

Motivational Interviewing for Adolescents: Behavior Counseling for Diet and Exercise

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ABSTRACT

Primary care is an essential setting for the prevention and early detection of the challenging and multifactorial components of obesity. The majority of pediatric providers understand behavior change counseling is a crucial component to obesity management; however, 38% report low proficiency with counseling interventions. Motivational interviewing is an evidence-based method of behavior change counseling. Training in motivational interviewing by primary care providers has shown an increase in provider efficacy and confidence in behavioral change counseling. With motivational interviewing skills, providers will be more equipped to promote healthy diet and exercise for teens and aid in preventing obesity-related chronic conditions in adulthood.

Keywords: adolescent health, behavior change counseling, childhood obesity, motivational interviewing

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The long-term relationships created by pediatric providers in the primary care setting are crucial for the prevention and early detection of obesity in adolescents.¹⁻⁴ Recommendations from the American Academy of Pediatrics and the American Heart Association clearly advise discussion with children, including adolescents and their families, about healthy lifestyle choices for cardiovascular disease and diabetes prevention.^{5,6} Providers understand that obesity is a problem; however, 80% of pediatric providers report frustration discussing weight management in their daily practice.^{7,8} Of the 131 million visits of children 2-18 years old identified in the National Ambulatory Medical Care Survey from 1997-2000, only 35% of well-child visits involved behavior change counseling to improve diet and physical activity.⁹ Barriers to counseling are time, provider-perceived patient lack of motivation, provider skill set, lack of reimbursement, and low self-efficacy in behavior change counseling techniques such as motivational interviewing (MI).^{2,8,10,11} With obesity on the rise, evidence-based practice to improve the long-term

health of future adults in the United States is paramount.

OVERVIEW OF THE PROBLEM

Obesity

There has been a dramatic rise in adolescent obesity over the past 30 years.¹² Between 1988 and 2008, the rate of obesity rose from 11% to 20% in adolescents 12-19 years old.¹² Recent 2010 data suggest that 31.7% of children 2-19 years old are overweight, illustrating an upward trend.¹³ Among adolescent children, non-Hispanic black and Mexican American teens had significantly higher rates of obesity compared with non-Hispanic white youth ($P < .05$).¹⁴ In addition, there are overwhelming data that overweight and obese body mass indexes (BMIs) plague 60% of the adult US population and are very serious risk factors for both cardiovascular disease, the leading cause of death in the US for men and women, and diabetes.^{15,16} A summary of the evidence for the US Preventive Task Force in 2005 found that the probability of adult obesity is greater than or equal to 50% among children older than

13 years whose BMI percentiles meet or exceed the 95th percentile for age and sex.¹⁴ This probability increases if 1 or more parent is obese or if the child is obese later in childhood. Authors of the study stressed the importance of lifestyle interventions for overweight and obese adolescents.¹⁴

Healthy Lifestyle Behavior Counseling

Despite the national guidelines to improve diet and physical activity in the US pediatric and adult populations, the prevalence of behavioral change counseling on these topics is low.^{3,8-11,17,18} In 2005, Story et al¹⁰ conducted a national needs assessment of pediatric provider management of obesity. Only 940 providers out of over 3,500 pediatricians, pediatric nurse practitioners (NPs), and registered dietitians responded to a mailed questionnaire. Results of the responses revealed that 75%–93% of providers reported obesity was a problem in children and adolescents, 61%–85% stated their primary barrier was parent/patient lack of motivation, 15%–38% reported having low proficiency in behavior change management, and over 50% revealed high interest in training in behavior change management skills.¹⁰ Furthermore, the questionnaire's low response rate of 19%–33% led the authors to believe that it may have been answered by a sample of providers who are more comfortable with obesity management than the average pediatric provider and that overall provider knowledge and management of obesity may be less than the study revealed.

