The Impact of Motivational Interviewing on Dry Brushing Compliance in Pre-Teen/Teenager Patients

Sarah H. Fernald, RDH

Back in high school when all of my classmates were making choices of what to do after graduation, I was sure that I wanted to go into medicine. My epiphany came sophomore year when my biology teacher helped awaken my passion for science. He fostered my curiosity in how organisms function. So I changed my career course from art teacher to physician so that I could use my knowledge to help people get well. My parents were raising six children on one teacher's salary and financing of multiple college tuitions was out of the question for them. My mother explained to me that although my ambitions were noble, I should first seek out training in an allied health field at the local community college. "How about Dental Hygiene?" she suggested.

Until then, the world of dentistry was a mystery to me. Most of my dental experiences had been "drill and fill" with Dr. Brown and a yearly visit to Mrs. Monroe the hygienist. Although I didn't know much about the duties of a hygienist, Mrs. Monroe seemed to enjoy her work so the idea intrigued me. I could go to school locally, live at home and maintain my part-time job managing a store on weekends. Dental Hygiene it is!

The next step in my journey was getting all my qualifications together to apply to the local community college which offered the program. At that time the acceptance rate was quite competitive; approximately four hundred applicants for twenty five positions in the program. I was one of the lucky ones to make the cut for the fall semester and was spared placement on the wait list. It was my only application to any college, so I felt grateful that I didn't have to resort to "Plan B"; working full-time retail whilst awaiting my opportunity in the health field. (Mom got to be one of my lucky patients in clinic at that time. I was able to perform many supportive services on her because as it turns out her last dental visit had been 12 years prior. She was in the chair for three hours and we got a lot accomplished, but I am sure at the time she rued the day she had made this suggestion for my vocation.) Two very difficult years later with my head ready to burst from all the studying, I was licensed and working at my first private practice just before turning twenty years old. I made it! I was done with school! Little did I know how ill prepared I was for the shift from academia to the real world and that my learning had barely begun.

Fast forward to 2005, a sales position with a dental distributor was offered to me. I was feeling a bit burned out in the practice I had been working and I had always been curious about the world of dentistry outside of the operatory. It was an opportunity to expand my dental knowledge base. With my kids off to college the timing was right to focus on a new facet to my life. Dental Sales it was! After three weeks of corporate training, I returned as a fledgling Territory Representative. My new work schedule would take me on the road during the week and I could maintain part-time hygiene work on weekends. I learned about the business of dentistry, dental materials, equipment, technology and new products. It was the yang to my dental hygiene yin. I enjoyed the struggle of developing a scratch sales territory for over five years. My accounts consisted mostly of those the other sales persons had left for

greener pastures because they were considered the dregs of business potential. After months of consistent visits and lots of patience, I developed some wonderful relationships with many of these offices. Soon some solid business followed. Of course many practices already had a competitor that was already taking good care of them. But the few that let me in and allowed me to help them solve their problems grew into strong business partners. I learned from working with many different practices and although it was a sizeable pay cut from clinical hygiene, the experience was invaluable.

With my aging parents 'increasing needs I needed to have more local and flexible work. I left sales and began hygiene temping in practices closer to home. This way I could contribute to the efforts to allow Mom and Dad to live in the familiarity of their own home. (It was a wonderful bonding time for me with my family. The folks each lived until just shy of their ninety-second birthdays and passed less than one year apart. We were blessed to have them for as long as we did.) I had many job leads from offices I had come to know in sales and loved filling in on the clinical side. My business relationships have turned into good friendships. During this time one of my temp offices had asked if I would consider making their practice my home and was willing to work with me on flexible hours. I am still working there to this day. My journey has come full circle, yet I am in a better place.

Why am I doing this project?

The profession of Dental Hygiene has evolved since my graduation in 1976, thank goodness. If I were still subscribing to many of the practices of that time ("Extension for Prevention" anyone? [1]) I would be hopelessly out of place in today's dental environment. A large part of my profession is the ever-constant need to adjust to the technologies that we implement for better care and comfort of the patient. These new skills can be learned with training and practice.

No matter what miracles we can perform with our dental instruments in our operatories, our work is only as good the maintenance efforts by the patient in between visits. In school we learned a directive approach to instructing our patients in their oral homecare. Yet a patient is not a computer or a machine. Are we as health care providers really listening to our patients or are we just telling them what we think is best for them? According to Carl R. Rogers; "Teaching and imparting knowledge make sense in an unchanging environment.[2] We are not practicing dentistry as we have in the past. It makes sense to also examine how we interact with our patients so that we can help them to achieve and sustain good health.

