

**Motivational Interviewing to Improve Provider Outcomes in Treating Childhood Obesity**

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### **Abstract**

**Background:** Childhood obesity has become a public health crisis, straining the healthcare system. Top healthcare organizations have identified pediatric primary care providers as pivotal in treating and addressing childhood obesity.

**Objective:** To determine if an interdisciplinary pediatric primary care-based motivational interviewing quality improvement program can improve provider outcomes in treating childhood obesity.

**Methods:** Pediatric primary care providers in two rural clinics were trained in motivational interviewing directed at childhood obesity. All recruited providers received the intervention, and implementation took place over 12 weeks. A retrospective chart audit was conducted.

**Results:** There was a post-implementation increase in providers' confidence in using motivational interviewing, engaging in discussions, and obtaining patient and parent/caregiver buy-in. Most participants were satisfied with the program, likely to recommend it, and use motivational interviewing.

**Conclusions:** The use of a motivational interviewing training program led to improvements in provider outcomes. The program was beneficial in addressing pediatric obesity and engaging in difficult conversations with patients and families.

**Implications for Nursing:** Motivational interviewing can have tremendous positive health outcomes for pediatric patients. Offering training in motivational interviewing would prove beneficial to healthcare providers and patients.

**Keywords:** pediatric primary care providers, childhood obesity, motivational interviewing, quality improvement

### **Motivational Interviewing to Improve Provider Outcomes in Treating Childhood Obesity**

The American Heart Association (AHA) (2018) reports childhood obesity has tripled since 1970 and one-third of American children and adolescents are now considered overweight or obese. The Centers for Disease Control and Prevention (CDC) (2019) estimates 13.7 million children and adolescents are obese (18.5% prevalence). The State of Childhood Obesity (2019) estimates North Carolina child and adolescent obesity rates ranging from 13.5–15.4%. The alarming increase in childhood obesity prompted the Surgeon General to warn the United States may soon see the first generation to experience decreased health and shorter life expectancies than their parents (AHA, 2018). National objectives seek to combat childhood obesity by reducing the number and proportion of obese children and adolescents (United States Department of Health and Human Services [DHHS], 2020). Despite these numbers, pediatric primary care providers (PCPs) continue to fall short in addressing childhood obesity.

Pediatric PCPs are fundamental in assessing and preventing childhood obesity, and it is recommended they discuss healthy lifestyle habits with patients and parents/caregivers during all primary care and sick visits (Busch et al., 2018; Resnicow et al., 2015; Rhee et al., 2018; Vallabhan et al., 2017). Pediatric PCPs feel they are not consistently nor effectively engaging with patients regarding childhood obesity and healthy lifestyle choices (Busch et al., 2018; Reed et al., 2016; Rhee et al., 2018). One potential intervention to augment provider barriers is the use of motivational interviewing (MI), a patient-centered counseling style focusing on autonomy, collaboration and motivation to encourage the patient and parent/caregiver to actively participate in healthy lifestyle changes (Borrello et al., 2015). Using MI techniques can reveal a patient's ambivalence to change and may result in a more motivated, healthier patient (Resnicow, 2018).

It allows the patient to take control of their health while the provider serves as a guide (Resnicow, 2018).

### **Review of Literature on Childhood Obesity and Motivational Interviewing**

A systematic review of literature was performed identifying the consequences of childhood obesity, barriers pediatric PCPs' face in managing childhood obesity and implementing MI, the effectiveness of MI in treating childhood obesity, and the development of Kognito's Change Talk: Childhood Obesity program (Agency Medical Directors' Group, n.d.; American Academy of Pediatrics [AAP], 2014; AAP, 2021; American Psychological Association [APA], 2020; Borrello et al., 2015; Busch et al., 2018; CDC, 2021; Doring et al., 2016; Lindberg et al., 2020; Maurer et al., 2018; Mental Illness Research, Education and Clinical Center [MIRECC], n.d.; Pai, 2014; Resnicow et al., 2015; Rhee et al., 2018; Vallabhan et al., 2017; Vallabhan et al., 2018).

