Nutrición Hospitalaria

Nutr Hosp. 2012;27(5):1415-1421
ISSN 0212-1611 • CODEN NUHOEQ
S.V.R. 318

Revisión

Childhood overweight and obesity prevention interventions among Hispanic children in the United States; systematic review

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Abstract

The aim of this study was to conduct a systematic review of childhood obesity interventions among Hispanic children in the United States. An electronic search was conducted to identify articles published in the PubMED, CINAHL and EBSCO databases. Keyword that used included "Latino", "Hispanic", "childhood", "obesity", "interventions". The inclusion criteria were: published in English from January 2001 to January 2012, studies equal or longer than 6 months of follow-up, Hispanic children and obesity prevention studies (RCT or Quasi-experimental studies). We found 10 studies for inclusion in this review, seven RCT and three Quasi-experimental studies, published from 2005 to January 2012. Overall, improvements in BMI and z-BMI across studies were inconsistent . Only two studies had a follow-up of 3 years, and the most recent study showed an increase in the proportion of children classified as obese. The overall quality rate of evidence with respect to reducing BMI or the prevalence of childhood obesity was low.

(*Nutr Hosp.* 2012;27:1415-1421)

DOI:10.3305/nh.2012.27.5.5973

Key words: *Childhood obesity. Interventions. Hispanic. Systematic review.*

INTERVENCIONES PARA LA PREVENCIÓN DE LA OBESIDAD INFANTIL ENTRE NIÑOS HISPANOS DE LOS ESTADOS UNIDOS: UNA REVISIÓN SISTEMÁTICA

Resumen

El objetivo de este estudio fue realizar una revisión sistemática de las intervenciones para la obesidad infantil entre niños hispanos en los Estados Unidos. Se realizó una búsqueda electrónica para identificar artículos publicados en las bases de datos de PubMED, CINAHL y EBSCO. Las palabras claves utilizadas fueron "Latino" "Hispanic", "Childhood", "obesity", "interventions". Los criterios de inclusión fueron: publicados en inglés de enero de 2001 a enero de 2012, estudios con un seguimiento igual o mayor a seis meses, niños hispanos y estudios de prevención (estudios aleatorizados o cuasi-experimentales). Se incluyeron en esta revisión 10 estudios, siete aleatorizados y tres cuasi-experimentales, publicados de 2005 a enero de 2012. La mejoría en IMC y en el puntaje z de IMC entre los estudios fue inconsistente. Solamente dos estudios tenían un seguimiento de tres años y el más reciente estudio demostró un aumento en la frecuencia de niños clasificados como obesos. La calidad de la evidencia entre los estudios fue generalmente baja con respecto a la prevalencia de la obesidad infantil o al IMC.

(*Nutr Hosp.* 2012;27:1415-1421)

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Palabras clave: *Obesidad infantil. Intervenciones. Hispanos. Revisión sistemática.*

Introduction

Obesity is considered an epidemic in the United States (USA), particularly among minority children.[1] Rates of overweight and obesity among children vary according to race/ethnicity, with Hispanic children more likely to be overweight than children in other racial/ethnic groups.[2-3]

According to the National Health and Nutrition Examination Survey (NHANES) in 2009-2010, 9.7% (95% CI, 7.7%-12.2%) of children aged 2-5 years were at or above the 97th percentile of the BMI-for-age growth charts; 12.1% (95% CI, 9.9%-14.8%) were at or above 95th percentile; and 26.7% (95% CI, 22.6%-31.2%) were at or above the 85th percentile of BMI for age.

Among children aged 6-11 years 13.0% (95% CI, 11.2%-15.0%) were at or above 97th percentile, 18.0% (95% CI, 16.3%-19.8%) were at or above 95th per-

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Recibido: 31-V-2012.
Aceptado: 1-VII-2012.

centile; and 32.6 % (95% CI, 30.1%-35.2%) were at or above the 85th percentile.

