Motivational Interviewing: A Patient-Centered Approach to Elicit Positive Behavior Change

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Continuing Education Units: 2 hours


Disclaimer: Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

This continuing education course reviews the fundamental principles of Motivational Interviewing (MI), a collaborative conversational style for strengthening a person’s own motivation and commitment to change.1 Guiding the patient’s internal motivation increases the likelihood that his or her ambivalence about changing will be resolved in the direction of change. The four key principles of MI are reviewed:

- Resist the righting reflex.
- Understand your patient’s motivation.
- Listen to your patient.
- Empower your patient.

Conflict of Interest Disclosure Statement
- Dr. Williams and Prof. Bray have done consulting and speaking for Procter & Gamble.

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Overview

Working with patients can be frustrating for dental hygienists especially when patients, despite our “best efforts”, fail to adopt improved oral health behaviors based on our professional recommendations. Although we know that chronic dental diseases are largely preventable, we also know that unless patients are engaged in self-care and strategies are identified for improved oral health, successful treatment and maintenance will be compromised.

Traditionally, patient education involved providing “knowledge”, with the clinician setting goals for the patient that were clinician-centered, not patient-centered. Patients not interested in changing behaviors may react by tuning out the clinician or may become defensive. Even in the best case scenario, research has shown that adherence to health providers’ recommendations tends to be low; 30-60% of information provided in the clinician/patient encounter is forgotten within an hour of the encounter. Moreover, DiMatteo showed that 50% of health recommendations are not followed by patients. He also concluded that adherence to healthy behaviors is equally as important in achieving positive outcomes as effective treatments. Improved adherence to professional recommendations has been demonstrated when knowledge and advice are combined with behavioral strategies.

When patients are not ready for behavior change, the aforementioned health education advice or overt persuasion fails to motivate and can actually create defensiveness. It is no surprise that, despite our best efforts, many patients fail to change behaviors that contribute to disease progression. In addition, when defensiveness develops between clinician and patient, patients may avoid returning for timely professional treatment which can add to the burden of disease.

Learning Objectives

Upon completion of this course, the dental professional should be able to:
• Describe the roles of ambivalence and patient engagement in patient oral health behavior.
• Describe the primary differences between traditional patient education and a patient-centered approach aimed at behavior change.
• Identify which clinical cases have shown positive responses from brief motivational interviewing (MI) in oral health.
• Describe the fundamental spirit, guiding principles and strategies of Brief MI.
• Recall the basic strategies of brief MI skills as demonstrated in the video segments.

Course Contents

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Glossary

affirm – To validate, confirm, or state positively the patient’s interests or efforts.

change talk – The patient’s expressions of desire, reason, ability or need to make a change in oral health behaviors.

collaborative – The clinician and patient working jointly to identify and achieve behavior change.

develop discrepancy – The clinician uncovers any perceived inconsistencies among the patient’s health status, behaviors and values, to create an internal tension and provide a rationale for change.

elicit-provide-elicit – An approach the clinician uses to ask, listen and inform that encourages patients to talk about and hear their intrinsic motivation for change.

express empathy – The clinician asks questions and actively listens to patient’s responses to indicate understanding and sensitivity to patient’s desires and feelings.

open-ended questions – Questions requiring more than a yes/no or short-answer response.

patient-centered – An approach that focuses on the patient’s needs, desires and internal motivations rather than the clinician’s goals.

reflective listening – The clinician reflects back what he/she perceives the patient has communicated.

rolling with resistance – The clinician acknowledges the patient’s resistance to change rather than continuing to push forward.

self-efficacy/autonomy – The patient’s self-directing ownership of behavior change.

summarize – The clinician recaps what the patient has said.

