

Motivational Interviewing: Improving Patient Education

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ABSTRACT

Many health care conditions require behavior change by the patient or parent to improve health outcomes. Poor outcomes may be attributed to the lack of adherence to the behavior change recommendations. A shift from the authoritarian, expert providing advice to a more family-centered, collaborative model using motivational interviewing (MI) results in improved adherence. The principles of MI are exploring ambivalence, reflective listening, reinforcing positive behavior, and rolling with resistance. The process for MI is establishing relationships; setting an agenda; assessing importance, confidence, and readiness; exploring importance; and helping families select an action plan and building confidence in their ability to change. *J Pediatr Health Care.* (2007) 21, 81-88.

Lack of follow-through on advice from nurse practitioners (NPs) regarding the treatment plan for children limits the therapeutic effects of care provided to children. Fifty percent of patients in the United States do not comply with health care plans for treatment (DiMatteo, Giordani, Lepper, & Croghan, 2002), 40% take prescribed medications incorrectly or not at all (Epstein & Cluss, 1982; Hughes, 2004), and almost double that number fail to comply with dietary restrictions, exercise, or other recommendations for health-promoting behaviors (DiMatteo et al.).

NPs might become frustrated with patients' nonadherence, which might lead to incorrect diagnosis, unnecessary treatment, or lack of improvement of symptoms (DiMatteo et al., 2002). In addition, in patients requiring complex and precise treatment regimens, such as HIV-positive children, noncompliance can exacerbate disease and increase the risk of death (DiMatteo et al.; Lask, 2003). NPs might interpret frequent visits for the same complaint as failure of the recommended treatment rather than as poor adherence with the treatment plan. NPs might, therefore, attempt another treatment regimen, assuming the previous treatment plan has been ineffective.

Many health care conditions such as asthma, being overweight, and hypertension can best be treated by behavior change such as by lessening exposure to second-hand smoke, decreasing allergen exposure, raising levels of activity, decreasing inactivity (television and video-game time), and eating a healthier diet. Changing behavior, however, is a challenge that requires a commitment by the patient, parent, or both to implement successfully. An important aspect of the NP role in providing health care to children is the focus on health maintenance and prevention, which stresses the impor-

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tance of counseling families on adopting healthier lifestyles and involves behavior change. The purpose of this article is to describe the process of motivational interviewing (MI) as a strategy to facilitate compliance with treatment recommendations in pediatric clients and their families.

Lack of compliance with recommendations for behavior change may occur for a variety of reasons, including difficulty with the recommendations because of the child's developmental level, lack of parental participation in formulating the treatment plan, parental doubt regarding the benefit and efficacy of the recommendations for the child, situational barriers to behavior change, demands on the family or child, and lack of needed support for the family. Qualitative

scriptive, persuasive, and expert providing general advice to a more collaborative approach with patients and families (Burke & Fair, 2003; Rollnick, Mason, & Butler, 1999). The NP can be more effective in improving treatment adherence and behavior change by using a patient- or family-centered approach, with an emphasis on (a) empowering the child and parent; (b) focusing on the family's beliefs, values, and health behaviors; and (c) enhancing the family's self-efficacy and life skills (Gance-Cleveland, 2005). Research comparing the traditional and behavioral types of health education in improving adherence to the health care plan showed a 64% success rate when practitioners delivered information and knowledge alone (the traditional role) and 85% suc-

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patients, treatment adherence in diabetics, medication regimens, pain treatment, and eating disorders (Berg-Smith et al.; Sindelar et al.). In 2005, Rubak and colleagues published a meta-analysis of 72 randomized controlled trials and concluded that MI effectively helped patients change their behavior and that it outperformed traditional advice given in approximately 80% of the studies. This scientific evidence suggests that MI is a behavioral intervention that may be used by NPs to augment teaching strategies to improve treatment adherence by pediatric patients and their families.