### **Consequences of Childhood Obesity**

Childhood obesity is associated with several negative health impacts including an increased risk for cardiovascular disease from hypertension and hyperlipidemia and type 2 diabetes mellitus (CDC, 2021). Not only can obesity harm physical health, it can also affect a child's psychological health, increasing the risk of low self-esteem, depression, anxiety, and becoming the victim of bullying (AAP, 2021). Obesity remains a serious risk factor for developing pediatric anxiety and depression (Lindberg et al., 2020). Therefore, it is important to screen for anxiety and depression in patients ages 12–18 in the primary care setting (Maurer et al., 2018). The Patient Health Questionnaire (PHQ-9) is a well-established brief self-assessed instrument incorporating Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria to screen and diagnose depression (APA, 2020). The Generalized Anxiety Disorder

Assessment (GAD-7) is a well-established brief self-assessed instrument incorporating DSM-IV criteria to screen and diagnose anxiety disorders (MIRECC, n.d.).

### **Pediatric Provider Barriers**

Managing childhood obesity remains a top priority for pediatric PCPs, but many continue to voice barriers to care (Busch et al., 2018; Doring et al., 2016; Resnicow et al., 2015; Rhee et al., 2018; Vallabhan et al., 2017). Pediatric PCPs hold responsibility in preventing and managing childhood obesity, but report self-doubt, topic sensitivity, discomfort in its discussion, and time constraints of lengthy visits as limitations (Rhee et al., 2018; Vallabhan et al., 2017). A knowledge deficit regarding obesity management, being inadequately equipped to correctly care for and manage obesity, and a lack of confidence to engage and counsel patients on weight reduction techniques are also reported (Busch et al., 2018; Rhee et al., 2018).

Providers face barriers to MI. It is more demanding, and providers desire more comfort and confidence in learning and using MI (Vallabhan et al., 2017). A lack of time and reimbursement, perceived insufficient counseling skills and confidence to use those skills, and a knowledge deficit in MI are also reported (Doring et al., 2016; Resnicow et al., 2015; Vallabhan et al., 2017).

### **The Effectiveness of Motivational Interviewing**

Motivational interviewing has shown efficacy on childhood obesity. Positive influences on BMI, healthy eating habits, nutritional and physical activity outcomes, and lifestyle changes were found when comparing MI with conventional measures (Borrello et al., 2015; Doring et al., 2016; Vallabhan et al., 2018). Overweight children who received MI from their PCP, supplemented by counseling from a registered dietitian (RD), showed a decrease in their body mass index (BMI) percentiles over two years (Resnicow et al., 2015). Health care professionals

who utilized MI during visits effectively reduced children's BMI percentile scores by 3.1 more points than conventional techniques (AAP, 2014).

### **Kognito's Change Talk: Childhood Obesity Program**

The AAP found MI can help pediatric PCPs address childhood obesity (AAP, 2014). This promising data led the AAP, in partnership with Kognito, to develop a free application offering MI training modules on childhood obesity titled Change Talk: Childhood Obesity (AAP, 2014). The application teaches users MI techniques and allows them to practice navigating difficult conversations with patients and families (Pai, 2014). It provides a virtual patient simulation in which providers must decide what to say to patients and parents/caregivers when discussing topics related to childhood obesity (AAP, 2014; Pai, 2014).

In summary, MI programs implemented in addressing childhood obesity had positive outcomes. The goal of this project was to determine if an interdisciplinary pediatric primary care-based MI quality improvement (QI) program could improve provider outcomes in treating childhood obesity. This study used an innovative QI program utilizing Kognito's Change Talk: Childhood Obesity virtual simulation modules (Kognito, 2020). This project provided the best standard of care, including a multidisciplinary approach and an overview of MI with key factors and implementation of Change Talk's virtual simulation experience. The primary outcomes of the program were provider knowledge regarding MI techniques, provider documentation of MI use, and provider confidence in using MI. The secondary outcome was provider satisfaction with the program including a qualitative analysis.

### **Methods**

This was a three-month prospective QI project implementation in the context of two rural pediatric primary care clinics. Each clinic provides primary and episodic care to pediatric patients in an ambulatory, outpatient setting.