When the data from 1999-2000 through 2009-2010 were analyzed together, there were significant differences by race/ethnicity, with Mexican Americans being significantly more likely to have high weight-for-recumbent length than non-Hispanic whites OR, 1.67% (95% CI, 1.29-2.15).[4]

Significant differences in obesity prevalence by race/ethnicity were found in 2009-2010, 11.9% (95% C, 8.4%- 16.4%) of Mexican American children aged 2-5 years were at or above the 97th percentile; 15.5% (95% CI, 11.9%-20.0%) were at or above 95th percentile; and 33.3% (95% CI, 28.2%-38.9%) were at or above the 85th percentile of BMI for age. Compare to non-Hispanic whites that were at 7.5% (≥ 97th percentile), 9.2% (≥ 95th percentile) and 23.8% (≥ 85th percentile) (4).

Also, 17.5% (95% CI, 13.9%-21.7%) of Mexican American children aged 6-11 years were at or above the 97th percentile; 22.1% (95% CI, 18.8%-25.8%) were at or above 95th percentile; and 39.0% (95% CI, 33.3%-45.1%) were at or above the 85th percentile of BMI for age. Compare to non-Hispanic whites that were at 9.1% (≥ 97th percentile), 13.9% (≥ 95th percentile) and 27.6% (≥ 85th percentile).[4]

Overweight is a significant health problem among children, given that children who are overweight are more likely to develop type 2 diabetes and other serious health problems.[5-7] Race/ethnic differences in lifestyle behaviors and economic disadvantage may account for some of the race disparity in obesity related diseases.[8-10]

Environmental factors as well as genetic and sedentary behavior can explain these disparities on disease expression.[11] Moreover the Hispanic population has more risk factors for childhood obesity that included parental obesity, low socioeconomic status, diet and lifestyle, limited health care, recent immigration and acculturation to US.[12-14]

The higher prevalence of obesity in low socioeconomic population groups has been attributed to lower quality diets,[15-18] pre-natal and postnatal factors,[19] and community environment in developing countries.[20]

Branscum and Sharma published a systematic review of childhood obesity prevention interventions targeting Hispanic children.[21] They included nine studies conducted from 2000 to 2010 for their analysis (5 randomized controlled trial, 2 quasi-experimental and 2 pilot studies). Four out of nine studies reported positive weight status changes in overweight and obese children, in an intervention program which included parent involvement. Authors concluded that in the last decade, to prevent childhood obesity, only a few studies have targeted a primarily Hispanic audience.

The aim of this study was to conduct a systematic review of childhood overweight and obesity prevention interventions among Hispanic children in the United States.

Methods

An alectronic search was conduct to identified articles published in the PubMED, CINAHL and EBSCO databases. Keyword that were used included “Latino”, “Hispanic”, “childhood”, “obesity”, “interventions”. The inclusion criteria for this review were: published in English from January 2001 to January 2012 in the USA. Studies equal or longer than 6 months of follow-up, target population low income Hispanic children, and obesity prevention intervention studies (Randomized controlled trial or Quasi-experimental studies). Recording at the beginning or at the end of the study, at least one indicator of adiposity (Weight, BMI, z-BMI, percentage of body fat). After the data were examined for eligibility, 10 studies were identified for inclusion in this systematic review; seven randomized controlled trials and three quasi-experimental studies, published from 2005 to January of 2012. Each study was assessed independently by two of the authors (MEPM, MBG). When there was no consistency a consensus was made with a third author (AJC).

