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Using Motivational Interviewing to Increase Confidence in Nutritional Counseling Among Dental Hygienists: A Pilot Study

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Abstract

Purpose: Dental hygienists have the unique opportunity to educate patients on connections between nutrition and oral health. Dental hygiene students are introduced to these concepts but struggle to gain confidence to share this knowledge with patients. This pilot study looked at an educational module on motivational interviewing (MI) and an assessment and counseling tool to build student confidence with nutritional counseling. **Methods:** Dental hygiene students participated in an educational module to review MI and introduce a nutritional risk assessment and counseling tool. Prior to the module, participants completed a pretest about confidence levels regarding MI and nutritional counseling. After three weeks of clinical practice, participants completed a posttest. Data was compared for quantitative changes and qualitative themes from responses. **Results:** Twenty-two senior dental hygiene students (n = 22) participated in both the pretest and posttest. There were statistically significant changes in participants' confidence ($p = 0.007$) and comfort ($p = 0.020$) discussing nutrition with patients. Participants struggled to become more confident in MI as demonstrated by no significant change in their feelings surrounding MI ($p = 0.150$). Students reporting increased nutritional counseling sessions showed improvement in their confidence. **Conclusion:** Introducing MI with an assessment and counseling tool to aid students can improve confidence with nutritional counseling. This type of education may translate into more chairside discussions about nutrition, improving overall patient care.

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ABSTRACT

Purpose: Dental hygienists have the unique opportunity to educate patients on connections between nutrition and oral health. Dental hygiene students are introduced to these concepts but struggle to gain confidence to share this knowledge with patients. This pilot study looked at an educational module on motivational interviewing (MI) and an assessment and counseling tool to build student confidence with nutritional counseling. **Methods:** Dental hygiene students participated in an educational module to review MI and introduce a nutritional risk assessment and counseling tool. Prior to the module, participants completed a pretest about confidence levels regarding MI and nutritional counseling. After three weeks of clinical practice, participants completed a posttest. Data was compared for quantitative changes and qualitative themes from responses. **Results:** Twenty-two senior dental hygiene students (n = 22) participated in both the pretest and posttest. There were statistically significant changes in participants' confidence ($p = 0.007$) and comfort ($p = 0.020$) discussing nutrition with patients. Participants struggled to become more confident in MI as demonstrated by no significant change in their feelings surrounding MI ($p = 0.150$). Students reporting increased nutritional counseling sessions showed improvement in their confidence. **Conclusion:** Introducing MI with an assessment and counseling tool to aid students can improve confidence with nutritional counseling. This type of education may translate into more chairside discussions about nutrition, improving overall patient care.

Keywords: oral health, nutrition, dental hygiene education, teaching methodology, motivational interviewing

INTRODUCTION

The focus on disease prevention has been in the forefront of modern healthcare, including the more contemporary recognition of the interrelation of oral health and overall health. Nutrition positively or negatively affects health. Dental health is no exception with risks of caries, periodontal disease, and oral cancers all potentially impacted by nutrition.[1-4] Oral healthcare providers, including dental hygienists, have a direct effect on the oral health of their patients and a substantial influence on patients' overall health. Dental hygienists understand nutritional education is beneficial for their patients; however, they experience barriers, such as time constraints, lack of confidence, and insufficient knowledge, when it comes to performing nutritional counseling.[5] Dental hygienists and other clinicians also face challenges with patient compliance. Using motivational interviewing (MI) to approach topics such as nutritional counseling can provide superior patient outcomes.[6] As MI is practiced and used correctly, dental hygienists may actually reduce some of these barriers as well as see patient improvement.

Nutrition and Oral Health

Nutrition can play a role in oral health in multiple ways. Decay prevention is the most notable. Reducing sugar and fermentable carbohydrate intake can positively affect caries rate in patients.[7, 8] These reductions can also have a similar effect on periodontal health and systemic health, creating connections between the mouth and the body.[9-12] While the epidemics of obesity and diabetes in our society compel healthcare providers to consider nutrition, dental hygienists have the added necessity due to nutrition's effect on oral health.[13] Nutritional counseling can "significantly reduce the risk of oral disease."[14] Dental professionals see patients on a regular basis creating an ideal opportunity to discuss nutrition with patients and educate them on nutrition's connection to teeth and oral health.[15, 16] This care can be enhanced through nutrition screenings, evaluating risk factors contributing to caries, periodontal disease, or difficulty healing and making some general suggestions on how to reduce these risks.