TRANSTHEORETICAL MODEL OF STAGES OF CHANGE

A model explaining the stages of behavior change emerged from research in the field of addiction studies in the 1980s and has been used widely with smoking cessation (Prochaska & DiClemente, 1982). The transtheoretical model of the stages of change developed by Prochaska and DiClemente is a framework for understanding how people change behavior and the theory behind MI. When applied to pediatric health care, the premise of the model is that most families do not seek information from the health care provider expecting to change patterns of behavior that are well established. This model focuses on the process of becoming ready to make the necessary changes to adhere to the treatment plan (see Table 1). The process begins with precontemplation, in which the family is not ready to change behavior; it then moves toward contemplation, in which the family is aware a problem exists but is ambivalent about the need for change; from there, the family members move into preparation and action, in which changes are made. Maintenance involves families adapting to new behaviors and avoiding

Health education that focuses on direct persuasion often results in a defensive response on the part of the patient or parent.

research suggests that self-image, the meaning of the medical condition and treatment regimen, and/or behavior change are determinants of patient compliance (DiMatteo et al., 2002).

The lack of both collaborative goal setting and formulation of the treatment plan leads to parental reservations regarding the plan for care. Health education that focuses on direct persuasion often results in a defensive response on the part of the patient or parent. Traditional health education may be insufficient to change the parents' behavior in relation to their children (Weinstein, Harrison, & Benton, 2004).

Health educators have proposed a paradigm shift in the role of the NP as health teacher: moving from the authoritarian, pre-

cess rate for the more collaborative approach using behavioral strategies (Burke & Fair).

Researchers have shown that MI is an effective strategy for decreasing problems with substance abuse and health-risk behaviors and increasing adherence to treatment regimens (Rubak, Sandbaek, Lauritzen, & Christensen, 2005). Specifically, MI has been shown beneficial in controlling alcohol, heroin, marijuana, tobacco, and opiate addictions (Berg-Smith et al., 1999; Sindelar, Abrantes, Hart, Lewander, & Spirito, 2004). In addition, tests of the effectiveness of MI in controlling nonaddictive health behaviors also have been promising, including studies evaluating its effectiveness with decreasing high-risk behaviors in HIV

TABLE 1. Transtheoretical model of stages of change

Stages of change	Process
Precontemplation	Not ready to change
Contemplation	Aware of problem, ambivalent about change
Preparation	Intend to take action in near future
Action	Involved in change
Maintenance	Sustaining the change

Data from Prochaska & DiClemente, 1982.

relapse. Termination may follow if the treatment plan is not for an ongoing medical condition. The role of the NP is to assess the family's readiness for change prior to discussing the health care plan. With this information, the NP is able to tailor interventions to an individual's stages of change, rather than expecting all

dence in making change, and readiness for change; and planning for change if they are ready (Resnicow et al., 2002; Rollnick et al., 1999). MI outlines approaches that can be used for patients and families in all stages of readiness for change. In addition, MI has been shown to be more effective than traditional counseling for clients in

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individuals to be ready for action-oriented strategies (Berg-Smith et al., 1999).

STEPS FOR USING MOTIVATIONAL INTERVIEWING IN PRIMARY CARE

MI, first described by Miller (1983) and elaborated upon by Miller and Rollnick (1991), is consistent with the stages of change and offers a practical, brief counseling method for helping families increase their motivation or readiness to change (Berg-Smith et al., 1999). The main goals of MI are to assist the family in working through its ambivalence about behavior change; assessing the importance of change, their confi-

dence in making change, and readiness for change; and planning for change if they are ready (Resnicow et al., 2002; Rollnick et al., 1999). MI outlines approaches that can be used for patients and families in all stages of readiness for change. In addition, MI has been shown to be more effective than traditional counseling for clients in

the precontemplation phase of change (Heather, Rollnick, Bell, & Richmond, 1996). The features of MI include a family-centered, supportive, and empathetic approach. Although these qualities are common principles of nursing practice, NPs frequently do not go beyond giving advice, prescribing a treatment plan, and educating families on why they should follow the treatment plan. When NPs apply the principles of MI, which include a nonjudgmental, understanding, and encouraging interaction, they assist family members in verbalizing their health care goals and asking for advice from practitioners when they need information. Discussion of the pros and cons of behavior change and use of reflec-