### **Participants**

A convenience sample of seven pediatric providers with various educational backgrounds (MD, NP), including one RD providing nutritional counseling to overweight and obese children, was included. Eligibility required providers to be responsible for the care of obese pediatric patients. The project's inclusion criteria were providers employed at two rural pediatric primary care clinics associated with a larger, county-wide healthcare system. No exclusion criteria were applied. Among the seven participants, three participants reported previous training in MI techniques.

### **Measures**

#### **Provider Knowledge**

Provider knowledge was defined as the current level of knowledge the participant professed to have of MI techniques. Data on provider knowledge were obtained by conducting a 10-question survey on common MI techniques and terminology. It was scored using 100 possible points with each question being worth the same number of weighted points. Additional data were obtained by the participant's self-perceived skill level with MI techniques using a Likert-type scale with each rating assigned a numerical value (1–5). Both assessments were administered pre- and post-intervention.

#### **Provider Confidence**

Provider confidence was defined as the participant's self-perceived confidence level. Data on provider confidence were obtained by having participants rate their confidence level

using a Likert-type scale. The assessment was administered pre- and post-intervention. Each rating was assigned a numerical value (1–5).

### **Motivational Interviewing Visits**

A retrospective chart review of visits of all patients in both practices identified as having a diagnosis of a BMI of greater than or equal to 95th percentile and aged 3–18 years was reviewed. The same data collection was also used to determine the number of visits utilizing MI. This was determined by the use of the documented SmartPhrase within the electronic health record (EHR) by participants. SmartPhrases are abbreviations used to document long, frequently used phrases or paragraphs in the EHR that can save time when writing the same phrase repeatedly (University of Virginia Health, 2020).

### **Provider Satisfaction with Qualitative Analysis**

Provider satisfaction was defined as the participant's overall satisfaction with the program. Data on provider satisfaction were obtained by asking qualitative questions regarding the overall program and its implementation. Participants were also asked questions on their satisfaction using a Likert-type scale with each rating assigned a numerical value (1–5). Both assessments were administered post-intervention.

### **Retrospective Chart Review**

All visits with a patient who had a documented BMI of greater than or equal to 95th percentile were reviewed. Nonidentifiable patient data were extracted within the two practices. Data collected included age, race, gender, BMI, and scores from the PHQ-9 and GAD-7. Data from PHQ-9 and GAD-7 assessments were obtained from patients aged 12-18 years to note for co-morbid anxiety and depression given their association with childhood obesity (AAP, 2021; Lindberg et al., 2020).

***Patient Health Questionnaire***

Patient data on depression was collected using the PHQ-9. Scores less than 4 indicate no identifiable depression while scores 5, 10, 15 and 20 indicate mild, moderate, moderately severe, and severe depression respectively (Agency Medical Directors' Group, n.d.).

***Generalized Anxiety Disorder Assessment***

Patient data on anxiety was collected using the GAD-7. Scores less than 4 indicate minimal anxiety while scores 5, 10 and 15 indicate mild, moderate, and severe symptoms respectively (MIRECC, n.d.).

**Procedures**

The MI QI program applied the specialized skill set of a Doctor of Nursing Practice Family Nurse Practitioner student along with a multidisciplinary team approach. All participants received the same intervention, and one principal investigator (PI) coordinated all aspects of the program. The lead investigator completed online training in MI techniques before project implementation. The study was approved by the Institutional Review Board at Lenoir-Rhyne University, Hickory, North Carolina and Caldwell UNC Health Care, Lenoir, North Carolina. No identifying information was obtained from participants or retrospective chart reviews.

After obtaining informed consent, all components of the program were implemented. The preintervention questionnaire and knowledge assessment were administered to all participants. Results were recorded using Intellectus Statistics® Questionnaires, and knowledge assessments were kept in a secure, locked safe at the student's private residence. Intellectus Statistics® is an online statistical analysis program (Intellectus Statistics, 2020).

Following the assessment, participants in each practice then participated in Kognito's Change Talk program (Kognito, 2020). The program consisted of four episodes, one overview,

and three in-depth discussions on MI techniques related to childhood obesity. This included information focused on patient-centered counseling, reflective listening, and sustain talk. Each episode lasted 4–5 minutes and included follow-up self-assessment questions. Participants were asked to answer the questions collectively as a group. The self-assessment questions were located within each episode and provided rationales for each correct and incorrect response. The Kognito MI simulation lasted approximately 45 minutes.

