEND-friendly vs. MEND-unfriendly food groups compared using bar graphs</p>	<p>-Comparative trial, no-intervention group not included.</p> <p>-Results cannot be generalized to other populations</p> <p>-Families included were highly motivated, self-selected bias</p> <p>-Measurement error in dietary data and feeding practice surveys due to bias and social desirability.</p>	<p>Level I</p> <p>Randomized control trial</p> <p>High quality</p>

				program compared to Next Steps, there was no difference in the decrease in MEND-unfriendly food.			
8	Imoisili, O.E., Lundeen, E.A., Freedman, D, S., Womack, L.S., Wallace, J., Hambidge, S.J., Federico, S., Everhart, R., Harr, D., Vance, J., Kompaniyets, L., Dooyema, C., Park, S., Blanck, H.M., & Goodman, A.B. (2021)	Quantitative	<p>Sample: Children aged 4-17 years with a BMI at or greater than the 85<sup>th</sup> percentile. Included siblings who were not obese or overweight.</p> <p>Sample size: 21,408 children recruited, 347 children participated in the MEND+ program.</p> <p>Setting: 5 federally qualified health centers in Denver metro area.</p>	<p>Aim: To implement the MEND program in addition to brief medical visits with the child, parent, and MEND clinician during the program.</p> <p>Results: The researchers found a statistically decreased BMI and blood pressure among two-thirds of the MEND+ participants. The first study to show BMI and a statistically significant decrease in BP in real-world, health center settings.</p> <p>Included brief</p>	<p>-Height, weight, and BMI</p> <p>-Blood pressure</p> <p>-Hemoglobin A1C</p> <p>-Alanine transaminase</p> <p>-Chi-square test with p-value &lt;0.5</p> <p>-Number of MEND+ clinic visits represented in a table</p> <p>-Mixed-effects modeled changes in BMI and SBP</p>	<p>-High percentage of Hispanic children with high BP could reflect a referral bias.</p> <p>-Shorter follow-up time</p> <p>-No control group</p> <p>-Clinical measurement errors</p> <p>-Participants included were siblings who may or may not have a BMI at or greater than the 85<sup>th</sup> percentile.</p>	Level III High quality



				weekly medical visits with children, parents, and designated MEND clinician.			
9	Khanal, S., Welsby, D., Lloyd, B., Innes-Hughes, C., Lukeis, S., & Rissel, C. (2016)	Quantitative	<p>Sample: Children with a BMI equal or greater than the 85<sup>th</sup> percentile but less than the 95<sup>th</sup> percentile.</p> <p>Sample size: Out of 2,499 children 255 children enrolled in the interventions group and 203 enrolled in the control. 57.4% attended at least 75% of the program sessions.</p> <p>Setting: Local health districts within New South Wales, Australia</p>	<p>Aim: To assess the effectiveness of once per week delivery of the MEND program vs twice a week delivery in achieving health and behavioral outcomes. Outcomes were measured at the end of the intervention and 6-months post.</p> <p>Results: The researchers found no significant differences between the once per week vs twice per week groups in changes</p>	<p>-Mean difference between BMI z-score using analysis of variance test</p> <p>-Global self-esteem-parent survey</p> <p>-Parent-reported diet</p> <p>-Physical activity</p> <p>-Attendance compared using a chi-squared test</p>	<p>-Participation rates drop after the second sessions</p> <p>-Data collectors were not blinded and had access to pre-program data during follow-up</p> <p>-Measurements not taken by the same data collector</p> <p>-Some received half-day training.</p> <p>-Did not include children with a BMI at 85<sup>th</sup>-95<sup>th</sup> percentile.</p>	<p>Level I</p> <p>Randomized control trial</p> <p>High quality</p>
10	Khanal, S., Choi, L., Innes-Hughes, C. & Rissel, C.	Quantitative	<p>Sample: Children with a BMI equal or greater than the 85<sup>th</sup> percentile for their age on</p>	<p>Aim: To assess the impact of the number of sessions attended have</p>	<p>-Relationship between session attendance and program outcomes</p>	<p>-Unable to validate the accuracy of the collected anthropometric</p>	<p>Level II</p> <p>High quality</p>