Traditional Patient Education
Patient education in the dental environment has traditionally been clinician-centered and prescriptive in nature. Clinicians provide educational messages and direct advice using a unidirectional form of communication that attempts to persuade patients to comply with professional recommendations. This puts the patient in the position of either passively accepting or, alternatively resisting the often unsolicited advice. Factors that are important to the patient associated with change (autonomy, intrinsic motivation, competence, connecting change with values and norms, perceived control, and readiness for change) are given, at best, secondary consideration. Patients may perceive the advice as judgmental and intrusive, setting up resistance to change.

<table>
<thead>
<tr>
<th>Classic Approaches to Oral Health Education and Behavior Change</th>
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<tbody>
<tr>
<td>Knowledge</td>
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<tr>
<td>Insight</td>
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<tr>
<td>Skill</td>
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<td>Threats</td>
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Why a New Approach?
In the past several years, psychological theories have been used to explain why some individuals engage in behaviors conducive to health, whereas others, despite knowing they have poor health fail to adopt healthier behaviors recommended by health care providers. A comparison across multiple health theories suggests humans have three basic psychological needs: the need to feel competent and self-efficacious; the need for autonomy where they are self-regulated rather than controlled by others expectations; and, the need to feel connected with others in meaningful social relationships. Although people need autonomy, they also need close relationships in which their thoughts, beliefs and feelings are respected. With respect to adopting healthier behaviors, the degree to which these three needs are met can increase or decrease the likelihood for sustained behavior change. This has important implications for oral health education and motivating individuals. If the clinician does not clearly demonstrate respect and recognize the patient as an autonomous individual, they will fail to effectively engage the patient.
All humans experience some ambivalence, or simultaneous and contradictory attitudes or feelings, about changing existing behaviors. Often times, individuals are unaware they have ambivalent feelings about behavior change and this can work against them. Clinicians can play a pivotal role by helping patients uncover and verbalize ambivalence towards change. In other words, initiating communication about how the individual views positive and negative aspects of improved oral health behaviors may allow them to explore factors that increase or decrease internal motivation. Internal motivation is needed for sustained health behavior change. When clinicians attempt to impose motivation (e.g., through direct persuasion or advice given from an expert source), patients often respond with a guilt-induced transient change or simply sustain the current behavior. People may also respond by subtly pushing back and becoming more resistant to change. It is only when behaviors are internally directed and valued by the patient that sustained changes are possible. When healthy behaviors are sustained over time, better health outcomes are possible.

In the last few years, motivational interviewing (MI) applied to oral health outcomes has appeared in the dental literature. Bray and colleagues demonstrated that MI can be effectively learned and utilized by dental hygiene students. Randomized clinical trials have also been conducted with positive results. The first study published by Weinstein and colleagues compared MI to traditional health education among Punjabi speaking mothers of young children at high risk for early childhood caries. Mothers were randomly assigned to MI counseling or traditional health education and then followed for 2 years to evaluate development of new lesions. Caries assessment was accomplished using knee to knee examinations and parenting practices, oral hygiene measures and self-reported diet was assessed at yearly intervals. Results showed there was a decrease in early childhood caries among those children whose mothers received MI. The results are graphically displayed in Figure 1.

Since then, several studies have shown efficacy of MI for improving oral health measures. Almomani and colleagues showed MI improved brushing behaviors in a sample of individuals with severe mental illness. This randomized clinical trial assigned 60 individuals to either a single, brief MI or traditional oral health education session. Subjects were all given a mechanical toothbrush and regular fluoride dentifrice to use for the duration of the 2 month study. Plaque scores, knowledge about oral health/mental illness and measures of self-regulation/autonomy were assessed after one and two months. Results revealed that a MI session prior to an oral health education session significantly enhanced autonomous (internal) motivation for regular oral health behaviors.
brushing, increased oral health knowledge, and reduced plaque scores compared to oral health education alone (Table 1).

Similar results were achieved in a clinical trial of MI applied to adult chronic periodontal patients. Jönsson and colleagues randomized 113 periodontal patients to either standard oral hygiene education or a multi-session MI enhanced oral hygiene program. Plaque, proximal gingival index, global gingival index, and bleeding on probing were evaluated at baseline, 3 month and 12 month follow-up visits. Results showed the MI enhanced education resulted in a significant improvement in all oral health measures. Plaque and GI scores for this trial are displayed in Table 2.