Barriers to Nutritional Counseling

Most dental hygienists believe they should actively help patients consider making changes in their diets but admit difficulty discussing nutrition with patients.[5, 17, 18] Hayes, Wallace et al examined several barriers that contributed to this lack of chairside nutritional counseling for dental patients, including patient compliance, time, clinician's nutritional knowledge, counseling skills, and confidence.[14] Incorporating ways to reduce these challenges within dental hygiene education could be one approach to eliminating these barriers, namely patient compliance, and clinician confidence.

Creating simple ways to add nutritional counseling to patient care for the dental hygiene student is a crucial way to develop confidence. This, along with consistent practice for the student, provides an adequate foundation for nutritional counseling to find a place within the dental hygiene practice of care. Also, developing an approach to nutritional counseling which encourages patient compliance can help eliminate barriers of both the patient and the clinician. Motivational interviewing (MI) can encourage positive change for patients in a friendly and unobtrusive manner. It is also versatile and can be used in a wide range of health care issues, including tobacco cessation, weight management, and other healthy habit interventions.[19-21] The basis of MI is finding the patient's intrinsic motivation and attaching that to the healthy behavior.[20] There are often opposing feelings within the patient about change. Motivational interviewing is designed to help guide patients through this conflict and focus on perception and motivation.[22] The goal must be meaningful to the patient rather than the clinician, relying on "reflective listening and positive feedback for guiding the patient toward change."[20] This can be challenging to the clinician to perform correctly, but can achieve greater patient success.[23] When dental hygienists find ways to incorporate MI into their interactions with patients, improved conversations about challenging subjects can happen successfully. Simply knowing how to question patients in a way to encourage positivity can impact patient health choices.

This pilot study examined the following question: Does an educational module on MI and introducing a nutritional risk assessment and counseling tool (see Figure 1) improve dental hygiene students' confidence in providing nutritional counseling to their patients? The assessment and counseling tool was developed by the authors to guide the student through an MI inspired nutritional counseling session.

METHODS

After approval from Eastern Washington University's Institutional Review Board (HS-5836), 39 senior dental hygiene students were invited to participate in the pretest-posttest study. The study utilized a quasi-experimental, one-group design to gather qualitative and quantitative data to evaluate change in confidence with nutritional counseling (dependent variable) after an educational module and use of an assessment and counseling tool (independent variables). Students willing to participate completed a pretest to measure current confidence level and experience with nutrition and MI. After a mandatory educational module about nutrition and MI with an introduction to the assessment and counseling tool, the students were asked to practice these skills with their patients

for the next three weeks. After the study timeframe, the students were asked to complete a posttest to evaluate if their level of confidence changed. The pretest and posttest were designed by the authors based on research on nutritional counseling and MI.

Figure 1. Nutrition Risk Assessment

Nutrition Risk Assessment & Counseling Tool

Does the patient give permission to discuss nutrition? YES NO
Is there anything you've been thinking about changing with your nutrition?

Importance Ruler

On a scale of 1-10, how important is it for you to...
DIABETIC PATIENT: Keep diabetes under control? _____
CARIES RISK PATIENT: Keep your teeth and prevent more decay? _____
POST NSPT PATIENT: Maintain your oral health after this periodontal treatment? _____

Discuss with the patient their current diet

Food Frequency Questionnaire- On a daily basis do you consume any of the following (check yes):

Fibrous Vegetables (carrots, broccoli, cauliflower, asparagus, green leafy lettuce)	
Proteins (chicken, beef, beans, pork, tofu, fish)	
Healthy fats (olive oil, avocado, nuts, seeds)	
Fruits (apples, bananas, berries)	
Vitamin C Rich Foods (bell peppers, kiwi, oranges, strawberries)	
Sweetened Beverages (soda, sweet tea, lattes, juices, coffee with sweetener)	
Starches (bread, chips, potatoes, tortillas, crackers, fries)	
Desserts (cake, cookies, ice cream, pie, sweet rolls, donuts, candy)	
Processed and/or fast food	