tive listening and reinforcing positive behavior become important strategies. Another important strategy of MI is "rolling with resistance" if families are ambivalent about change, which means the NP allows the family members to choose not to change and accepts their decision without trying to persuade them to take action if they are not ready. The strategy is to offer their professional opinion about the health consequences of the behavior in a nonjudgmental fashion and leave the door open for discussion in the future if they change their minds. Other strategies include assessing interest and confidence in change, eliciting change talk from the family, and improving self-efficacy (Resnicow et al., 2002; Schwartz, 2005). These strategies reflect the paradigm shift from the NP being the authoritarian expert who gives advice and information to the family verbalizing the need for change and their preference for the approach to the change.

Process

The process of MI is depicted in Figure 1. The components of the process for MI are establishing a relationship; setting an agenda; assessing importance, confidence, and readiness; exploring importance; and helping families select a plan of action and building their confidence in their ability to change (Rollnick et al., 1999). Approaches to interaction may include asking permission prior to providing information; eliciting the family members' perception of the pros and cons of change; helping families explore ambivalence toward behavior change; and questioning discrepancies between values and current behavior to have the family members verbalize the desire for change.

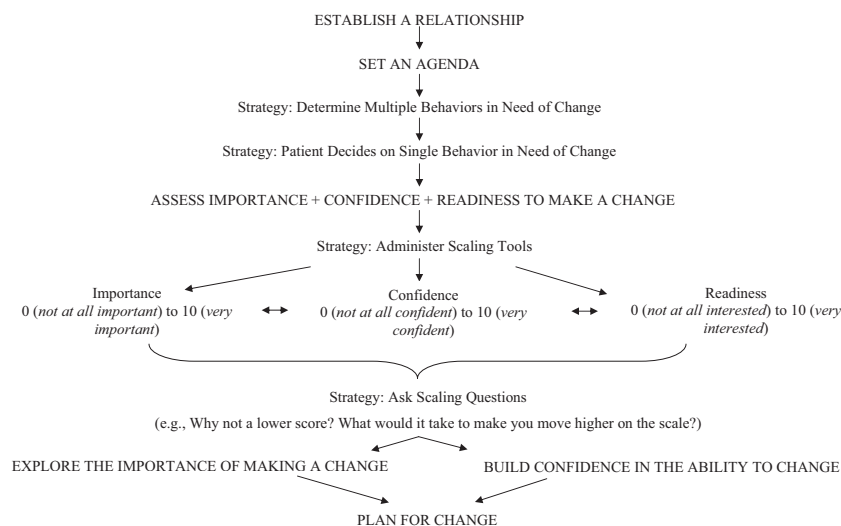
Establishing a relationship.

The first step in motivating parents or children to change behavior is developing rapport with the family (Miller & Rollnick, 1991). An empathetic approach that affirms the

families' values and helps them verbalize their thoughts, feelings, and ambivalence toward the suggested behavior change are essential in establishing a relationship, the first component of MI. Although most NPs establish rapport, MI takes this a step further and encourages the NP to avoid the expert role giving advice and allows the family to request information and advice before it is given. The family is viewed as the expert who will verbalize the need for change. The NP provides information in a nonjudgmental fashion and asks the family what they think about the information. Because MI involves the use of active listening and establishing an empathetic relationship rather than direct questioning, persuasion, or giving of advice, its use avoids confrontation and accepts the family's ambivalence or reluctance to change.