Two additional studies that used a single session of MI to improve oral health in periodontal patients failed to show similar efficacy. However, in both studies participants in MI and health education comparison groups improved significantly from baseline. The respective authors concluded that this lack of difference between the MI and traditional education group might be explained by the sample characteristics as well as the single session intervention. Many periodontal patients who seek care from specialists are already motivated to improve their oral health when they make an appointment, which may explain the improvement irrespective of intervention. Additionally, for some patients multiple sessions of MI might be necessary for behavior change to occur. The concept of the potential dose-

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Table 1. Results from research by Almomani et al. comparing MI and traditional oral health education among patients with severe mental illness.\(^6\)

<table>
<thead>
<tr>
<th></th>
<th>MI (n=27) Mean (SD)</th>
<th>Traditional Ed (n=29) Mean (SD)</th>
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<tbody>
<tr>
<td><strong>Plaque Index $^$</strong></td>
<td></td>
<td></td>
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<tr>
<td>Baseline</td>
<td>3.6(0.6)</td>
<td>3.3(0.8)</td>
</tr>
<tr>
<td>4 weeks</td>
<td>2.3(0.7)</td>
<td>2.6(0.8)$^*$</td>
</tr>
<tr>
<td>8 weeks</td>
<td>1.9(0.7)</td>
<td>2.5(0.9)$^*$</td>
</tr>
<tr>
<td><strong>Knowledge Score $^$</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>14.7(6.5)</td>
<td>15.0(7.2)</td>
</tr>
<tr>
<td>4 weeks</td>
<td>31.6(2.4)$^*$</td>
<td>27.5(4.7)$^*$</td>
</tr>
<tr>
<td>8 weeks</td>
<td>32.9(1.7)</td>
<td>27.5(4.3)$^*$</td>
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<tr>
<td><strong>Self-regulation Scores</strong></td>
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<tr>
<td><strong>Introjected Regulation (Personal Guilt) £, $^$</strong></td>
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<tr>
<td>Baseline</td>
<td>4.5(2.0)</td>
<td>4.1(2.4)</td>
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<tr>
<td>4 weeks</td>
<td>5.7(1.5)</td>
<td>4.1(2.3)</td>
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<tr>
<td>8 weeks</td>
<td>6.1(1.3)</td>
<td>5.0(2.0)</td>
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<tr>
<td><strong>External Regulation (Brushing for Others) £</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>2.1(1.5)</td>
<td>2.5(2.1)</td>
</tr>
<tr>
<td>4 weeks</td>
<td>3.3(2.3)</td>
<td>3.8(2.5)</td>
</tr>
<tr>
<td>8 weeks</td>
<td>3.6(2.1)</td>
<td>3.4(2.2)</td>
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<tr>
<td><strong>Autonomous Regulation (Personal Reasons) £</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>3.9(2.0)</td>
<td>3.9(1.8)</td>
</tr>
<tr>
<td>4 weeks</td>
<td>3.1(1.2)</td>
<td>3.1(2.1)</td>
</tr>
<tr>
<td>8 weeks</td>
<td>4.0(2.3)</td>
<td>3.3(2.0)</td>
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$^\$ = significant interaction effect  
£ = significant main effect for time  
$^\$ = significant main effect for group,  
* = significant different from baseline to 4 weeks  
** = significant different from 4 weeks to 8 weeks  
$^\$ = significant group difference
MI is based on a theory that motivation is necessary for change to occur - resides within the individual and is achievable by eliciting personal values/desires and ability to change. It is based on allowing the patient to interpret and integrate health and behavior change information if perceived as relevant to his/her own situation. It acknowledges the patient is the expert in their own life. MI appears to be most effective for patients with low motivation to change behaviors as it encourages trust between clinician and patient and allows the clinician to focus on gauging readiness for behavior change.