O'Brien et al¹¹ retrospectively reviewed 2,515 health supervision visits of children ages 3 months to 16 years for 3 consecutive months in a large, 70% African American, urban pediatric practice. Approximately 10% ($n = 244$) met the criteria for obesity, yet providers only documented obesity in 5% ($n = 129$) of the children. Providers focused care on diet (71%) and addressed the other multifactorial components of obesity, such as exercise, in only 33% of the visits and screen time only 5% of the time. These data highlight that Story et al¹⁰ may have been correct in their prediction that obesity knowledge and management was overrepresented in their research.

Cook et al⁹ analyzed data from 3,514 well-child visits of 2- to 18-year-old patients from the 1997–2000 National Ambulatory Medical Care survey to assess

obesity diagnosis and determine the rates of diet and physical activity counseling in all pediatric age groups. Obesity, morbid obesity, or excess weight gain was diagnosed in only 0.9% of all encounters. The authors found that adolescents were only counseled on diet and exercise in 27% and 22% of all well-child visits, respectively. When compared with other age groups, adolescent visits were 30% less likely to include diet counseling than 2- to 5-year-olds and 6- to 11-year-olds. Black children were less likely to receive exercise counseling than white children ($P = .03$). There was no significant difference in exercise or diet counseling between Hispanic and non-Hispanic children.

Jelalian et al⁷ surveyed 1,066 pediatric providers in southern New England on their attitudes on the management of obesity. Only 34% of providers reported frequently discussing weight management with adolescents who are mildly overweight, yet providers ranked obesity as fourth in its importance for health promotion in adolescents. Only smoking, risky sexual behavior, and drug and alcohol use were deemed more important. Seventy-nine percent of providers reported including the parent in the conversation with adolescents and 93% of the time in children less than 12 years old. When correlations were made in the data, it was found that providers who had past successes in diet and exercise behavioral change counseling were more likely to continue using it, suggesting that further training in behavior change counseling, such as MI, would be beneficial.⁷

MOTIVATIONAL INTERVIEWING

The nonjudgmental, empathic, and collaborative approach of MI is perfect for youth.¹⁹ Miller and Rollnick²⁰ define MI as a patient-centered guiding method of behavior counseling used to elicit and strengthen the patient's motivation for change. The patient, rather than the provider, presents the reasons for change. The provider does not assume the authoritarian role but rather uses an empathetic, non-judgmental style of communication that is patient centered yet has a strong sense of purpose and direction.²¹

Miller first published research on MI in 1983 as an intervention for alcohol abuse. Since Miller and

Rollnick's first edition of *Motivational Interviewing: Preparing People for Change* in 1991, there has been an interest in its use outside the substance abuse arena.²² As its evidence-based effectiveness grows, it continues to be researched in other health care areas, including cardiovascular disease, hypertension, diabetes, and smoking cessation.²² A recent search on PubMed of literature over the past 10 years lists 1,802 research clinical trials or reviews on MI. Because of its growing evidence-based effectiveness, many health care providers have been trained in MI. Below is a review of the key concepts as they pertain to the adolescent population.

Style and Key Principles of MI

The style of MI is fundamental to the approach used with each patient. The MI style is empathetic, warm, compassionate, collaborative, and respectful.^{21,22} Style is used in collaboration with the key principles of MI, as follows:

1. Resist the righting reflex: healthy adolescent development is critical to success in adulthood. This essential transition period from child to adult is a time when increasing independence and normative experimentation are crucial.^{19,23} Most adolescents are typically in the exploratory or experimenting phase of a health-compromising behavior.¹⁹ If the practitioner attempts to make him or her see the "right way," the adolescent will most likely resist. The key to MI is to let the patient discover the "right way" by directing nonjudgmental, patient-led discussions toward the behavior that needs modification.¹⁹⁻²¹
2. Listen with empathy: take time to listen to the adolescent. Most of the issues adolescents face revolve around risk and are tied to social and behavioral factors.¹⁹ Seek to understand the youth's perspective and reflect on what he or she is saying. People are more persuaded by what they hear themselves say than by what someone else tells them.²¹
3. Empower the patient: encourage hope and optimism. A health care provider's belief in the adolescent's ability to change can influence his or her decision to move toward change.^{21,22} By using MI with the adolescent, the provider is

allowing the adolescent control in decision making and responsibility for his or her actions.^{19,22,23}