Results

Our search resulted in 486 articles related to Hispanic childhood obesity prevention interventions; 26 of them contained information of Hispanic/Latino preschool and school aged children (fig. 1). A total of 10 studies fulfilled the inclusion criteria and were included in this systematic review. Seven randomized controlled trials (RCT) and three quasi-experimental studies, published from 2005 to January of 2012 in the USA. Among these studies, the overall findings were inconsistent improvements in BMI, z-BMI, percentage of body fat and total cholesterol (eight out of ten studies). Quasi-experimental studies found significant improvements in BMI. However, only two studies had a follow-up of three years,[22,31] and from these, the most recent study showed an increase in the proportion of children classified as obese.[22]

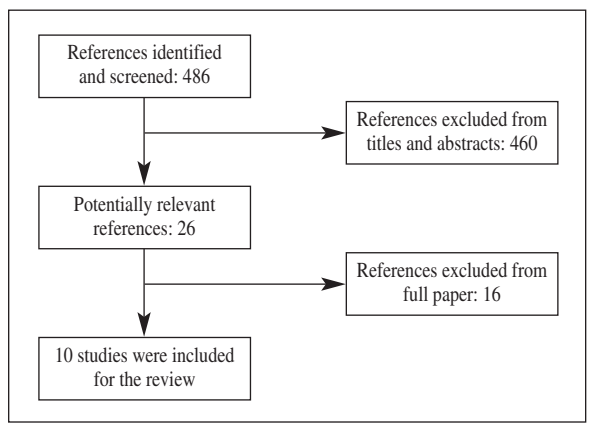

Fig. 1.—Flow diagram for the electronic search of studies for the review.

The age of study participants ranged from 4.2 ± 0.6 to 12.54 ± 0.55 years; period of the interventions ranged from six months to three 3 years; the study population was from 60 to 1,892 children. Five studies included populations of more than 800 children,[22-25,31] and five less than 800.[26-30] A summary description of all 10 studies included in this review is presented in table I.

The study conducted by Crespo et al. (2012),[22] was a 3 year randomized controlled community trial, that included a 100% Latino sample group of 808 parent-child dyads. The primary outcome was z-score BMI and secondary outcomes were child diet, physical activity and sedentary behavior. Parent's mean age was 33 ± 6 years, 95% female, 71% were married, 67% completed high school or less, 72% were foreign-born Their mean BMI was 29.7 ± 6.7, 33.8% were overweight, and 41.3% were obese. Children were aged 5.9 ± 0.9 years, 50% were girls, 86% were US-born, 17% were overweight (OW), and 29.5% were obese (O). There were no significant intervention effects on children's BMI z-score. The proportion of children classified as obese (≥ 95th percentile weight for age) increased in all except the Family-only condition at the final measurement. However, the former and the Community-only condition evidenced the greatest increase in the overweight category (≥ 85th < 95th percentile). The authors' findings suggest no significant main effects or interactions for the family or community intervention. Also, variability in the adherence of intervention activities may have diluted the effects of the intervention. High lost of follow-up (45%) and use of invalidated measures to estimate OW and O (self-report measurement bias).

Hollar et al. (2010),[23] conducted a Quasi-experimental controlled pilot study of an elementary school-based obesity prevention intervention designated to keep children at a normal healthy weight, and improve health status and academic performance. The schools were chosen as a convenience sample and were not randomly assigned to one of four intervention groups or to the control group. They analyzed a sub-sample of low-income children (N = 1197, 68% Hispanic, 9% Blacks, 15 % White, 8% other). Compared the intervention with the control groups, there were statistically significant improvements in BMI (p = 0.01), blood pressure, and academic scores (p < 0.001), among low-income Hispanic and White children in particular. However, there is no report of statistical power, no lost of follow-up, no intention to treat analysis and no report of the prevalence and changes of OW and O.

The study conducted by Hollard et al. (2010),[24] was a quasi-experimental elementary school-based obesity prevention intervention targeting ethnically diverse 6 to 13 years old children. The schools were chosen as a convenience sample and were not randomly assigned to one of four intervention groups or to the control group by the district administrator. The study sample was 48% Hispanic, 36% white, 8% African-American, and 8% other. Overall BMI z-score and weight z-score decreased significantly for girls in the intervention group compared to controls (P = 0.003 and P = 0.01, respectively) over the 2 y study period. The analysis showed significant decreases in weight and blood pressure among girls during a 2 year study period among those in the intervention vs. control schools (P = 0.037), but no report on prevalence of obesity was found. No significant change was noted in BMI z-score or blood pressure among boys. There is no report of statistical power, adherence and no intention to treat analysis.