Components of MI

This review of MI principles will focus on how this approach might be used to elicit oral health behavior change within the dental counseling atmosphere. The foundation for MI rests not in the specific strategies of patient engagement but on a sincere “spirit” of mutual respect and collaboration. The clinician must abandon the impulse to solve the patient’s problems (often referred to as the “righting reflex”) and allow the patient to articulate his or her own solutions.

Using the guiding principles of MI, the clinician follows the patient’s cues and moves between listening, asking, listening and informing. This collaborative exploration is accomplished through 4 key principles of MI. Use of these principles enables the patient to express his or her view of benefits and drawbacks associated with a particular behavior pattern and determine what action, if any, to take. Ultimately the decision resides within the patient, not the clinician. In response of MI for behavior change was further supported by a recent meta-analysis.¹⁷

### Motivational Interviewing

Motivational Interviewing (MI) is a collaborative conversational style for strengthening a person’s own motivation and commitment to change.

MI is a well-accepted strategy for behavior change consistent with contemporary theories of behavior change. The spirit of MI is defined by partnership, evocation and self-efficacy, exhibited through specific techniques and strategies. Since its inception in drug addictions treatment,¹⁸ MI has been shown to positively affect health behavior change related to smoking, exercise and weight reduction, diabetes management, medication adherence, condom use, and oral health. One systematic review has been published to date on approaches to oral health promotion including MI. While the authors concluded that MI is effective in oral health promotion, only one of the nine articles reviewed was specific to MI and oral health behavior change. The remaining eight articles featured studies on MI and diabetes, drug use, tobacco use, and HIV risk factors among others.¹⁸

MI is a person-centered, goal-directed method of communication for eliciting and strengthening intrinsic motivation for positive change. Through experience, Miller found the likelihood for positive change occurred more readily when the clinician connected the change with what was valued by the patient. He also found confrontational styles or direct persuasion are likely to increase resistance and should be avoided.
this sense, the clinician allows the patient to have complete autonomy in the decision making process.

The four key principles are: resisting the righting reflex, understanding your patient’s motivation, listening to your patient and empowering your patient.

<table>
<thead>
<tr>
<th>Four General Principles of MI</th>
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<tr>
<td>1. <strong>Resisting the righting reflex.</strong> Avoid a prescriptive provider-centered style of solving patient’s problems for them. Guide them in eliciting their own solutions.</td>
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<tr>
<td>2. <strong>Understanding your patient’s motivation</strong> between current behavior and important goals or values.</td>
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<td>3. <strong>Listening to your patient</strong> through acceptance, affirmation, open-ended questions and reflective listening.</td>
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<td>4. <strong>Empower your patient</strong> by support, self-efficacy and optimism.</td>
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In the traditional clinician-patient encounter, the clinician assumes responsibility for providing information and coming up with a solution to the patient’s problems. Unfortunately, this prevents meaningful two-way communication. Research has shown the average health care provider interrupts a patient disclosure within 18 seconds, thus sending a non-verbal message that the patients’ input is neither respected nor relevant. When clinicians affirm the patient’s interest or efforts, a trusting relationship is supported. Once trust is established the patient can openly express him/herself and begin to resolve their ambivalence about change. When the patient expresses resistance to change or adopting a new behavior, the clinician acknowledges the resistance rather than continues to push forward. This is an ideal opportunity to explore the patient’s viewpoint and need for autonomy. Moreover, it non-verbally conveys that the patient is central to any behavior change. A simple comment of “Okay, it sounds like you aren’t quite ready to ________. Is it okay if we come back to this conversation at some point in the future?” demonstrates the clinician hears the patient and acknowledges their autonomy. Again, this collaborative approach allows for collaborative solutions consistent with where the patient is at, at that point in time.