Consideration of a hypothetical scenario involving an overweight 13-year-old adolescent boy at risk for type II diabetes will illustrate how an NP might apply MI in a clinical situation. The NP begins by counseling the overweight teen and showing the growth chart to the teen. The NP explains the physical assessment findings of *acanthosis nigricans*, suggesting that the teen is developing insulin resistance and remarking that we know that many patients who have these issues will go on to develop diabetes. The NP might then bring up family history, telling the teen, "We know from your family history that diabetes is common in family members and we know that you gained 10 pounds since your last visit." She then asks the teen, "What do you think about this information?" The NP reassures the teen that she knows how difficult the situation is and accepts the patient wherever he is. If the teen is not ready for change, he may respond that he is not worried about developing diabetes; that happens only to old people. The NP rolls

FIGURE 1. The Process for Motivational Interviewing. (Adapted from Rollnick, Mason, & Butler, 1999.)



with the resistance and says, "As your health care provider I have to tell you that I think that you are at risk and I know that you will be able to address this when you are ready. Is there something else that you are more concerned about that we should focus on today?"

Setting an agenda. After establishing rapport for this visit, the NP collaborates with the family to set the agenda for the brief counseling session. (See the Box for useful questions.) The brief counseling session is included in the anticipatory guidance portion of the regular health care visit. MI recognizes that behavior change is the responsibility of the patient/family. The treatment plan and advising are no longer the strategy for the visit. The goal is for the patient/family to verbalize the goal and the focus of the visit. This process may include several strategies, having the family express both positive and negative aspects of their behavior and eliciting how those aspects might not be consistent with their current health goals.

The first strategy is to raise the subject of behavioral change. The NP might ask the family to describe a typical day and identify problem behaviors, providing information about the problem

behavior in a nonjudgmental fashion and asking the family members what they make of the health care issues. Families are asked to set the agenda and ask the practitioner for information. Another approach to raising the subject is to ask the family directly about their desire to change a problem behavior and their feelings about the change process (Rollnick et al., 1999).

In our scenario, the NP could ask the 13-year-old to describe a typical day to elicit his awareness of his activity, inactivity, and stress eating that may be occurring. When the teen describes the day, he can discuss things that made it difficult for him to make healthier choices and identify ways to improve.

The agenda-setting chart is another strategy that can be used to help the child or family identify a plan. The agenda chart is a sheet of paper with circles, some empty and some with suggested changes (e.g., diet, exercise, and decreasing television time) (see Figure 2) (Berg-Smith, 1999). The family members are asked to identify which of the behaviors on the chart they are interested in changing. They can identify things not on the chart that they can put into

BOX. Useful questions for setting an agenda

Multiple behaviors

1. What would you like to talk about today? We could talk about decreasing sweets, watching less TV, more activity, fewer sweetened drinks. What do you think? Is there something more important to discuss today?
2. Would you like to talk about ways to improve your child's health, like eating better, exercising more, or more activity, or is there something else that I could help you with today?
3. Which diet or exercise do you feel most ready to talk about?
4. Some people think that taking the television out of the child's bedroom helps them with overweight. What do you think?
5. I am concerned about your child's asthma. How do you feel about your child's use of a preventive inhaler?
6. How do you think your smoking affects his asthma?

Single behaviors

1. Some teenagers think that smoking increases the recurrent bronchitis problem. What do you think?
2. I am concerned about your being expelled from school for drinking. What do you think about your drinking?
3. How does your use of alcohol affect the fighting with your family?

Adapted from Rollnick, Mason, & Butler, 1999.

the empty circles. The child/family then proceeds to articulate a plan for working on these goals.

Using the stress bucket (Rollnick et al., 1999) is a third strategy that may be useful to help set an agenda if the behavior that needs to change is induced by stress. The stress bucket is a tool used to help families identify levels of stress, causes of stress, and healthy solutions to dealing with stress. This tool is particularly helpful for adolescent patients who are attempt-

ing to change behaviors that may be induced by stress, such as smoking, drinking or overeating. There might be several causes of stress, which are represented as faucets filling the bucket at varying rates of flow. The level of water in the bucket relates to the level of stress. The symptoms are things that you experience as the water level rises (e.g., eating, smoking, and drinking). Solutions are things that lower the water level in the bucket (e.g., relaxation, exercise, and counseling). Discussion of the stress bucket might lead to identification of agenda items. The activity of creating a stress bucket might lead to a discussion of a behavior to change or might just increase awareness regarding the triggers for stress and possible strategies to consider.