Risk Factors

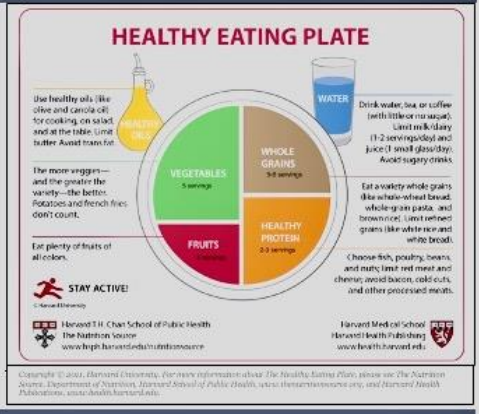
	Diabetes
	A1C over 7
	Age (elementary age, teenage, geriatric)
	Skips meals
	Grazing/snacking all day
	High amounts of processed foods, fast food, convenience food
	High sugar intake
	Frequent consumption of fermentable carbohydrates
	Limited fruits and vegetable intake
	More than one sweetened beverage per day
	Overweight
	TOTAL

0-1: Low risk 2-4: Mod risk 5+: High risk

Goal Setting

Is there one thing you could see as a reasonable start?
Use the following ideas to set some goals together:

	Increased fruits and vegetables	Daily goal:
	Decreased processed foods	Daily/weekly goal:
	Limit fast food	Weekly goal:
	Increase water consumption	Daily goal:
	Decrease sweetened beverages	Daily/weekly goal:
	Increase protein consumption	Daily goal:



Confidence Ruler

On a scale of 1-10, how confident are you that if you say you could reach your goals, you would do it? _____

The assessment and counseling tool was designed to be interactive between the clinician and patient. The study focused on patients with increased caries risk, are diabetic, and/or have undergone periodontal treatment, but could be used with anyone benefiting from improved nutrition. The patient was asked a series of questions using a script in the spirit of MI, shedding light on some of the risks involved with their nutritional choices and encouraging reasonable goals to set. Focusing on simple nutrition changes such as drinking more water, decreasing processed foods and sugar, or increasing fruits and vegetables were valuable initial goals made collaboratively with the patient. The Healthy Eating Plate created by nutrition experts at Harvard's T.H. Chan School of Public Health was the nutritional guide used in the assessment and counseling tool due to its quality components such as choosing whole grains over refined grains, quality proteins other than processed meat, including a variety of fruits and vegetables (not including potatoes or fruit juices), encouraging healthy fats and oils, and opting for water and limiting dairy and milk servings.[24]

RESULTS

Twenty-two students (n=22) completed both pretest and posttest, and age, gender, and education levels were similar to that of other dental hygiene programs. Likert scale data from seven questions as well as qualitative data from three open-ended questions were gathered and analyzed. To evaluate the research questions, the pretest and posttest answers were matched, and a Wilcoxon signed-rank test conducted to determine if a statistically significant difference occurred using the established significance level $p < 0.05$ (see Table I). The qualitative data gathered from the open-ended questions on the posttest was evaluated with content and narrative analysis focusing on themes that were frequently present in students' answers. Thematic analysis was conducted by the authors to identify the general themes of the students' responses.

Table 1. Pretest and Posttest Questions Statistical Analysis

Survey Item	Respondents showing difference**	Statistical Power	Wilcoxon Statistic	p-value	Effect Size
1. I currently discuss nutrition with my patients.	9	.2676	37.00	0.049*	.407
2. A dental hygienist should discuss nutrition with his/her patient.	7	.1330	17.50	0.306	.133
3. I am comfortable with nutritional counseling.	13	.4900	75.50	0.020*	.517
4. I lack the nutritional education to discuss nutrition with my patients.	17	.6819	28.00	0.012*	.581
5. I am confident discussing nutrition with patients.	17	.7620	128.50	0.007*	.647
6. Motivational interviewing could improve my ability to perform nutritional counseling.	15	.2578	82.50	0.106	.292
7. I am comfortable using motivational interviewing.	14	.2134	69.50	0.150	.260

P-values based on Wilcoxon signed-rank test. Statistical significance set at *p<0.05.
** Respondents showing difference is observed data after omitting pretest and posttest values that are equal (no difference) per the Wilcoxon test (also known as Wilcoxon N for test).

When asked if nutrition was currently discussed with their patients, a statistically significant change was noted for the students when compared before and after the module ($p = 0.049$). Statistically significant changes were noted as well with comfort ($p = 0.020$) and confidence ($p = 0.007$) in nutritional counseling. Once MI was mentioned in the questions, the strength in statistical significance dropped. When asked if MI could improve the ability to perform nutritional counseling, fewer students agreed with the statement ($p = 0.106$). Similar results occurred when asked about comfort with using MI ($p = 0.150$). However, with a p value of approximately 0.1, these results are approaching statistical significance ($p < 0.05$). Results are summarized in Table I.