	(2019)		<p>the CDC BMI chart for children.</p> <p>Sample size: 5389 participants pre-data available and 3090 post-program data.</p> <p>Setting: Local health districts within New South Wales, Australia</p>	<p>on BMI z-score, fruit and vegetable intake, and physical activity.</p> <p>Results: The researchers found of the 3090 participants, those who attended at least five sessions showed the above measures improved significantly post-implementation (p&lt;0.01).</p>	<p>assessed using Spearman's correlation and a boxplot to present relationship</p> <p>-Parents completed questionnaires on physical activity, sedentary activities, and dietary behavior.</p> <p>-Independent t-test to compare pre and post BMI outcomes</p>	<p>data</p> <p>-Self-reported or parent-reported physical activity, sedentary behavior, and dietary intake had limitations.</p> <p>-Child recall of these behaviors is poor.</p> <p>-Unable to verify reasons for families withdrawing.</p>	
11	Barlow, S.E., Durand, C., Salahuddin, M., Pont, S.J., Butte, N.F. & Hoelscher, D.M. (2019)	Quantitative	<p>Sample: Children aged 2-12 years with a BMI at or greater than the 85<sup>th</sup> percentile.</p> <p>Sample size: 426 participants randomized to the intensive intervention vs. comparison program.</p> <p>Setting: Primary care centers and YMCA's in Austin and Houston.</p>	<p>Aim: A 12-month RCT to compare an intensive community-centered weight management program (MEND) with a primary care clinic intervention. The goal of a secondary analysis was to find distinct subgroups that show different</p>	<p>-Large sample size</p> <p>-At 3 months and 12 months height, weight, and BMI.</p>	<p>-Secondary analysis require confirmation in additional studies.</p> <p>- Suggest behavior directives of the program not the most appropriate for children with severe obesity.</p> <p>- Limited studies on outcomes of children with severe obesity.</p>	<p>Randomized control trial</p> <p>Level I</p> <p>High Quality</p>

				<p>responses to the intervention and identify baseline characteristics.</p> <p>Results. The researchers found child's degree of obesity moderates the intervention program effect. Decreased BMI was noted in those with mild-to-moderate obesity and minimal impact among children with severe obesity.</p>			
12	Barlow, S.E., Salahuddin, M., Durand, C., Pont, S.J., Hoelscher, D.M., & Butte, N.F. (2020).	Quantitative	<p>Sample: Children aged 2-12 years of age with a BMI at or greater than the 85<sup>th</sup> percentile.</p> <p>Sample Size: 399 participants who were had moderate or severe obesity. were included</p>	<p>Aim: To study the validity of the BMI z-score as a measure of adiposity among children with severe obesity. To study the change in adiposity in children with moderate or severe obesity after completing</p>	<p>-Large sample size</p> <p>-High proportion of children with severe obesity</p> <p>-Used other tools to associate effectiveness of the program rather than the standard BMI</p> <p>-Confirms BMI score</p>	<p>-Interpretability of BMI change is considered a practical limitation</p> <p>-Lack of interaction with the age group for the BMI model</p> <p>-Further work needed for more precise body composition</p>	<p>Randomized Control Trial</p> <p>Level I</p> <p>High Quality</p>

			<p>Setting: Primary care centers and YMCA's in Austin and Houston.</p>	<p>the MEND program.</p> <p>Results: The researchers found all metrics were associated with a change in percent body fat than a change in BMI score. The weakest association with change in fat was with a change in BMI.</p>	<p>varies with participants with severe obesity.</p>	<p>measures</p>	
13	<p>Ash, T., Agaronov, A., Young, T., Aftosmese-Tobio, A., Davison, K.K. (2017)</p>	Systematic	<p>Sample: Family-based interventions to prevent childhood obesity.</p> <p>Sample size: 119 eligible interventions.</p> <p>Setting: 28% home 27% primary health care offices 33% community centers</p>	<p>Aim: To profile family-based interventions to prevent childhood obesity and identify gaps in intervention and design.</p> <p>Results: More than 90% of the 119 interventions found were based in the U.S., Europe, and Australia, targeted 2-10-year-olds. There was a low rate of interventions that include media use</p>	<p>-Geographic region</p> <p>-Age of child</p> <p>-Setting</p> <p>-Length of intervention</p> <p>-Delivery approach</p> <p>-Behavior domains</p>	<p>-Articles published over a short amount of time</p> <p>-Lack of time-trend analysis</p> <p>-Effectiveness or quality of intervention not considered</p> <p>-Publication bias</p>	<p>Systematic Review</p> <p>High Quality</p>