After completing Kognito's MI simulation program, participants were asked to download the application to their work computer and mobile device for reference. Participants were also provided with a laminated printout on the topics, definitions, and examples of MI techniques presented in the Kognito program. They were allowed to keep the document to reference it during the implementation of the program if needed. Participants were given instructions on which visits to use MI (ages 3–18 years with BMI greater than or equal to 95th percentile) (CDC, 2018).

Participants were asked to document the use of MI techniques in the EHR. A comprehensive patient education resource list in English and Spanish was developed to be given to the patient to use at home. Participants were also asked to document the use of the patient education and resource list within the EHR. They were assisted in setting up SmartPhrases to document the use of MI and patient education resources in English and Spanish (see Appendix A).

Upon the conclusion of the QI project, participants were asked to complete two final, post-intervention surveys, one questionnaire, and one knowledge assessment. Questions on provider satisfaction were included in the final survey. In addition, a retrospective chart review was conducted within the project timeframe.

### **Data Analysis**

Descriptive statistics were used to report provider knowledge, number of MI visits, and provider satisfaction. Descriptive statistics were also used to report retrospective chart data on age, race, BMI, and scores on PHQ-9 and GAD-7. Wilcoxon Signed-Rank tests were used to compare pre-and post-intervention confidence in MI and confidence in discussion scores. Linear regressions were used to test correlation between BMI and scores on PHQ-9 and GAD-7.

### **Results**

#### **Provider Knowledge**

Descriptive statistics were used to evaluate provider knowledge assessment scores and provider self-assessed skill level pre- and post-intervention. The average knowledge scores increased from 37.14 pre-intervention ( $\pm SD$  13.80) to 51.67 post-intervention ( $\pm SD$  18.35). Fifty-seven percent of participants rated their pre-implementation skill level as novice, 28% as somewhat knowledgeable, and 14% as knowledgeable. Post-intervention somewhat knowledgeable skill level increased to 57% and knowledgeable increased to 28% (see Table 1).

#### **Provider Confidence**

The Wilcoxon Signed-Rank analysis results on provider confidence in using MI pre-intervention ( $p = .038$ ) and post-intervention ( $p = .038$ ) were noteworthy. There was also a difference in pre-intervention ( $p = .038$ ) and post-intervention ( $p = .038$ ) provider confidence in engaging in discussions and obtaining patient and parent/caregiver buy-in (see Figures 1 and 2).

#### **Motivational Interviewing Visits**

Descriptive statistics were used to analyze the number of visits using MI. Of the 251 eligible visits with completed documentation reviewed, 19% had documentation of using MI with the provided SmartPhrase while 81% did not (see Table 1).

### **Provider Satisfaction with Qualitative Analysis**

Descriptive statistics were used to analyze provider satisfaction with the program. One participant did not return the post-intervention questionnaires. Fifty-seven percent of participants were able to complete the patient simulation experience and found it helpful. Forty-two percent said they were very likely to recommend MI, while 28% said they were likely to recommend it. About 43% said they would definitely use MI in their practice (see Table 1). Median post-intervention provider satisfaction was 4 ( $\pm$  *SD* 0.89). Analysis of the qualitative questions on the post-intervention survey revealed four themes.

#### ***Beneficial Training***

Most providers found the training beneficial by enhancing communication and getting patients involved in their care reflecting their overall satisfaction with the program.

- “It helps to identify key concerns for patients and parents. It feels less like I’m talking at them, more real conversation.”
- “I liked getting patients involved in their care, especially because pediatric patients often don’t get to make decisions since they are younger. It is fun to see them take initiative.”
- “It helps to try to figure out where the family is in the process. It takes out a lot of guesswork.”

#### ***Continued Provider Barriers with Motivational Interviewing***

Providers still voiced barriers when using MI, including its unfamiliarity, time constraints, and the difficulty of getting patients and parents/caregivers to discuss childhood obesity.

- “It is time intensive and with doing everything correctly, buy-in is difficult.”

- “It is still difficult to address obesity with families.”