My project attempts to address how I as an individual provider can engage each patient and co-discover a homecare program that will get and keep them in optimal oral health. How do I learn what motivates an individual to eradicate dental disease when each individual has a different motivation? How do I know that I am getting through to them? My goal is to discover better communication techniques to help my patients formulate their plan to overcome the challenges and ambivalence that keeps them from achieving better dental health.

My Plan and Inspiration

Interacting with people has always been a source of joy for me. Everyone has a story and it is fun for me to learn about them. When you connect with a person, they can really let you in to help them. Drawing on my formal hygiene and sales experiences I have discovered many variations on the basic principles of **Motivational Interviewing or MI**. "MI is a patient-centered, goal-directed counseling method that helps people resolve their ambivalence about health behavior change by increasing their motivation and commitment."[3] People have different motivations for coming to the dental office, but the reason may not be obvious. Many times throughout our day, we have to be "Dental Detectives". MI helps us through the process of discovery and eventual behavior change.

MI has an acronym for its core strategies to move a person from status talk to change talk, **"OARS**". That is:

Open-ended, probing questions -These are questions that invite deeper answers that 'Yes", "No'" or even "Maybe". Open ended questions incorporate "Who", "What", "When" "Where", "Why" and "How". In MI, the "What" and the "How" invite more revealing answers.

Affirming or acknowledging responses - A more reflective, encouraging response that lets the person know that you are listening without judging can help to keep a patient from feeling awkward or embarrassed for sharing their real feelings.

Reflective listening -by reflecting back, using the words used by your patient, you show you have heard the patient and that you are affirming or acknowledging him or her in your response.

Summarizing -Although the provider can all too easily summarize for a patient, asking the patient to summarize your discussion can be more effective in reinforcing his or her stated oral health-care changes.

"By following these strategies, you can establish real two-way communication and begin the journey to positive behavior change. **"**[3]

In sales, there are techniques that can be used to help discover objections that cause ambivalence to purchase. When researching M.I., I was reminded of a sales training program developed by Positional Selling developer Jack Carew that uses the acronym LAER. That is,
Listen- Open-ended questions
Acknowledge- Affirm responses
Explore- Reflecting back
Respond- Summarize the discussion. In this model the sales person would summarize, ask the only close ended question allowed which is to ask for the sale.

"LAER is the strategy that demonstrates your care and concern for the customer's point of view. It is a deposit in the relationship bank." [4] I found similar philosophies in M.I. and LAER in relationship building.

Some Reflection along the Way

It takes time and patience to understand what my patients expect of me and what they hope *we* can achieve. It is important to resist the righting reflex and instead ask open questions and really *listen*. Affirm, reflect and engage the patient in meaningful co-discovery of what motivates them. By acknowledging and affirming, a healthcare provider removes barriers for the patient and helps to address the ambivalence for positive change. As healthcare professionals, we are trained to give the patient the information we think works best for them rather than bring them into the process. Sometimes we give them so much information and instruction, the patient leaves our operatory in overload. I learned in my sales territory that building a relationship requires patience. One of my veteran sales colleagues told me; "If you are feeding squirrels in the park, feed them gradually one nut at a time and build trust. If you throw the whole bag of nuts at them, you'll scare them away." Our patients are not squirrels, but that is his sales philosophy in a nutshell (bad pun). **Author's note: Sales expressions tend to run in clever sound bites and absolutes, but the underlying philosophies to M.I. seem to have a common thread.**

In the first week of my action research, old habits die hard and I found some frustration trying to over-ride my righting reflex (the tendency to give prescriptive, unsolicited information or advice). By reminding myself that what I was doing before wasn't working too well, I was able to get more comfortable with putting down my instruments for a moment to connect with the patient. I constantly reminded myself that in order to find the pain you have to get permission to ask the right questions to discover the needs and eventually your customer will tell you the way to close the sale. The directive approach has been the go-to method of patient education for so much of my career, it took some work for me to ask the right questions and listen to the answers. Since we clinicians usually hold the conversational advantage over the patient, we often find ourselves having a monologue while we "work *on*" our patient. By shifting into a dialogue, the patient becomes engaged and can often give us the information that will help them overcome their ambivalence at adopting healthier habits. Good exploratory questions and listening can allow us to work *with* our patients.

Back to the Drawing Board- Project Focus and Refinement

I found that I was juggling too many ideas at once. Action Research is a process that involves constant revision. This project needed simplification so I decided to focus on selection criteria.