The second key principal is understanding your patient’s motivations. Any perceived inconsistency between the patients’ current health status, behaviors and values creates an internal tension that may provide a rationale for change. The first step of using open-ended questioning and reflective listening gives the clinician information about values, attitudes and beliefs held by the patient. The clinician can then further clarify by asking the motivation ruler question: “On a scale of 1 to 10 with 10 being completely motivated and 1 having no motivation at all, how motivated are you to _____?” When the patient identifies their self-rated motivation, the clinician can further clarify by asking “What gives you this level of motivation” and “What would it take for you to increase your motivation 2 or 3 additional levels?” This approach can also be used to explore their level of interest as well as confidence in engaging in a new behavior.

A third key principal is listening to your patient. When the clinician asks open-ended questions and actively listens to the patient’s response, they infer an expression of empathy and acceptance. Reflective listening, or reflecting back what the clinician perceives the patient has communicated allows the clinician to “get it right”. This process of open-ended questioning and reflective listening shifts the encounter to a patient-centered engagement.

Lastly, it should be obvious the clinicians’ behavior and engagement strategies are aimed at empowering your patient. By doing so, the clinician is signaling to the patient the clinician believes he/she is capable of change. Since
it is the patient, not the clinician, who must initiate behavior change; supporting self-efficacy effectively shifts “ownership” of the solution to the patient. In the language of Self-Determination Theory, supporting self-efficacy can increase the persons’ sense of competence and increase the likelihood of successful change.

Another important facet of listening in MI is listening for change talk. Change talk is the patients’ expressions of desire, reason, ability or need to make a change in their oral health behaviors. Expressions of change talk may come naturally as a result of open-ended questions and reflections or can be further elicited through the use of directed questions. Response to change talk provides the opportunity to explore options and affirm a commitment to change.

Evocative questions to elicit change talk

- Why would you want to make this change?
- If you did decide to make this change, how might you go about it in order to succeed?
- What are the three best reasons for you to do it?
- How important would you say it is for you to make this change, on a scale from 0 to 10, where 0 is not at all important, and 10 is extremely important?
- [Follow-up question: And why are you at ____ rather than a lower number of 0?]

Summarize then ask one final question: So what do you think you’ll do?

The key components of brief MI which can be applied for the delivery of oral health information and advice are: Ask Permission, Elicit-Provide-Elicit (using OARS), Explore Options and Affirm Commitment.

Ask Permission
Soliciting the patient’s permission to share information sets the collaborative spirit of MI right from the start and provides the patient with the autonomy to accept or decline the offer.

MI Strategies

Get Permission:
“May I ask you a few questions about your current oral hygiene habits so I can understand your situation better?”
Elicit-Provide-Elicit (Asking, Listening, Informing)

Using the three communication skills discussed previously (open-ended questions, reflection and affirmation) allows the patient to begin talking about and hearing their own intrinsic motivation for change. This also sets up the opportunity to use the Elicit-Provide-Elicit strategy to guide the patient towards real solutions. As demonstrated in this video segment, begin by asking the patient what they already know or are interested in learning about a specific oral health topic. “What do you know about the risks associated with diabetes and gum disease?” This simple opening respects the patient’s autonomy and knowledge, not to mention avoids re-telling them something they already know. The practitioner then provides only the information the patient desires, and does so after the patient selects from a list of options only the information they are interested in learning about.

The Elicit-Provide-Elicit approach continues through the use of open-ended questions, affirmations, reflections and summaries (Table 2). Open-ended questions requiring more than a yes or no answer stimulates the patient to do most of the talking. A pivotal aspect of MI is an active reflective listening process. The clinician assumes the role of an active listener reflecting back what the patient has said. Reflective listening is an important and challenging skill to develop. Skillful reflections extend the dialog or make an attempt at deciphering the unspoken meaning. They also serve as an ongoing chance to express empathy.