Hoelscher et al. (2010)[25] conducted an intervention trial (The Travis County CATCH Project), implemented to low-income elementary schools. The objective of the study was to compare the impact of two intervention approaches on the prevalence of overweight and obesity. The study sample was 66% Hispanic students (n = 1107). For evaluation, the 15 CATCH BPC (BasicPlus + Community) schools were matched to 15 similar low-income CATCH BP (BasicPlus) schools by ethnicity and frequency of economic disadvantaged. Although, the percentage of students classified as overweight/obese decreased by 3.1%, this was not statistically significant in BP schools, compared to a decrease of 8.2% (P = 0.005) in students from BPC schools. Significant decreases in the prevalence of overweight and obesity were found in the BPC schools among boys (decreases of -7.8%, P = 0.05), girls (-9.0%, P = 0.05); and Hispanics (-7.5%, P = 0.03) at years of intervention. The difference between conditions were significant (P = 0.05) for all students, but didn't reach statistical significance for girls (P = 0.09). The study did not have enough statistical power; there was no report of adherence at the end of the study and no intention to treat analysis.

The study conducted by Johnston et al. (2010)[26] evaluated 2-year primary outcome (z-score BMI) and 1-year secondary outcomes (triceps skinfold, clinical measures, blood pressure, and heart rate) of a RCT involving an intensive lifestyle-based weight maintenance program targeting overweight Mexican-American children. Participants were randomized to an instructor-led intervention (ILI) or a self-help (SH) program. Their analyses revealed that children in ILI significantly reduced their *z*BMI when compared to children in SH (P < 0.001) with significant differences in *z*BMI change at 1 and 2 years (P < 0.001 and P < 0.05 respectively). Children in the ILI significantly reduced their total cholesterol (P < 0.05), triglycerides (P < 0.05), and tricep skinfold (P < 0.01) compared to children in the SH condition at 1 year. This study is one with the highest quality, since included randomization, allocation concealment, statistical power, intention to treat analysis, and had high adherence rate.

The study conducted by Johnston et al. (2007),[27] was a 6 month randomized controlled trial designed to weight reduction in overweight Mexican American children (N = 60). The children were randomly assigned to 1 of 2 conditions, SH (self-help) and II

Table I

Childhood overweight and obesity prevention interventions among hispanic children in the United States