4. Acceptance: when a patient feels accepted for who he or she is and what he or she does, no matter how unhealthy, it allows the patient the freedom to consider change rather than to defend against it.²¹ Identity exploration is crucial to the developing adolescent. This occurs through multiple role explorations. Social acceptance by peers will help to give the adolescent a sense of well-being, whereas rejection can lead to more risky behavior. There is also a constant flux between the importance of parental and peer acceptance. Being aware of the adolescent's desire for acceptance is crucial to productive MI.¹⁹
5. Style is everything: the style in which the provider approaches the patient will allow for open communication and talk about change. The style of MI adheres to the adolescent's desire for self-control and navigates around the normal resentment to authority figures.¹⁹

The 4 processes of MI. In addition to style and principles, the flow is also vital to successful communication with the patient. **The 4 processes of MI that help to guide the flow of the conversation are engaging, focusing, evoking, and planning.**^{21,22}

The conversation begins with engaging and focusing the client toward discussion about the target behavior.²⁴ Asking permission to discuss, for example, diet or exercise habits illustrates respect for the adolescent's choice and further engages the patient in the conversation. Obesity is multifactorial, and numerous behavior changes could be discussed; thus, focusing the discussion is very important. An example of creating a circle chart, with identical circles randomly organized on the page, is a helpful motivational interviewing tool.²¹ The circles are prefilled, with some left blank, with options for focused discussion, such as eating fruits and vegetables, screen time, drinking juice, eating breakfast, or exercise. The chart allows the patient to choose the focus of the discussion.

The OARS mnemonic is used to remember effective MI communication used in the evoking stage. OARS stands for Open-ended questions,

Affirmation, Reflective listening, and Summary.^{21,24} Open-ended questions are key to eliciting the client's thoughts. The following are examples of open-ended questions focused around the mutually agreed-upon target behavior of exercise: (1) What are your exercise habits? and (2) What are your concerns about your exercise habits? After asking an open-ended question, the provider uses reflective listening in a nonjudgmental manner. Reflective listening illustrates to the adolescent that the provider is listening and encourages the patient to elaborate, amplify, confirm, or correct the provider. Reflections are not questions; the intonation of the provider's voice goes down. In addition to reflecting the patient's thoughts, it is also important to affirm. By affirming, the provider is expressing hope and confidence that the patient has the ability to make change. During the evoking phase, the provider listens for *change talk*. *Change talk* represents the client's movement toward change. Examples of change talk are phrases such as *I want to...*, *I can...*, *I will...*, or *I plan to...*, which show the patient is ready to take action.

When a client expresses change talk, it may be time to transition and direct the conversation toward planning. The transtheoretical model of change proposed by Prochaska and DiClemente²⁵ is used in motivational interviewing to help analyze patient's readiness to progress through the 4 processes.

Prochaska and DiClemente's 5 stages of change are precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage, the individual is unaware of the problem. In the contemplation stage, the adolescent is aware of the problem and is considering making a change but not in the next month. In the preparation stage, the patient is ready for change in the near future and has thought about how to take action. In the action stage, the patient implements the change. The maintenance stage involves sustaining the behavior change.¹⁹ If patients are in the earlier stages of change and not eliciting change talk, they are not expected to plan or take action; the conversation is focused on barriers to change rather than on action planning.^{22,24}

If change talk is heard, summarizing is a way to transition the conversation toward planning. The following is an example of a summary: "You are

having a hard time finding time to exercise. You would like to exercise more for your health and to have more energy to do your homework and go out with friends. Did I get it all?" In this way, the patient hears his or her own motivations for change. This is when the provider can move the conversation forward by evoking the plans for change. For example, "How would it look to incorporate exercise into your life?" By asking this forward-moving question, the conversation moves along the direction of planning and promotes action.

Evidence-based Research on MI

The use of MI for behavior change counseling has been endorsed by the American Heart Association, the Veterans Health Administration, The American Academy of Pediatrics, and The American College of Obstetrics and Gynecology.^{5,26-29} Numerous systematic reviews and over hundreds of research articles have shown its effectiveness to promote healthy lifestyle changes.^{26,29-33}

Comparisons of MI to standard of care.