Healthcare providers often have a strong desire to share information or prescribe a solution to solve the patient’s problem. Advice giving is common among the helping professions and is referred to, as mentioned previously, as the “righting reflex.” Information given in a unidirectional fashion is to be avoided as it often increases resistance, thereby decreasing the probability of behavior change. With MI, information is provided when requested by the patient or with the patient’s approval. In this process, the patient “hears themselves” talking about and reflecting on their own behaviors and motivation for change. Hearing themselves discuss the importance and/or confidence often results in a previously unexplored self-awareness and sets the stage for change talk. When patients express positive reasons for changing health behaviors and realistically evaluate their likelihood of success, this can make the change seem or appear achievable and worthwhile. Finally, the patients’ change talk can be reflected back to assist the patient in generating options and goal setting.

Clinical Case 1: James

Perhaps this scenario is familiar. James is a 33-year-old male with persistent gingivitis. He however is unaware of any oral problems. At his most recent recall appointment it is evident little has changed in his oral hygiene effectiveness. This video contrasts the clinician-centered, advice giving approach to the patient-centered, MI approach discussed previously. In the first segment, the clinician does ask questions, listens and informs; however the tone is much more judgmental and adversarial. The clinician is prescribing or telling the patient what to do. Notice the patient’s non-verbal response to the traditional approach. He looks away and loses eye contact with the provider. Comparatively, in the second segment the clinician again asks questions but the listening is more active with reflection of what the patient has revealed. As the dialog continues, notice the interchange moves between reflective listening – informing - providing options. Also note the increased level of patient engagement, not only in the increased eye contact but also in the duration or amount of time the patient talks during the conversation.

Clinical Case 2: Teresa

This video segment explores how brief MI can be used to communicate health risks and health
ruler averts resistance, engages and provides an opportunity to explore options for change.

**Conclusion**

Clinicians need to recognize they are not the best judge of what is important to patients in order to become effective behavior change advocates in the dental hygiene environment. Weinstein, et al. recently found when patient values and dentist perceptions were examined, the dentists’ perceptions were not closely matched to patient values. Extensive literature clearly demonstrates that values/beliefs, perceived susceptibility, social and family norms, cultural differences, lifestyle values and current perceived needs are important factors in motivation.
Video 2. Clinical Case 2: Teresa
Click here to view this video on dentalcare.com.
Course Test Preview

To receive Continuing Education credit for this course, you must complete the online test. Please go to:

1. A collaborative, person-centered approach to communication aimed at eliciting and strengthening motivation for change is known as _______________
   a. active listening
   b. clear and direct communication
   c. motivational interviewing
   d. learning ladder

2. Which of the following is not a part of the four key principles of motivational interviewing?
   a. Express empathy
   b. Develop discrepancy
   c. Roll with resistance
   d. Design goals for patient

3. What is the first thing you should do prior to sharing information with a patient?
   a. Provide background knowledge
   b. Ask permission
   c. Remove personal protective mask
   d. Remind patient that you are the authority

4. Ambivalence refers to _______________.
   a. a conflicted feeling or uncertainty about something
   b. the state of readiness for change
   c. a strong conviction about something
   d. understanding without confusion or uncertainty

5. There is empirical evidence that the skillful use of MI _______________.
   a. can be learned by dentists and dental hygienists
   b. reduces plaque and improves gingival health
   c. enhances internal motivation for regular brushing
   d. Only B and C.
   e. All of the above.

6. The acquired or innate tendency for health professionals to “fix” a patient’s problems by offering prescriptive advice is referred to as ____________.
   a. OARS
   b. ambivalence
   c. evocation
   d. righting reflex

7. All of the following are examples of open-ended questions except one. Which is the exception?
   a. “Can you tell me about your normal oral home care routine?”
   b. “What concerns you most about your oral condition?”
   c. “Are you satisfied with the information provided you today?”
   d. “How do you think this is affecting your overall health?”

8. Which of the following best represents the goal of reflective listening?
   a. Repeating what the patient says.
   b. Informing using directive advice.
   c. Keeping the patient talking.
   d. Warning the patient.