A specific age group - I chose to focus more on pre-teen/teenage patients with moderate to heavy soft deposits because this is such an important time in life to establish healthy habits. I have seen too many dentitions destroyed by poor homecare especially in the non-compliant orthodontic patient. It can be both fun and frustrating with this population as the priorities tend to run toward immediate gratification and not focused on anything too far into the future. [5] I love the energy and potential of this age group and would like to help prevent them from self-neglect. In my research I found that Localized Juvenile Periodontitis affects up to 3.2% of 12 to 15 year olds. [6] A UCLA research study of 307 Los Angeles inner city middle school teenagers identified a high incidence of Localized Juvenile Periodontitis in this

population**.** The common findings included high plaque levels. [7] In the past, I had always focused on adults to discuss periodontal disease. After reading this study, I realize that I need to be proactive on perio prevention as well as decay with my younger dental patients so that we don't have to deal with damage control and regret down the road. But how do I motivate this age group for something they may not find meaningful in their present lives?

Agree on a specific situation that needs action - To remove as many barriers as possible for my patients, the technique to help my patients co-discover had to be easy to perform for the age group and use existing tools so that it would not be cost prohibitive for the patient. Open ended questions will help bring out a motivating factor if I am patient with obtaining the results. The technique of Dry Brushing [8] fit these criteria nicely.

Formulate a plan of action - When I sensed that the patient was ready for action, I would ask if the patient were willing to try something simple. If I received permission, I would ask how they brushed their teeth. Afterward I would discuss my interest and ongoing research on dry brushing and ask if they were interested in learning more. What is dry brushing? With a dry toothbrush (no water, no toothpaste) brush the inside of the bottom teeth first, and then brush the rest of the teeth until the mouth feels clean. Rinse the brush and follow with a brushing with toothpaste of choice. [9] A study by O'Hehir and Suvan found a reduction of bleeding on the lingual of the lower teeth of 55% and calculus formation by 58% with reduction in the inside of the lower anterior teeth up to 63%. [10] I would discuss this research with them during my instrumentation to generate interest. Since most people like the feeling of their mouths after a professional hygiene visit I asked how their teeth felt when I completed the prophylaxis. The dry brushing may help to prolong this feeling. "Does this seem to make sense?" I would have them tell their parent (or guardian who accompanied them) what they have decided to try at home.

Measure results of MI encounter -assess if the patient tried the plan at home for at least a week after the appointment - The length of time for this project does not permit long range evaluation to the next recare visit, so I chose a follow-up communication of either email (or telephone call if no email was available) one to three weeks after each patient's hygiene visit. I didn't reveal to the patient that I would be contacting them because I felt they may feel more compelled to comply until I checked up on them. It is interesting to know a phenomenon known as **"**The Hawthorne Effect" can actually give a study more positive results. This is improvement because of the awareness of being part of a research study. [11] Control groups have been reported up to 35% improvement even though they were instructed to brush as usual. [12] If I were conducting longer term research that required compliance, I would want to ask permission to check in with the patient at certain intervals for support and for a better chance at successful data collection.

My goal for this follow up communication was to determine

1.) If the patient even remembered our discussion

2.) If the patient was following through with the practice of dry brushing at home.

3.) How the patient felt either way of compliance

Here We Go With My Action Research

"If I introduce dry brushing using Motivational Interviewing with teens, will the patient comply?"

A 9 year old boy named Dylan presented with moderate amounts of generalized plaque. We first talked about his day at school. This led to science class and then the conversation led to to bacteria. While debriding the anteriors with my scaler, I paused to show him what I was removing from his teeth. I explained that in this blob are millions of bacteria that cause dental disease. I offered to put it back in his mouth. How did he feel about that? There was a definite "gross-out" reaction. Then I asked him if there was a simple way to control these bacteria, would he be interested in giving it a try? He was certainly on board in learning more. I demonstrated dry brushing until his teeth felt clean and smooth to his tongue, then a follow up brushing with fluoride toothpaste to help strengthen the teeth. I discussed our conversation with his mother after the visit so that she was aware of our agreement.

Two days later, I phoned the mother and she was so pleased that he was still dry brushing and then added that "Dylan is very proud of himself" for doing so. I felt happy that my impact was going on long after my patient left the operatory.

That same week a rather quiet 12 year old boy named Giovanni presented with a moderate amount of plaque, stain and calculus along his anterior facial and mandibular lingual surfaces. His mother shared with me initially that he was interested in whitening his teeth. What a lucky break that Mom had brought it up so that I could reinforce how clean teeth appear when they are well brushed.

I asked him if he was learning in school and that started a good thread of conversation because as it turns out, he likes science. After a bit of conversation I showed him what I was debriding from his teeth and described what was on the end of my scaler. We discussed the disease process and I was sure to also mention the *esthetic* ramifications of plaque, stain and puffy gums. "Does that make sense?" It did indeed because then he brought up that he would like whiter teeth. He agreed to try the dry brushing technique we reviewed together. One week later I sent an email to Mom to see how he was doing and she replied "Yes, he is actually doing the dry brush and I am hoping he will continue to do it." She even went on to say "Thank you for caring about the well being of your patient."