Reference	*Design*	*Sample/ Hispanic (%)*	*Age ± SD (range)*	*Duration*	*Intervention*	*Baseline zBMI/ %OW, %O (p)*	*Final zBMI/ %OW, %O (p)*	*Adherence (%)*	*Intervention-to-treat*	*Unvalidated measures*	*Findings and limitations*
Crespo et al., 2012[22]	Randomized controlled community trial	13 schools 808 parent-child dyads 100% Latino	5.9 ± 0.9 (5-8)	3 y	Four conditions: 1. Family environmental change. 2. Community environmental change. 3. Family-plus-community environmental change. 4. A no-treatment control condition.	Family + community 19% OW, 27% O Family-only 14% OW, 31% O Community-only 19% OW, 28% O Control 18% OW, 31% O	Family + community 18% OW, 32% O Family -only 23% OW, 30% O Community-only 20% OW, 35% O Control 13% OW, 35% O	55%	Yes	Self-report measurement bias	High lost of follow-up and use of unvalidated measures to estimate OW and O The mean BMI z-score in all intervention conditions increased. No significant main effects.
Hollar et al., 2010[23]	Quasi-experimental Controlled Pilot Study	5 schools 3,769 Low-Income 50.2% Hispanic (n = 1,892) Subsample:free/ reduced lunch: n = 1,197 68% hispanic	7.84 ± 1.67 (4-13)	2 y	Intervention: 4 schools (modified dietary offerings, nutrition/ lifestyle curricula, PA, fruit and vegetable gardens). Control: 1 school	BMI percentiles NA Subsample BMI z-score I: 0.61 ± 1.19 C: 0.98 ± 0.88	Changes in BMI percentiles I= -1.73 ± 13.6 C = -0.47 ± 12.1 (P = 0.007) Subsample BMI z-score I: 0.71 ± 1.09 C: 1.05 ± 0.85 **P = 0.0013**	NA	No		No reported rate of adherence, no intention to treat analysis, Statistically significant changes in BMI percentiles (p = 0.007). No report in the prevalence, nor in the change of OW or O.
Hollar et al., 2010[24]	Quasi-experimental Pilot Study	5 schools 2,494 48% Hispanic (n = 1,208)	8.0 (6-13)	2 y	Intervention: 4 schools (dietary, curricula and PA components) Control: 1 school	I Boys 0.73 ± 1.20 C Boys 0.77 ± 1.19 I Girls 0.57 ± 1.19 C Girls 0.78 ± 0.98	I Boys 0.72 ± 1.13 C Boys 0.87 ± 1.06 (P = 0.86) I Girls 0.54 ± 1.12 C Girls 0.78 ± 1.04 **(p = 0.0031)**	NA	No		No statistical power, no adherence and no intention to treat were reported. Data presented was only for the subset of the cohort, BMI z score and weight z score decreased significantly only for girls (P = 0.003 and P = 0.01).
Hoelscher et al., 2010[25]	Intervention trial (no control group)	30 Low-income schools 1,107 students 66% Hispanic	9.92 ± 0.51	2 y	Two conditions: 1. CATH Basic plus + community (15 schools): BPC 2. CATCH Basic plus (15 schools): BP	Hispanic sample BP: %OW or O 51.6 BPC:%OW and O 50.1	Hispanic sample BP %OW or O -1.5 (p = 0.3) BPC %OW and O -7.5 (p = 0.03) BP *vs.* BPC %OW and O -6 (p = 0.1)	NA	No	Self-report Behavioral measures	No reported adherence and intention to treat analysis. In the BPC condition the % OW or O decreased -8.3 (p = 0.005) in the total sample and -7.5 (p = 0.03) in the Hispanic group. The difference between conditions was -7.0 (p = 0.051) in the total sample.
Johnston et al., 2010[26]	Randomized controlled trial	60 children BMI ≥ 85th or ≥ 95th percentile 100% Mexican American	12. 3 ± 0.7 (10-14)	2 y	Two conditions: 1. Instructor-led intervention (ILI) 2. Self-help program (SH)	zBMI ILI 1.5 ± 0.6 SH 1.7 ± 0.6 (p = 0.33)	zBMI 1 year ILI -0.2 ± 0.2 SH 0.1 ± 0.1 (ILI *vs.* SH p = 0.001) 2 year ILI -0.2 ± 0.5 SH 0.0 ± 0.1 (ILI *vs.* SH, p = 0.05)	90%	Yes		Children in ILI significantly reduced their z score BMI when compared to children in SH at 1 and 2 years (P < 0.001 and P < 0.05 respectively).