A review of evidence-based literature by Artinian et al²⁶ on promoting physical activity and lifestyle changes to reduce cardiovascular risk factors in adults found MI to have moderate efficacy toward behavior change. Specifically, it was noted that MI increased fruit and vegetable consumption and increased physical activity.

A systematic review by Thompson et al²⁹ of the evidence of MI from 4 meta-analyses, 1 systematic review, 3 literature reviews, and 5 primary studies pertained to cardiovascular health. The authors found that although the power was low in many of the studies, overall the evidence illustrates that MI is more effective than traditional information or advice. Specifically, the authors found that providers trained in MI were more effective in creating optimal results in reducing BMI and lowering hypertension in cardiovascular patients.

Hardcastle et al³¹ conducted a prospective randomized control study of 334 patients with cardiovascular disease risk factors of hypertension, hyperlipidemia, or overweight/obese BMI. The authors studied the effectiveness of MI in sustaining physical activity as a lifestyle change 12 months after 6 months of MI intervention (comprised of

5 counseling sessions). The results showed that intervention patients had a higher stage of change levels, and those with high BMIs significantly sustained their walking regimen, reduced their diastolic blood pressure, and reduced their cholesterol levels compared with control patients. BMI was reduced at 6 months, but it returned to baseline after the 12-month follow-up. The authors suggested that provider booster sessions in MI and a continued relationship with the patient as in primary care settings might prove helpful in maintaining change.

Although there is ample research on MI, evidence-based research focused on children and adolescents is new. Many of the studies show promise but are low in power; thus, more large-scale research is necessary.

A comparison was made of the use of MI to the standard of care (directed advice and educational pamphlets) on diet and exercise in 725 pediatric primary care office settings across the country to assess the feasibility of MI in behavior change related to childhood obesity.³ MI was used in well-child visits of 91 children 3-7 years old. The authors compared BMI at baseline and at 6 months among 3 groups: a group with standard care, a group with an MI-trained provider, and a group with an MI-trained provider and registered dietician. At the 6-month follow-up, the mean decreases in BMI were 0.6, 1.9, and 2.6 percentiles in the control, minimal, and intensive groups, respectively. However, after analysis, the results were not significant ($P = .85$). There was a decrease in reported snack consumption at home ($P = .01$) between the minimal and the control group and a significant decrease in dining out ($P = .04$) between the intensive group and the minimal group. In addition, 94% of the families in the MI groups stated that the visit helped them to think about making dietary changes. The study only included 1 MI session at baseline for the control and minimal groups and 2 for the intensive group, which, when compared with other research, may not be enough to have a sustaining effect.

Tucker et al¹³ researched the effects of MI in a primary care setting in the Midwestern US. There were 3 arms to this study: the control standard of care, which included directed advice and information on the child's BMI status; MI in the office; and MI

in the office with a follow-up telephone call to the parents regarding behavior change. Data were collected on BMI and behavior changes at baseline and 6 and 12 months. Although the BMI did decrease from baseline to 6 months, the P value was not low enough to show a significant difference between the groups ($P = .094$). The authors found that increasing fruit and vegetable intake ($P \leq .001$), decreasing the amount of TV watched per day ($P = .035$), and increasing the amount of time spent doing physical activity all showed a significant difference between the control and intervention arms, illustrating MI was more effective in these areas. The authors suggested that more recurring visits might increase the sustainability of the intervention.

A description was written by Saelens et al³² about MI in a primary care practice for 72 obese teens and their families. One group received the provider-prescribed directed approach and the other the self-directed, MI approach. The intervention was 20 weekly visits, 30 minutes each, with data collected at 3, 6, 12, and 24 months. Both the intervention and control groups received the same number of treatment sessions, and the same information was provided about healthy eating and physical activity. The intervention group differed from the control group at 5 weeks when the approach became patient driven rather than provider directed. The results showed no significant difference between the 2 groups in relation to child or parent changes in BMI; both groups had a significant BMI decrease ($P < .001$), illustrating that MI is as effective as the directed technique in a 20-week intervention. However, the self-directed approach was a hybrid of the prescribed and self-directed approaches, rather than solely MI based.