				and sleep.			
14	Hartson, K.R., Gance-Cleveland, B., Amura, C.R., & Schmiede, S. (2018).	Qualitative	<p>Sample: Hispanic children aged 7-13 years old with a BMI at or greater than the 85<sup>th</sup> percentile, but less than the 95<sup>th</sup> percentile.</p> <p>Sample size: 40 children and their parents/caregivers were included.</p> <p>Setting: School districts and community centers in the Western United States.</p>	<p>Aim: To explore potential correlations between physical activity and sedentary screen time behaviors among participants in the MEND 7-13 program.</p> <p>Results: The researchers found that BMI or screen time behavior was not significantly associated with physical activity. However, they found a high association between parental vegetable intake, child fruit intake, and physical activity. Decreased body esteem was associated with</p>	<p>-Small sample size</p> <p>-High amounts of missing parental data</p> <p>-Only one parent surveyed</p> <p>Single-item measures the limited depth and potentially limit conclusions.</p> <p>-Trends in sedentary use of technology not assessed</p>	<p>-Despite the small sample size, the study allowed the collection of data from an underrepresented population with high healthcare needs.</p> <p>-Association with mental and physical health is addressed in this population</p>	<p>Level III</p> <p>High/Good Quality</p>

				sedentary screen time.			
15	Kelleher, E., Davoren, M.P., Harrington, J.M., Shiely, F., Perry, I.J., & McHugh, S.M. (2016).	Systematic	<p>Sample: Studies that included children 4-12 years of age, incorporated lifestyle components and were family-focused.</p> <p>Sample size: 13 eligible studies met the inclusion criteria. Of those studies, 3 included the MEND 7-13 program.</p> <p>Setting: Community settings.</p>	<p>Aim: To investigate factors influencing attendance at community-based lifestyle programs among families of children who are overweight or obese. To identify factors that can enhance recruitment and retention rates.</p> <p>Results: The researchers found that most children went along with their parents without any real interest or reason. However, as the program progressed, the children's positive social experiences, having fun, and making friends, fostered</p>	<p>-Two consistent predictive emerged: boys more likely to drop out than girls and families of ethnic minorities more likely to disengage.</p> <p>-Revealed parent's denial of children being overweight or obese.</p> <p>-First systematic review of barriers and facilitators of community-based weight management programs.</p>	<p>-Most evidence found derived from Europe or Australia.</p> <p>-Limitation on generalizability to U.S.</p> <p>-Only included studies published in English</p>	Systematic Review  High Quality

				retention.			
16	Redfern, J., Enright, G., Hyun, K., Raadsma, S., Allman-Farinelli, M., Innes-Hughes, C., Khanal, S., Lukeis, S., Rissel, C., Chai, H.Y., & Gyani, A. (2019).	Quantitative	<p>Sample: Children aged 7-13 years with a body mass index at or greater than the 85<sup>th</sup> percentile</p> <p>Sample size: 12 participants from 40 sites were randomly allocated to the intervention (MEND 7-13 program plus incentive) group or the control (standard MEND 7-13 program). 20 sites in each.</p> <p>Setting: Health Districts across North South Wales, Australia.</p>	<p>Aim: A randomized control trial to assess the role incentives has on enhancing health-related behavior change at 6 and 18-month follow-ups. Incentives included vegetable slicer, sports store voucher, tennis set,</p> <p>Results: BMI was reduced in both the control and intervention groups at the end of the program. The intervention group, or program with incentives, did not significantly impact health outcomes, however, it did improve attendance sustained improvements in clinical and lifestyle</p>	<p>-Median number of sessions attended was significantly higher in the intervention group</p> <p>-More participants in the incentive group overall</p> <p>-Both groups reduce BMI, screen time, fast food meals, soda, and greater median of physical activity.</p>	<p>-Recruitment and retention are a major challenge</p> <p>-Small sample size</p> <p>-Incentives were simple and inexpensive</p> <p>-Follow-up completed at 18 months versus the ideal 12-month due to financial reasons.</p>	<p>Randomized Control Trial</p> <p>Level I</p> <p>High Quality</p>