Table I *(cont.)*
Childhood overweight and obesity prevention interventions among hispanic children in the United States

Reference	*Design*	*Sample/ Hispanic (%)*	*Age ± SD (range)*	*Duration*	*Intervention*	*Baseline zBMI/ %OW, %O (p)*	*Final zBMI/ %OW, %O (p)*	*Adherence (%)*	*Intervention-to-treat*	*Unvalidated measures*	*Findings and limitations*
Johnston et al. 2007[27]	Randomized controlled trial	60 children BMI ≥ 85th or ≥ 95th percentile 100% Mexican American	12.4 ± 0.7 (10-14)	6 months	Two conditions: 1. Instructor/trainer-led intervention (II) 2. Self-help program (SH)	zBMI II 1.6 ± 0.6 SH 1.7 ± 0.6 (p = 0.39)	zBMI at 3 mo II -0.15 SH 0.004 (p = 0.001) zBMI at 6 mo II -0.16 SH 0.05 (p = 0.001)	95%	Yes		Children in the II significantly reduced their z score BMI when compared with children in the SH group (P < 0.001) with significant differences in zBMI change at both 3 and 6 months (P < 0.001).
Johnston et al. 2007[28]	Randomized controlled trial	71 BMI ≥ 85th or ≥ 95th percentile 100% Mexican American	12.54 ± 0.55 (10-14)	6 months	Two conditions: 1. Intensive intervention (II) 2. Self-help condition (SH) for weight reduction.	zBMI II 1.86 ± 0.48 SH 1.64 ± 0.44 (p = 0.07)	zBMI at 6 mo II -7.04% SH 3.03% (p = 0.001)	93%	Yes		In II significantly reduced their zBMI when compared with children in SH (p = 0.001) at 6 months (p = 0.001).
Fullerton et al. 2007[29]	Randomized controlled trial	80 100% Hispanic	12.1	6 months	Two conditions: 1. Instructor-led intervention (ILI) 2. Self-help program (SH) QOL was measured.	NA	zBMI ILI -0.13 ± 0.14 SH 0.04 ± 0.12 p < 0.001	NA	No	Self-report measurement bias	No report of adiposity variables at the beginning of the study. No reported adherence and intention to treat analysis.
Fitzgibbon et al. 2006[30]	Randomized controlled trial	12 schools 401 73.3% Hispanic	4. 2± 0.6	2 y	3 times/week diet/physical activity curriculum. 20 min nutrition activity 20 min aerobic activity Parent sessions weekly. 14 weeks intervention, 1 and 2 years follow-up.	zBMI I 0.87±1.24 C 1.13±1.06 (p = 0.023)	zBMI I 0.07 ± 0.07 C 0.05 ± 0.07 (p = 0.85)	85%	Yes		Not enough statistical power. No differences between intervention and control group for BMI (p = 0.89) and BMI z score (p = 0.85) at two year of follow-up.
Coleman et al. 2005[31]	Randomized controlled trial	8 schools 896 93% Hispanic	8.3 ± 0.5	3 y	Physical education and cafeteria components of CATH program.	%OW or O Girls C = 26 I = 30 %OW or O Boys C = 40 I = 40	%OW or O Girls C = 39 I = 32 %OW or O Boys C = 49 I = 41	83%	Yes		Results for %OW and %O showed that the rate of increase for girls in CATCH Schools was only 2% compared with 13% in control girls. The rate of increase or OW for boys was 8% in the control group compared with 5% in the intervention schools at 2 years.

BMI: Body mass index; NA: Not available; OW: Overweight; O: Obesity.

(Instructor/trainer-led). Both conditions focused on increasing healthy eating and physical activity by using behavioral strategies. Primary outcome was z BMI and secondary outcomes, blood biomarkers, % of body fat, and blood pressure. Children in the II significantly reduced their *z*BMI when compared with children in the SH group ($P < 0.001$) with significant differences in *z*BMI change at both 3 and 6 months ($P < 0.001$). Children in the II significantly reduced their total cholesterol ($P < 0.027$) and LDL cholesterol ($P < 0.01$) compared with children in the SH condition at 6 months.