Participants were asked to reflect on the number of nutritional counseling sessions completed during the three-week study. The majority (68.2%) of participants (n = 15) reported an increase in their nutritional counseling sessions compared to their clinical experience prior to the educational module. Of the participants who had a positive change in confidence from pretest to posttest (n = 14), all but three had an increase in the number of nutritional counseling sessions performed (n = 11, 78.6%).

The students finished the survey with several open-ended questions (Table 2). Despite MI being a difficult skill, the overall comments discussing ways MI influence nutritional counseling were positive. Three students directly mentioned confidence and comfort which is a direct reflection on the research questions. Another student mentioned "feeling more open to discussing their nutrition" which could show an increase in confidence. An interesting and unexpected theme noted was goal setting with patients. Two students specifically mentioned goals and several others discussed the willingness of patients. Barriers were the topic of the second open-ended question. Not surprising, insufficient time was a barrier to nutritional counseling. Based on similar research, this was a common barrier to nutritional counseling.[5,14] Lack of patient interest or willingness was a greater barrier, mentioned by nine (n = 9, 40.9%) students.

The final open-ended question reviewed the assessment and counseling tool. All fourteen (n = 14) comments from students were positive. Students felt the tool was simple and easy to follow, guided the conversations appropriately and efficiently, and "increased [their] ability to talk with patients." Also, it was easy to save data and create an electronic health record for nutritional counseling performed with the patient. Further, it could be printed or emailed to the patient for a home reference of the goals discussed.

Table 2. Thematic Analysis: Student Comments Regarding MI, Nutritional Counseling Barriers, and the Use of an Electronic Assessment and Counseling Tool

In what ways, if any, did MI influence nutritional counseling with your patients?	What were barriers experienced when attempting nutritional counseling with your patients?	How did the electronic tool affect your nutritional counseling?
"More confidence in how I speak to my patients and why it matters"	"Some were just not interested"	"Made things much more simple with a better flow"
"Feeling more open to discussing their nutrition"	"Patients felt it wasn't necessary"	"Increased my ability to talk with patients giving… ideas of what is good to eat and [what] may be affecting their teeth"
"They got to set goals to actually achieve them"	"Many of my patients are older and not as willing to change"	"Loved it! I actually wanted to do it with my patients"
"It had my patients think about what they had been eating and drinking and helped them realize it could be improved"	"A lot of them said they ate 'healthy' and didn't need or want counseling"	"I loved the new form it helped to guide the conversation by asking questions and having prompts to use for goals"
"It made it less uncomfortable to ask questions and continue the conversations. I think that it made the patients feel more at ease as well"	"I had a diabetic patient who said that they were not interested because they were just going to die by 65 anyways…"	"It was great! It helped me to remember leading questions that I could ask my patients"
		"Easy to save data"
"Motivational interviewing made it more comfortable for me to introduce nutritional counseling to my patients and better communicate with them to promote into their diet"	"Time, patient interest"	

DISCUSSION

Nutrition can be an important yet delicate subject to examine with patients. Introducing nutritional counseling and MI skills early in curriculum could increase the opportunities to practice and gain more confidence. Introducing concepts, particularly around MI, even during prerequisite courses could positively influence students' confidence with these challenging skills. Research indicates MI is a skill that takes a significant amount of time to master.[19,26] Gaining this confidence early could be instrumental in these skills being maintained throughout one's career. Ultimately, this would mean greater patient care and improved health for individuals, societies, and beyond. As the students used the assessment and counseling tool to evaluate and discuss nutrition with their patients, they gained confidence through each experience. Continuing education could reinforce these skills for graduates as well as expose practicing clinicians with new ideas to treat the whole patient.

Building on encouraging experiences during school could be instrumental in these students using these skills beyond graduation. The generally positive comments within the survey indicate with more experience and education, students could gain more confidence to use MI effectively with patients. Further, more education and exposure to practicing clinicians could enhance patient care outside of the educational setting and for those not exposed to these concepts while in school.

When barriers were discussed, time and patient compliance were among the most reported. However, in this study, time was not as frequently mentioned as expected. This could be as students tend to have extra patient time waiting for faculty. More commonly mentioned than lack of time was the lack of patient interest or willingness. While somewhat unexpected, in the research done by

Hayes, Wallace et al patient compliance was another top barrier along with time.[14] Limited positive experiences with nutritional counseling could have long term negative effects on students pursuing nutritional counseling further in their career. Encouraging nutritional counseling early in dental hygiene education and helping students to understand the complexity of the subject could create more willingness to continue pursuing nutritional counseling in their career. More research is needed to explore the notion of using MI for nutritional counseling among practicing dental hygienists, including how to educate clinicians on these concepts.