A 35 year old mother, her daughters age 6 and 17 presented for their hygiene visits. I saw them in my preferred order of children first, then the parent. This allows me to establish rapport, assess each child's motivation, hygiene skills and need for care. Then I can discover the mother's concerns. Each daughter had ample amounts of generalized, mature yellow plaque and light to moderate amounts of calculus along the lingual aspects of the mandibular anteriors. The 17 year old seemed interested in improving the appearance of her teeth and puffy gums. The 6 year old was not quite so motivated, but she was a cooperative patient and it seemed as though she wanted to be a big girl like her older sister. Mother was anxious for the girls to spend higher quality toothbrushing time as she noticed the appearance of the plaque. We had a conversation about dry brushing that I had demonstrated to each daughter. Mother

expressed her gratitude that I had suggested something so “do-able” and she could certainly help to remind the girls about our agreed approach to improving their brushing.

Three weeks later, I sent an e-mail to the mother and received a response within a few hours. This made my day to hear back so soon. First of all because the mother had remembered that dry brushing was even discussed. Second of all, that it was actually still happening at most bedtime brushings. Mother even stated that she felt guilty if she didn’t have enough time to dry brush during the day, but was aiming for consistency at bedtime for both her and the girls. I had responded to her email that I was THRILLED that they were still attempting to work it into their busy lives and congratulated them on any efforts at consistency. It will be fun to see what results we may see in 6 months.

I had two other prospects that did not respond to my follow up communication. I am not disappointed over this as due to the timing of my project I was conducting my research over the Christmas holidays and did not expect a 100% response rate. My future research projects will have to keep the timing of feedback in mind.

My Findings and Conclusion

MI has been a good resource for me. It fosters my love of learning and quest for self-improvement as well as helping my patients. Although I would have liked to have everyone respond, I was glad for *any* response. Starting small helped me as well as the patients involved. The responses I received showed some emotional attachment to their decision to try dry brushing. I am happy to learn that patients can care as much as I do! There also was an expression of gratitude of the parent or guardian for the follow up communication. In the longer range of time, MI has helped me develop much better listening points (not talking points) for their next office visit. I am excited at the prospect of seeing them again!

Provider and Global Impact

As a provider, I feel more gratified to do more for my patients. My day has been more creative and more rewarding because I feel as though I am doing better for my patients. It is not “just a cleaning” to my patients when we have co-discovery conversations.

I am also doing better for me because I feel a bit more energized at the end of the day. So many hygienists can feel moments of career burnout during their lives. The profession loses too many hygienists because many feel as though they have peaked in their career. If there is nothing left to achieve or have they just given up trying? We must strive to improve what we can, when we can. I have found that the need to learn to better myself keeps me closer to the top of my game. MI is a process where I can constantly learn.

Business Impact

Broken appointments are the bane of private practice and one of my biggest energy drains. In the long run, I hope that this project helps me to create more value to my patients to elevate the importance of keeping appointments. This is a win-win situation.

We can recruit for our profession. Several of my patients over the years have gone into dental hygiene because they told me that I was their inspiration. That is one of the best validations that one can receive in their career field!

I have learned over the years in sales that relationships can lead to other business opportunities like my temp work after leaving sales. Relationship building can help build business possibilities outside the dental office setting. I see a future for dental hygienists as visiting oral health coaches and therapists. In order for this concept to work, we certainly have to be motivation detectives and champions of positive behavior change. We have to want to be good at building strong relationships to build our clientele.

More Reflection

In the dental office I have a scheduled day so one of my challenges is rendering the best care possible while working against the clock. What I have learned from my research of MI is not trying to cover everything in a single visit. (Remember the squirrel!) My focus should be on improving listening skills and connecting on some level. I always read and try to learn about what happens outside of the dental arena. Having even just a little knowledge about pop culture, sports, cars, music, humor, books, movies and the like has helped me to engage with people. I can make connection on some level to just about anyone just having an inkling of knowledge in many areas of interest. It has helped me to relax the apprehensive and circumspect patients meeting me for the first time. It has provided a good foundation on which to build a strong and meaningful relationship. I think back to my sophomore year in high school and realize that I was inspired to learn because my teacher made it interesting for me. I became motivated with the right form of teaching and discovery.

My Biggest Challenge of MI

During my research I found many similarities with my sales and clinical experiences. In sales I was able to view my accounts as my patients. That part of the transition came easily. Prior to that my directive manner with patients was like closing sales interactions. There was a compulsion to take on a directive role to try to get my patients and customers to do what I thought they needed to do. In my interactions with patients, I need to work more on having the patient summarize what they have decided to do. The righting reflex is always popping up in my head. I need to shift to letting the patient make their decision statements.

"I am a work in progress, but I have to work in order to progress." ***author unknown***

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