### ***Follow-up***

Some providers expressed a desire for more follow-up after the initial training to reinforce MI techniques.

- “More training or follow-up to enhance skills or ask questions.”

### ***COVID-19***

Some providers found some difficulty using the program given the changes and uncertainty of the COVID-19 pandemic.

- “We have been through a lot of frustration due to COVID. Unfortunately, I didn’t spend as much time on this.”
- Unfortunately, with how our clinic structure is, once we started rotating clinics, I forgot to document MI in my note.”

### **Retrospective Chart Review**

Descriptive statistics were used to examine age, race, and BMI. The retrospective chart review included 346 charts. The median age was 10.52 years (min = 3; max = 18). The median BMI was 97.92 percentile. A majority (68.79%) of patients identified as white ( $n = 238$ ), and 60% ( $n = 207$ ) (see Table 2).

### ***Patient Health Questionnaire***

Descriptive statistics were used to evaluate PHQ-9 scores. Among those with documented PHQ-9 scores ( $n = 134$ ), most had normal scores (58.2%). Of those with abnormal PHQ-9 scores (41.8%), most had mild (20.15%) or moderate (14.18%) depression (see Table 2). Using a linear regression model, BMI did not predict PHQ-9 scores ( $p = .112$ ).

### *Generalized Anxiety Disorder Assessment*

Descriptive statistics were used to evaluate GAD-7 scores. Among those with documented GAD-7 scores ( $n = 100$ ), 63% had normal scores and 37% had abnormal scores. Of those with abnormal scores, 13% had mild anxiety, 18% had moderate anxiety, and 6% had severe anxiety (see Table 2). Using a linear regression model, BMI did not predict GAD-7 scores ( $p = .569$ ).

### **Discussion**

Using a MI training program and an interdisciplinary approach led to improvements in provider outcomes. Participants felt more confident in using MI techniques during visits. They also felt more confident in achieving patient and parent/caregiver buy-in when using MI. Further, there was an improvement in the provider's self-assessed MI skill level. Most providers were likely to recommend MI to colleagues, and most providers were satisfied with the program.

MI was used in 19% of eligible visits, which is notable since MI techniques and its documentation were being underutilized pre-intervention. This number is probably not a true reflection of the use of MI techniques, as one provider mentioned forgetting to document the MI SmartPhrase due to clinic changes and rotations due to the COVID-19 pandemic. This finding aligns with the difficulties primary care providers faced during the pandemic. These include changing workflows and reduced office visits (Gilfillan, 2020). Primary care providers also encountered taking on a new role in telehealth visits while having to learn new billing, coding, and documentation practices (Gilfillan, 2020).

The program was beneficial in addressing pediatric obesity and engaging in difficult conversations with patients and families. It served as a reminder to use good interviewing and communication skills. It identified specific patient and parent/caregiver concerns and helped to

guide the conversation. It allowed providers to gauge where families were in the process of change by removing presumptions from the visit. The program engaged the younger patients and allowed them to take the initiative in making lifestyle changes. Some providers found MI beneficial for other illnesses as well, such as anxiety and depression.

### **Limitations**

One limitation of the program was its small sample size. The program took place during the COVID-19 pandemic in proximity to a substantial surge in cases in the demographic area. The providers were rotating between offices, and one office became a pediatric urgent care unit during the project phase. Many providers stated COVID-19 policies became a priority and that there was a lack of follow-up due to COVID-19 restrictions. These limitations could affect the generalizability of the program to other practices.

Another limitation was that children with obesity and children with normal BMIs were not compared. Childhood obesity has been found to be an independent risk factor for anxiety and depression (Lindberg et al., 2020). These findings could be more pronounced in obesity if compared to non-obese children.

### **Conclusion**

Despite the limitations of this project, participants found MI helpful in their practice. MI can be a complex skill to master but can significantly impact health outcomes for pediatric patients. Even minimal training in MI such Kognito's Change Talk interactive program can have profound effects on specific patient populations. Offering training in MI would prove beneficial not only to the healthcare providers but also to patients who need to make healthier lifestyle choices.

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## Appendix A

### *Electronic Health Record SmartPhrases*

EPIC SmartPhrase on the use of MI to use within the EHR.