The assessment and counseling tool provided a step-by-step way to approach nutritional counseling and could reinforce nutritional counseling and MI skills for future use. Especially for students learning the steps of MI and becoming more comfortable and confident in nutritional counseling, using a tool like the one developed for this study can help reinforce these concepts. While the tool may not be as useful for practicing clinicians, the idea of using MI for nutritional counseling can still be approached with the tool in mind. This could continue to support a holistic approach to oral and overall health.

CONCLUSION

As obesity rates climb, diabetes escalates, and other diet related health concerns heighten, the need for nutritional counseling is evident. Since oral health is related to diet as well, dental hygienists are in a unique position to educate their patients about nutrition to increase oral health as well as overall health. However, this has historically been challenging for dental hygienists. With the recent health issues emerging with COVID-19, it is apparent immune systems are as important as ever. Quality nutrition can fortify one's immune system and dental hygienists can help educate their patients about the implications of nutrition on oral health and beyond.[29] Educating our dental hygiene students on nutritional counseling could broaden the scope of healthcare providers having an influence on patients. This research demonstrated the importance of laying a foundation in dental hygiene education of using MI to complete nutritional counseling. While limitations are present due to small convenience sample, there is potential for advances in nutritional counseling incorporation in dental hygiene training that could enhance the students' education and improve the clinical care of patients. Furthermore, utilizing an assessment and counseling tool can be instrumental in building our future healthcare providers' confidence. Ultimately, this can lead to increased patient care and overall health. Healthcare is multifaceted. Open communication with patients and other healthcare providers about nutrition can affect all aspects of health. By intertwining the care we give to patients through interprofessional experiences, we can create the optimal care for patients.

REFERENCES

1. Moynihan, P. The interrelationship between diet and oral health. Proc Nutr Soc. 2005; 64(04), 571–580. https://doi.org/10.1079/PNS2005431.
2. Hujoel, P.P., & Lingstrom, P. Nutrition, caries and periodontal disease: A narrative review. J Clin Periodontol. 2017; 44(18S): S79–S84. https://doi.org/10.1111/jcpe.12672.
3. Jenzsch, A., Eick, S., Rassoul, F., Purschwitz, R., & Jentsch, H. Nutritional intervention in patients with periodontal disease: Clinical, immunological and microbiological variables during 12 months. Br J Nutr. 2009; 101(6): 879–885. https://doi.org/10.1017/S0007114508047776.
4. Hujoel, P. Dietary carbohydrates and dental-systemic diseases. J Dent Res. 2009; 88(6): 490–502. https://doi.org/10.1177/0022034509337700.
5. Hayes, M. J, Franki, J., & Taylor, J. A. The frequency of dietary advice provision in a dental hygiene clinic: A retrospective cross-sectional study. J Dent Hyg. 2016; 90(1): 12–17.
6. Bray, K. K. Using brief motivational interviewing to sustain toothbrushing behavior. Access. 2010; Supplement: 1–4.
7. Hayes, M. J., Cheng, B., Musolino, R., & Rogers, A. A. Dietary analysis and nutritional counseling for caries prevention in dental practice: A pilot study. Aust Dent J. 2017; 62(4): 485–492. https://doi.org/10.1111/adj.12524.
8. Morris, D. W. Caries risk assessment. Contemp Oral Hyg. 2006; 6(6): 26–33.
9. Baumgartner, S., Imfeld, T., Schicht, O., Rath, C., Persson, R. E., & Persson, G. R. The Impact of the Stone Age Diet on Gingival Conditions in the Absence of Oral Hygiene. J Periodontol. 2009; 80(5): 759–768. https://doi.org/10.1902/jop.2009.080376.
10. Jenzsch, A., Eick, S., Rassoul, F., Purschwitz, R., & Jentsch, H. Nutritional intervention in patients with periodontal disease: clinical, immunological and microbiological variables during 12 months. Br J Nutr. 2009; 101(6): 879–885. https://doi.org/10.1017/S0007114508047776.
11. Woelber, J. P., Bremer, K., Vach, K., König, D., Hellwig, E., Ratka-Krüger, P., … Tennert, C. An oral health optimized diet can reduce gingival and periodontal inflammation in humans - A randomized controlled pilot study. BMC Oral Health. 2016; 17(1): 1–8. https://doi.org/10.1186/s12903-016-0257-1.
12. Evert, A. B., & Boucher, J. L. New diabetes nutrition therapy recommendations: What you need to know. Diabetes