The NP may collaborate with the family to identify a single behavior change to target from the multiple behaviors that may impact the health of the child. The family members decide which behavior they would like to target for change. The Box presents useful questions for setting an agenda when there are multiple behaviors or when there is a single behavior that needs to be changed. The family members are encouraged to select a single behavior to address.

Using one or all of these strategies should result in a clearer understanding of the agenda that will be set. For the hypothetical 13-year-old at risk for diabetes, the NP shares information about the risk factors for diabetes that she identifies in his history and asks what he makes of all of this information. The discussion should ideally lead the teen to express worry about developing diabetes and asking for some suggestions for decreasing his risk. The NP reviews with the teen the description of his typical day, including meals and activity. The NP asks the teen what he thinks he could do to change the process, and she offers that diet, exercise, and limiting sedentary time are all things that other teens

have done to help decrease their risk for diabetes. The discussion would benefit from an assessment of what this teen has done in the past, how it worked, and what the barriers were.

Assessing importance, confidence, and readiness for behavior change. The NP next attends to the family members' fundamental beliefs regarding health and illness, the importance of making the change, their readiness to change, and confidence in making the change. Berg-Smith and colleagues (1999) suggested using a 12-inch ruler to have the parents describe their readiness to change or comply with a suggested regimen that has jointly been developed. Parents are asked to identify their readiness to change on the ruler, with 12 indicating ready to change and 1 very ambivalent about making changes. The NP then uses that number to tailor interventions based upon the family's readiness to change. Similarly, Schwartz (2005) used an index card with a scale from 0 to 10 to assess interest and confidence in making a change, with 0 indicating *not interested* or *not confident* and 10 indicating *very interested* or *very confident* (see Figure 3).

The NP might assess importance of changing by asking, "How do you feel about getting more exercise? How important is it to get more exercise?" Helping the family members list the pros and cons of the change can be useful to help them identify the importance of the change and the barriers to making the change (Table 2). Confidence can be assessed by asking, "If you decided tomorrow that you were going to get more exercise, how confident are you that you could achieve that goal?" There can be situations where it is useful to assess readiness instead of or in addition to importance and confidence (Rollnick et al., 1999). Assessing readiness can be useful for taking the discussion to the next level if the family is ready to plan

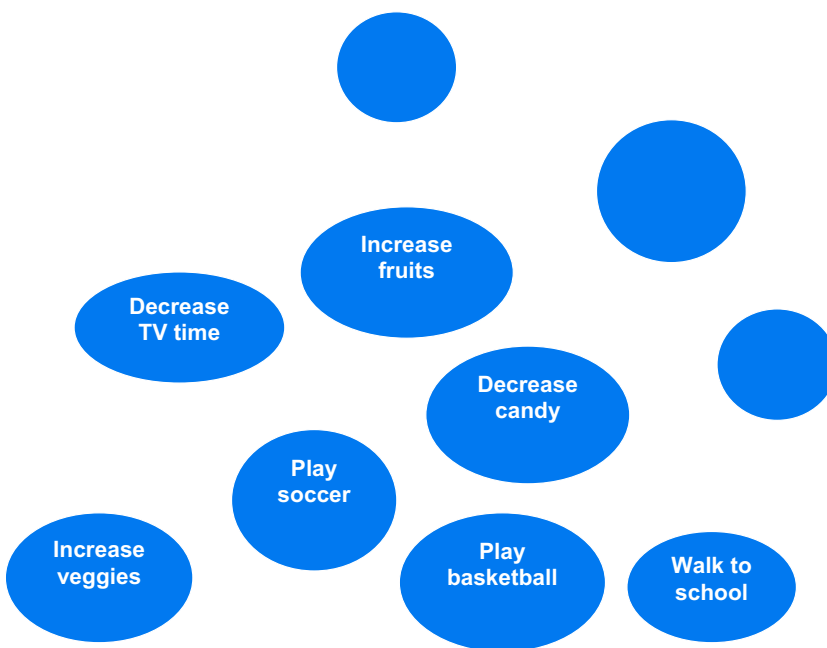
for change. A low level of readiness to change may explain the resistance of family members to change their behavior.