9. The statement, “You’re very determined, even in the face of discouragement. This change must really be important to you.” is an example of ____________.
   a. an open-ended question
   b. a reflection
   c. affirmation
   d. change talk

10. Which of the following can be used to elicit the extent to which a person feels compelled to change?
   a. Motivational ruler
   b. Expressing empathy
   c. Righting reflex
   d. Rolling with resistance

11. “Rolling with resistance” means the clinician ____________ resistance expressed by the patient.
   a. minimizes
   b. acknowledges
   c. tries to resolve
   d. ignores

12. Traditional patient education ____________.
   a. is clinician-centered
   b. often causes the patient to passively accept, or resist, unsolicited advice
   c. attempts to persuade patients to change behaviors
   d. All of the above.

13. The clinician will increase the likelihood of engaging patients if he/she clearly demonstrates respect for patients and recognizes they are autonomous individuals.
   a. True
   b. False

14. The foundation of MI is built on ____________.
   a. specific strategies the clinician teaches to the patient
   b. a sincere “spirit” of mutual respect and collaboration between the clinician and patient
   c. clinicians solving problems for patients
   d. patients’ fear of losing their teeth

15. Research has shown the average health care provider ____________ a patient disclosure.
   a. quickly interrupts
   b. listens intently to
   c. documents
   d. None of the above.
16. In the first case scenario when the clinician uses the MI approach with James, his increased engagement is indicated by _______________.
   a. increased eye contact
   b. looking away
   c. increased conversation
   d. A and C

17. MI has been shown to positively affect health behavior change related to:
   a. Smoking
   b. Diabetes management
   c. Oral health
   d. All of the above.

18. The second case scenario with Teresa shows how MI can be used to elicit positive change in patients with:
   a. Diabetes and poor glycemic control
   b. Xerostomia
   c. Oral piercings and poor oral hygiene
   d. Rampant caries

19. A patient’s verbal expression of their desire, reason, ability or need to make a change in oral health behaviors is referred to as:
   a. Motivational ruler
   b. Empathy
   c. Change talk
   d. Resistance

20. When motivation is imposed from an external source (e.g., persuasion), patients’ behavior change is often _______________.
   a. sustained over time
   b. transient and guilt-induced
   c. successful
   d. None of the above.
References

Additional Suggested Readings
• Rollnick S, Morgan M. Motivational interviewing: increasing readiness for change. 1995;New York: Guilford Press.

About the Authors

Karen B. Williams, RDH, MS, PhD
Karen B. Williams is Professor and Chair of Biomedical and Health Informatics at the University of Missouri-Kansas City School of Medicine. She earned her Ph.D. in Psychology and Research in Education with an emphasis in evaluation, measurement and statistics, and a minor in health outcomes research at the University of Kansas. Her primary teaching responsibilities have included research methodology, biostatistics and clinical reasoning. Her research interests include clinical reasoning, health outcomes, oral health, and health behavior. She has served as a principal and co-investigator for numerous corporate funded research projects as well as federally-funded (NCI, NCCAM and NIMH) projects. These include evaluating behavioral strategies (MI) for reducing tobacco use, and improving adherence to medications in an HIV population; testing the effectiveness of Sutherlandia, a South African indigenous phytotherapy treatment for HIV+ patients; and Phase I, II and III clinical trials as well as product effectiveness studies. Dr. Williams believes that optimal health outcomes are achieved only by thoroughly understanding the complex nature of human behavior, social context and biological systems.

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Kimberly Bray, RDH, MS
Kimberly Bray is Professor and Director for the Division of Dental Hygiene at the University of Missouri-Kansas City School of Dentistry. She currently teaches in three degree programs including 2 degrees with distance learning options. Prof. Bray has 24 years clinical experience in both general and periodontal practice with research interests in patient adherence, alternative learning strategies and product efficacy.