Johnston et al. (2007)[28] conducted another RCT to test an intensive school-based intervention for weight loss in overweight Mexican American children (N = 71). They compared the effectiveness of an intensive intervention (II) and a self help condition (SH) for weight reduction in a group with a BMI ≥ 85th during 6 months. The primary outcome was z BMI and secondary outcomes included % body fat, blood pressure and blood biomarkers. Children in II significantly reduced their zBMI when compared with children in SH ($p = 0.004$) with significant differences in *z*BMI change at both 3 and 6 months ($p = 0.019$ and $p = 0.001$ respectively). Also, children in the II significantly reduced their percent body fat when compared with children in the SH condition at 6 months ($p = 0.001$). Changes in biomarkers were not significant at 6 months.

The study conducted by Fullerton et al. (2007),[29] was a RCT which assessed the effect of a six months intensive weight management or self help program on physical and psychological quality of life (QOL) in at-risk-for-overweight and overweight Mexican-American children (N = 80, 100% Hispanic). Children were randomized to one of two treatment conditions aimed at modifying eating and physical activity behaviors: ILI or SH. It was observed, statistically significant, *z*BMI reductions in children in the ILI condition (-0.13 ± 0.14) compared to those in the SH condition (0.04 ± 0.12) ($p < 0.001$). Physical QOL significantly improved from baseline to 6 months, $p = 0.001$. There is no report of follow-up and no intention to treat analyses.

The study conducted by Fitzgibbon et al. (2006),[30] was a diet/physical activity intervention (RCT) design to reduce gains in BMI in preschool minority children. The study sample was 73.3% Hispanic children (n = 401). The primary outcome was the difference in change in BMI between intervention and control groups at 1 and 2 year follow-up. Secondary outcomes were dietary intake and physical activity. At two-year of follow-up, there were no differences between intervention and control group for BMI ($p = 0.89$) and BMI z-score ($p = 0.85$). There were also no significant differences between groups in reported frequency and intensity of exercise or in TV viewing at any assessment point.

The study conducted by Coleman et al. (2005),[31] was a RCT design to assess the impact of CATCH program on low-income elementary schools with primary Hispanic students. Participants were 896 third-grade children, 93% were Hispanic. The primary outcomes were % OW or O and aerobic fitness and secondary outcomes included physical education and cafeteria. A two per cent increase rate of risk of overweight and overweight was observed among girls in the interventions schools, compared with 13% in the control groups. After two years, the rate of increase of OW was 8% for boys in the control group and 5% in the intervention schools. In this study there was no report of statistical power, but they conducted intention to treat analyses.

Discussion

The present systematic review evaluated the effects of ten intervention studies focus on prevention of childhood overweight and obesity among Hispanic American children in the USA. Seven of these studies were RCTs[22,26-31] and three quasi-experimental studies,[23-25] few interventions have been implemented in underserved populations. Two studies had a follow-up period of 3 years,[22,31] five studies of 2 years[23-26,30] and three of 6 months.[27-29]

The overall quality rate of evidence with respect to reducing BMI or the prevalence of childhood obesity among Hispanic children was low. The overall findings were inconsistent improvements in BMI, z-BMI, and percentage of body fat. In one study conducted during 36 months showed no difference in BMI, but an increment in the prevalence of OW and O.[22] In another study conducted during 24 months it was not shown a statistical difference in BMI between the intervention and the control group;[30] in four studies showing improvement of BMI in the intervention groups, there were important study limitations;[23,24,25,29] in four of the highest quality studies, in two studies conducted during six months and in one conducted during 2 years (from the same group of authors), it was shown a positive reduction of BMI[26,27,28] and in other study, after three year of intervention, a reduction of the incidence of OW and OB, compared with the control group was observed[31] (table I).

In summary, RCT's had higher quality than the quasi-experimental studies, and four of them had longer term follow-up (2 and 3 years), low lost of follow-up and report intention to treat analyses.

Therefore, the trends of high quality intervention studies indicate that there is an optimistic room for improvement, but more research is warranted in this minority group to understand the contribution factors of childhood obesity and the long-term successful strategies that might be effective in a multicultural group as the American Hispanic community in the USA.

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