The NP can use the scaling questions to help the family provide more detail about the importance, confidence, and readiness for making a change. If the family members says a 4 on a 10-point scale, they are saying they feel it is *somewhat important* to decrease the child's exposure to second-hand smoke to help his asthma, the practitioner would ask, "Why not a 1 or 2?" This question allows family members to identify what about making a change in behavior is important to them. The NP can also ask family members to describe what it would take to move them 1 point higher on the scale. These questions help family members verbalize what is important to them about the change and possible strategies they could employ to achieve the change.

Explore the importance of making a behavior change. The NP should avoid confronting the family about behavior, which may lead to resistance about changing behavior. The NP needs to be able to "roll with the families' resistance" (i.e., accept that they are not ready to change) while supporting their sense of self-efficacy. The focus becomes to help family members explore the importance of changing behavior by describing the discrepancy between desired goals and current behavior. The goal is for the patient/family members to state the need for a change in behavior to reach their stated goal. This strategy is called "eliciting the change talk" from the family members, which increases the likelihood that the family members will act on what they have verbalized. The more they defend a position, the greater their commitment to it (Resnicow et al., 2002).

The process is fluid and the practitioner may fluctuate back and forth between readiness, importance, and confidence. Strategies

FIGURE 2. Agenda-setting tool. Circles = possible behaviors to target; empty circles to be filled in by the patient. (Adapted from Rollnick, Mason and Butler, 1999.)



gies for success in using this technique include the following:

- If importance is low (less than 4 on the scale), the NP focuses the intervention on increasing importance by giving the family members information and by eliciting from them, with the use of scaling questions, the reasons why they think it is important to change (Rollnick et al., 1999).
- If the numbers for importance and confidence are equal, the NP focuses on the importance first (Rollnick et al.).
- If there is a difference between the importance and confidence, the NP focuses on the lower number first (Rollnick et al.). This is especially important if there is a large difference between the two numbers.
- If the family is at level 4 or lower in importance, it is a signal that the members are not ready for change. A beneficial approach for the NP in this situation is acknowledging their uncertainty and assuring them that she is confident they will be able to achieve their goals by saying.

The NP might say, for example, "I know you are going to be able to figure this out when you are ready."

Build confidence in the ability to change. In a nonconfrontational and supportive climate in which families feel comfortable expressing both positive and negative aspects of their current behavior, families are asked to elicit the pros and cons of change (Resnicow et al., 2002; see Table 2). As the family members verbalize the reasons for change, they are more likely to make the changes. By refraining from giving advice until the family members have presented their own understanding of the situation and their own suggestions for overcoming the obstacles to changing behavior, the NP can reinforce the family's articulated plan. Ideally, the family rather than the NP makes the argument for change and describes the course of action (Rollnick et al., 1999). If the family needs more information about the impact of current behavior on health, the NP asks the family's permission to share information, presents the information

in a neutral manner, and leaves the interpretation of the information up to the family (Resnicow et al., 2002).

Repeating scaling questions also may be useful. At this point, the NP could ask the family, on a scale from 0 (*not at all*) to 10 (*very successful*), how successful have they been in changing behavior in the past. Using the scaling questions allows the NP to examine why the scores were not lower and identifies the family members' previous success strategies. Recognizing past success and verbalizing strategies that have worked for them builds confidence in their ability to change behavior.

Plan for change. When the client verbalizes a readiness for change, understanding the importance, and some confidence, the NP can ask them to identify a plan for change. The plan for change includes the strategies the family would like to use, identification of the barriers they may encounter, and problem solving ways to overcome the barriers. The NP shares that goal setting, self-monitoring, and supportive environments help many clients achieve success. The maintenance phase is ongoing support and monitoring of the sustained behavior change and the impact on health. In our scenario, it would include a follow-up visit with the teen to monitor his eating, activity, and weight to reinforce positive changes or identify and strategize about overcoming barriers.