				outcomes.			
17	Watson, L.A., Baker, M.C., & Chadwick, P.M. (2016).	Qualitative	<p>Sample: Children aged 11-14 years of age who have completed the MEND obesity program.</p> <p>Sample size: Fourteen children who completed the MEND program at least 12 months before the interview and were transitioning from primary to secondary school. 6 female and 8 male.</p> <p>Setting: Diverse areas of London.</p>	<p>Aim: To explore children's perspectives and experiences after completing the MEND program.</p> <p>Results: The researchers found an unexpected and strong theme that having fun is an integral part of the children's experience during the MEND program. Researchers conclude optimizing fun is imperative to their engagement and maintenance of a healthy lifestyle.</p>	<p>-First qualitative study to explore the child's experience with the MEND program</p> <p>-Post-treatment period where behavior change is consolidated is captured</p> <p>- Fun was experienced by when they were actively participating.</p> <p>-Not feeling different or judged by others was important.</p>	<p>-Explorative, small self-selective subgroup of participants</p> <p>-Degree of weight loss and lifestyle changes was not a focus</p>	<p>Level III</p> <p>High/good quality</p>

#### Appendix B: Systematic Reviews Evidence Table.

Citation	Questi	Search	Inclusion/	Data	Key	Recommendatio	Leve
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	on	Strateg y	Exclusion Criteria	Extract ion and Analysi s	Findings	n/Implications	l of Evid ence
Ash, T., Agaronov, A., Young, T., Aftosmese- Tobio, A., Davison, K.K. (2017).	To conduc t a quantit ative conten t analysi s of family- based interve ntions to preven t childho od obesity . To profile family- based interve ntions that preven t childho od obesity and identif y gaps in interve ntion design and metho	With the assistan ce of a researc h libraria n, a search strateg y utilizing PubMe d, PsychIN FO, and CINAHL databas es were used. The search terms used include d: family, interve ntion, children , and obesity.	Inclusion criteria:	Researc hers used convent ional content analysis method ology. A compre hensive codebo ok was created to standar dize the process . Multipl e authors tested the codebo ok for validity and 10 random ly selecte d articles were tested again.	-Gaps were identified in low- income countries, interventi ons for children on both the lower and higher ends of the age spectrum , and interventi ons targeting media use and sleep.	Further investigation efforts in low and middle- income countries and non-traditional families.	High quali ty

	dology.						
Family-based childhood obesity prevention interventions: a systematic review and quantitative content analysis. International Journal of Behavioral Nutrition and Physical Activity, 14(113). <a href="http://doi/10.1186/s12966-017-057102">http://doi/10.1186/s12966-017-057102</a>			Written in English, Published between 01/08/2008-12/31/2015, Full text, Family-based interventions with activities Exclusion criteria: Animal studies, Non-original research articles, Not family-based intervention, No weight outcomes, Studies that focused on adult obesity		-Racial minorities and children from non-traditional families are underrepresented.	-Gaps in behavioral domains, such as sleep, media use. This area highlights a need for more research that includes these aspects in these interventions.	
Kelleher, E., Davoren, M.P., Harrington, J.M., Shiely, F., Perry, I.J., & McHugh, S.M. (2016). Barriers and facilitators	What are the barriers and facilitators influencing	A comprehensive search strategy utilizing PubMed	Inclusion criteria: No time limit was, Articles published in English and	Extraction was conducted by tabulating the relevant data	Two consistent predictors were found. 1.) Child level:	Recommend future studies focus on exploring reasons why these groups are more likely to drop out or	High quality

to initial and continued attendance at community-based lifestyle programmes among families of overweight and obese children: A systematic review. Obesity Reviews, 18. <a href="http://doi/10.1111/obr.12478">http://doi/10.1111/obr.12478</a>	attendance or non-attendance at community-based lifestyle programmes among families of overweight or obese primary school-aged children?	d, EMBASE, CINAHL, and PsychINFO. Search terms included overweight, obesity, pediatric, child, attendance, and interventions.	available in full text, Children 4-12 years, Focused on pediatric weight management that incorporated lifestyle components and reported factors influencing attendance in community settings. Exclusion criteria: study population was not overweight or obese, studies focused on adolescents or adults, studies were based in hospitals or research sites, and community	into separate data extraction tables based on the study design. Three reviewers extracted the following data: author, publication year, location, setting, study methodology, sample characteristics, variables, barriers, facilitators associated with attendance, overall study findings, and indicators	Boys were more likely to refuse or drop out of treatment than girls. Family level: families of ethnic minority more likely to disengage from treatment. 2.) Children's parents provided the motivation for program initiation and were driven mainly by concern for their child's psychological health and wellbeing. Researchers also found children's positive	disengage in treatment and develop strategies to improve retention among these groups.
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			y papers.	rs of study quality.	social experienc e, having fun and making friends, fostered attendan ce.		
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