Neumark-Sztainer et al³³ researched the effect of MI on 356 teen girls in a 16-week New Moves intervention in an all-girls physical education class. In this study, girls who elected to enroll in an all-girls physical education class were randomized into the standard physical education class or the New Moves program. The New Moves class incorporated nutrition and social support/self-empowerment sessions, individual MI sessions, lunch get-togethers once a week, and parent outreach activities. The 9-month follow-up showed that the girls in the intervention group increased their stage of change for physical

activity ($P = .039$), their physical activity goal-setting behaviors ($P = .021$), and their self-efficacy to overcome barriers to physical activity ($P = .003$) compared with the control girls. Improvements were also observed for dietary goal setting ($P = .002$), fruit and vegetable intake ($P = .002$), and regular breakfast eating ($P = .028$) compared with the control.

The effect of brief MI sessions was studied by Berg-Smith et al,²³ using 127 adolescents with known resistance to dietary adherence over 3 months. Sessions lasted between 5 and 30 minutes and were tailored to the patient's individual level of readiness for change. Results showed a significant decrease in dietary fat intake ($P < .001$) between the control and intervention groups, and 89% of participants in the MI group implemented an action plan for change.

Overall, the research suggests that MI is an effective behavior change technique for obesity prevention and management for all ages. Most of the research on MI for children involves the whole family. In the adolescent setting, this may include separating the visit to give the parent and teen a chance to talk alone. It is important to note that MI is client centered and does not move toward action planning unless the patient is ready to make change.²² The BMIs may not have decreased significantly in many of these studies when compared with the control groups; however, patients were taking action toward change. These data illustrate the strong potential for MI in a primary care setting in which the patient/family provider relationship is long lasting and suggest that long-term MI-enhanced communication will have more sustainable effectiveness on healthy lifestyle choices.

Effectiveness of MI training. The amount of training needed to reach effective and sustainable use by primary care clinicians is addressed in the research. The Veterans Health Association published a preliminary study of the effects of minimal MI training on primary care practitioners.²⁸ Providers were given 3 half-day sessions and one 60-minute online training course. Authors found that brief MI training improved provider confidence ($P \leq .001$) in counseling patients in lifestyle changes and increased self-reported usage ($P \leq .001$) of MI skills in clinical practice settings.²⁸

Carroll et al³⁴ researched reeducation of MI in 423 providers in the substance abuse population. It was concluded that retraining, including ongoing supervision, feedback, and mentoring, significantly increased patient return visits for sessions ($P = .05$) and the likelihood of subject to be enrolled in treatment 28 days after their designated treatment date ($P = .05$).

NP-provided MI. The effective use of MI to promote cardiovascular health was analyzed by Van Nes and Sawatsky³⁵ considering family health. Authors state that the family health NP training is poised for utilization of MI because it is rooted in the foundations of holistic health and focuses on the psychosocial role the family and community play in the patient's perception of optimal health. In addition, research on NP care has repeatedly shown that they have longer consultation times than physicians, and patients are willing to return for follow-up visits with a higher degree of compliance, illustrating their role in creating effective patient-provider relationships essential to the successful use of MI.³⁵

CONCLUSION

Pediatric obesity is a national health problem. Adolescent practitioners are not adequately trained to deal with behavior change counseling and thus have difficulty communicating with their patients about weight loss, healthy diet, and physical activity. Many practitioners complain they do not have time for behavior change counseling such as MI.^{8,9,23} MI is a style of communicating and can be used all the time, not only in structured consultations.²² Training has been shown to increase provider efficacy in behavioral counseling, ease use of MI in practice, and encourage patient return visits.^{26,34} The amount of constructive time spent collaborating with an adolescent about diet and exercise behavior change may be more than 15 minutes at first, but it will begin a process that may prevent a lifetime of chronic health conditions. JNP

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