SUMMARY

Strategies that might be useful throughout the ongoing process of MI are exchanging information and reducing resistance. The NP uses skillful listening, careful questioning, and well-timed intervention (Rollnick et al., 1999). Questions to facilitate the exchange of information include, "Would you like to know more about . . .?" "How much do you already know about?" "The test result is X, what do you make of this?"

Challenging the patient about behaviors is not the best way to reduce

FIGURE 3. Scales for assessment of importance, confidence, and readiness for change. (Data from Schwartz, 2005.)

Importance										
On a scale from 0 to 10, with 10 being <i>very important</i> , how important to you is it to change ____?										
0	1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat			Very			
Confidence										
On a scale from 0 to 10, with 10 being <i>very confident</i> , assuming you wanted to change ____, how confident are you that you would succeed?										
0	1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat			Very			
Readiness for Change										
On a scale from 0 to 10, with 10 being <i>very interested</i> , how interested are you in changing ____?										
0	1	2	3	4	5	6	7	8	9	10
Not at all				Somewhat			Very			

resistance, because the NP wants the family to verbalize the reasons for change, not the reasons for resistance or reluctance to change. If the NP hears the family responding with resistance, it is useful if she asks herself, "Have I threatened the family's sense of personal freedom? Have I misunderstood the family's feelings about their readiness, importance, or confidence? Have I jumped too far ahead of the family on these dimensions?" This might be the point at which the NP needs to reconsider how the family really feels about change, asking herself, "Am I being too confrontational? Do I need to change direction altogether?" The best responses to the family might be, "Perhaps now is not the right time for us to talk about this" or "What do you make of all of this?"

The 13-year-old in the hypothetical scenario may state that he would like to try to eat less fast food and get more exercise. The NP asks him how important this goal is to him, how confident he is that he can achieve the goal, and how ready he

is to make the changes. The patient is asked to describe the plan for behavior change and the NP supports the plan for change. The NP might suggest the patient set a specific goal and have the patient describe specific steps to achieve the goal. The NP asks the patient what barriers they anticipate and how they plan to manage the barriers. It may be useful for the patient to self-monitor to progress toward the goal.

CONCLUSIONS

In these challenging times in health care, when the NP treats many conditions by recommending changes in behavior, having an effective counseling approach can help the NP collaborate with their patients and families to achieve success. MI is a patient counseling technique that facilitates the interaction between the NP and the patient to achieve positive behavior change. The transtheoretical model for stages of change provides a framework to guide the application of MI

TABLE 2. Pros and cons of change: Example of smoking

	Pros	Cons
No change	Smoking helps me relax. I enjoy smoking.	Smoking is harming my health. Cigarettes are expensive.
Change	All my friends smoke. My health will improve. I'll get fewer respiratory infections. I'll save money.	My kids will continue to complain about my smoking. I will gain weight. It will be difficult to quit. I will become irritable.

Adapted and reprinted with permission from Rollnick, Mason, & Butler, 1999.

in practice. It posits that for an individual to initiate and sustain a change in behavior, he or she may move through stages of low levels of readiness to change (precontemplation), to increased awareness of the need for change but ambivalent about the change (contemplation), to an intention to change (preparation), to taking formal steps toward change (action) and then optimally lead to sustaining the change (maintenance).

Research suggests that MI is an evidence-based approach that effectively helps patients change behavior (Resnicow et al., 2002; Rubak et al., 2005). MI has been used in the treatment of various lifestyle problems and diseases, both psychological and physiological (Rubak et al.). Research shows that it outperforms traditional advice giving and can be effective in brief encounters of only 15 minutes (Rubak et al.). Ongoing research is needed to further the knowledge regarding the benefits of this promising counseling technique. MI is a patient-centered approach to counseling that is consistent philosophically with NPs' practice and has a growing body of evidence to support its effectiveness. NPs who counsel children and families on behavior change may find it a beneficial strategy to

incorporate into their daily practice (Dunn et al., 2001).

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