SmartPhrase: .moin

Populated sentence: Motivational Interviewing techniques were used during the visit.

EPIC SmartPhrase for patient education to be used in the EHR in English and Spanish.

SmartPhrase for English: .miedueng

Populated Phrase:

## **Resources**

Eating:

<https://www.choosemyplate.gov/resources/MyPlatePlan>

<https://www.choosemyplate.gov/resources/myplate-tip-sheets>

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/mini\\_poster\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/mini_poster_0.pdf)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/MPMW\\_tipsheet\\_13\\_Makingfamilymeals\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/MPMW_tipsheet_13_Makingfamilymeals_0.pdf)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipSheet24MyPlateSnackTipsforParents\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipSheet24MyPlateSnackTipsforParents_0.pdf)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet16EatingBetterOnABudget\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet16EatingBetterOnABudget_0.pdf)

Exercising:

<https://health.gov/moveyourway#parents>

<https://health.gov/moveyourway/get-kids-active/>

[https://health.gov/themes/custom/healthgov/src/microsite\\_resources/myw\\_microsite/pdf/PAG\\_MYW\\_Parents\\_FS.pdf](https://health.gov/themes/custom/healthgov/src/microsite_resources/myw_microsite/pdf/PAG_MYW_Parents_FS.pdf)

[https://health.gov/themes/custom/healthgov/src/microsite\\_resources/myw\\_microsite/pdf/PAG\\_MYW\\_Kids\\_FS.pdf](https://health.gov/themes/custom/healthgov/src/microsite_resources/myw_microsite/pdf/PAG_MYW_Kids_FS.pdf)

[https://www.heart.org/-/media/files/healthy-living/pa\\_recs\\_kids\\_infographic-hfg-pdf.pdf?la=en](https://www.heart.org/-/media/files/healthy-living/pa_recs_kids_infographic-hfg-pdf.pdf?la=en)

SmartPhrase for Spanish: .mieduspa

Populated Phrase:

**Recursos**

Eating Spanish:

<https://www.choosemyplate.gov/es/resources/myplate-plan>

<https://www.choosemyplate.gov/resources/myplate-tip-sheets>

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/Mini-Poster\\_Spanish\\_508\\_0\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/Mini-Poster_Spanish_508_0_0.pdf)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/MPMW\\_tipsheet\\_13\\_Makingfamilymeals\\_S\\_0.PDF](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/MPMW_tipsheet_13_Makingfamilymeals_S_0.PDF)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipSheet24MyPlateSnackTipsforParents-sp\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipSheet24MyPlateSnackTipsforParents-sp_0.pdf)

[https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet16EatingBetterOnABudget-sp\\_0.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet16EatingBetterOnABudget-sp_0.pdf)

Exercising Spanish:

<https://health.gov/espanol/moveyourway#padres>

<https://health.gov/espanol/moveyourway/get-kids-active/>

[https://health.gov/themes/custom/healthgov/src/microsite\\_resources/myw\\_microsite/pdf/PAG\\_MYW\\_Parents\\_FS\\_es.pdf](https://health.gov/themes/custom/healthgov/src/microsite_resources/myw_microsite/pdf/PAG_MYW_Parents_FS_es.pdf)

[https://health.gov/themes/custom/healthgov/src/microsite\\_resources/myw\\_microsite/pdf/PAG\\_MYW\\_Kids\\_FS\\_es.pdf](https://health.gov/themes/custom/healthgov/src/microsite_resources/myw_microsite/pdf/PAG_MYW_Kids_FS_es.pdf)