Spectrum. 2014; 27(2): 121–130.
13. Greenberg, B. L., Glick, M., & Tavares, M. Addressing obesity in the dental setting: What can be learned from oral health care professionals' efforts to screen for medical conditions. J Public Health Dent. 2017; 77(2): S67–S78. https://doi.org/10.1111/jphd.12223.
14. Hayes, M. J., Wallace, J. P., & Coxon, A. Attitudes and barriers to providing dietary advice: Perceptions of dental hygienists and oral health therapists. Int J Dent Hyg. 2016; 14(4): 255–260. https://doi.org/10.1111/idh.12239.
15. Khan, S.Y., Holt, K., & Tinanoff, N. Nutrition education for oral health professionals: A must, yet still neglected. J Dent Ed. 2017; 81(1): 3-4.
16. Yokoyama, Y., Kakudate, N., Sumida, F. Matsumoto, Y., Gilbert, G.H., & Gordan, V.V. Dentists' dietary perception and practice patterns in a dental practiced based research network. PLoS ONE. 2013; 8(3), 4-9. https://doi.org/10.1371/journal.pone.0059615.
17. DiMaria-Ghalili, R. A., Mirtallo, J. M., Tobin, B. W., Hark, L., Van Horn, L., & Palmer, C. A. Challenges and opportunities for nutrition education and training in the health care professions: Intraprofessional and interprofessional call to action. Am J Clin Nutr. 2014; 99(5 Suppl): 1184S-93S. https://doi.org/http://dx.doi.org/10.3945/ajcn.113.073536.
18. Kading, C. L., Wilder, R. S., Vann Jr, W. F., & Curran, A. E. Factors affecting North Carolina dental hygienists' confidence in providing obesity education and counseling. J Dent Hyg. 2010; 84(2): 94–102.
19. Curry-chiu, M. E., Catley, D., Voelker, M. A., & Bray, K. K. Dental hygienists' experiences with motivational interviewing: A qualitative study. J Dent Ed. 2015; 79(8): 897–906.
20. Thorpe, M. Motivational interviewing and dietary behavior change. J Am Diet Assoc. 2003; 103(2): 150–151. https://doi.org/10.1016/S0002-8223(03)00005-1.
21. Mantler, T., Irwin, J. D., Morrow, D., Hall, C., & Mandich, A. Assessing motivational interviewing via co-active life coaching on selected smoking cessation outcomes. Addict Res Theory. 2015; 23(2): 131–142. https://doi.org/10.3109/16066359.2014.946410.
22. Brobeck, E., Odencrants, S., Bergh, H., & Hildingh, C. Patients' experiences of lifestyle discussions based on motivational interviewing: A qualitative study. BMC Nursing. 2014; 13(13): 385. https://doi.org/doi:10.1186/1472-6955-13-13.
23. Brobeck, E., Bergh, H., Odencrants, S., & Hildingh, C. Primary healthcare nurses' experiences with motivational interviewing in health promotion practice. J Clin Nurs. 2011; 20(23–24): 3322–3330. https://doi.org/10.1111/j.1365-2702.2011.03874.x.
24. Harvard T.H. Chan School of Public Health. Healthy eating plate. 2011. Retrieved from https://www.hsph.harvard.edu/nutritionsource/healthy-eating-plate/.
25. Aronson, J. A pragmatic view of thematic analysis. Qualitative Rep. 1995; 2(1), 1-3: Retrieved from https://nsuworks.nova.edu/tqr/vol2/iss1/3.
26. De Roten, Y., Zimmermann, G., Ortega, D., & Despland, J. N. Meta-analysis of the effects of MI training on clinicians' behavior. J Subst Abuse Treat. 2013; 45(2): 155–162. https://doi.org/10.1016/j.jsat.2013.02.006.
27. Fortune, J., Breckon, J., Norris, M., Eva, G., & Frater, T. Motivational interviewing training for physiotherapy and occupational therapy students: Effect on confidence, knowledge and skills. Patient Educ Couns. 2018; 102(4): 694–700. https://doi.org/10.1016/j.pec.2018.11.014.
28. Stewart, E. E., & Fox, C. Encouraging patients to change unhealthy behaviors with motivational interviewing. Fam Pract Manag. 2011. 18(3): 21–25.
29. Delsasso, B. COVID-19: A wake up call to boost your immune system. 2020. Retrieved from https://aaosh.org/wake-up-call-to-boost-your-immune-system/.