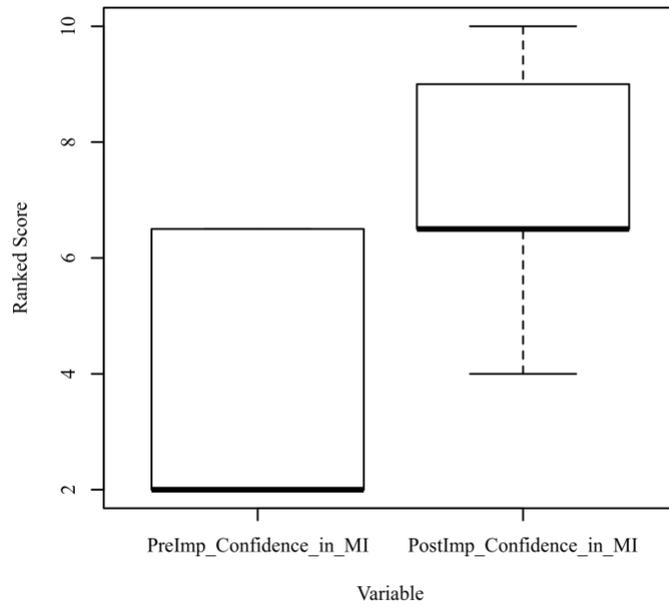
<https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/healthy-living-spanish-infographics/recomendaciones-de-actividad-fisica-para-ninos-infografia>

**Table 1***Descriptive Statistics of Provider Data*

Variable	<i>n</i>	%
MI used during visit		
Yes	47	18.73
No	204	81.27
Able to complete simulation		
Yes	4	57.14
No	2	28.57
Missing	1	14.29
Found simulation helpful		
Yes	4	57.14
No	0	0.00
Missing	3	42.86
Pre-intervention skill level with MI		
Novice	4	57.14
Somewhat knowledgeable	2	28.57
Knowledgeable	1	14.29
Post-intervention skill level with MI		
Somewhat knowledgeable	4	57.14
Knowledgeable	2	28.57
Missing	1	14.29
Likely to use MI in future practice		
I don't know	1	14.29
I will likely use it	2	28.57
I will definitely use it	3	42.86
Missing	1	14.29
Would you recommend MI?		
Undecided	1	14.29
Likely	2	28.57
Very likely	3	42.86

**Figure 1**

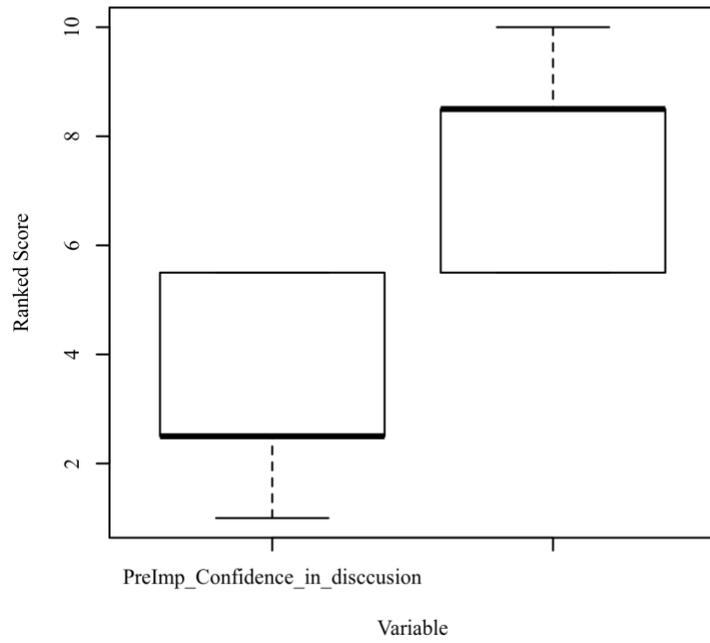
*Pre- and post-intervention confidence in MI Wilcoxon Signed Rank Test*



(Intellectus Statistics, 2020).

**Figure 2**

*Pre- and post-intervention confidence in discussion Wilcoxon Signed Rank Test*



(Intellectus Statistics, 2020).

**Table 2***Descriptive Statistics of Retrospective Chart Review*

Variable	<i>n</i>	%
Race		
White	238	68.79
Hispanic	52	15.03
Other	32	9.25
Black	20	5.78
Asian	2	0.58
Unknown	2	0.58
Gender		
Female	174	50.29
Male	172	49.71
PHQ-9		
Normal	78	58.21
Abnormal	56	41.79
Mild	27	48.21
Moderate	19	33.93
Moderately severe	8	14.29
Severe	2	3.57
GAD-7		
Normal	63	63
Abnormal	37	37
Mild	13	35.14
Moderate	18	48.64
Severe	6	16.22