Physician assistants and their role implementing motivational interviewing about weight loss

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2012
Acknowledgement

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Introduction

“Managing obesity is one of the biggest health challenges facing healthcare providers today, as almost 70% of the adult population in the U.S. is now considered overweight or obese” (Smith et al, 2011, p. 33; Felgal, Carrol, Ogden, and Curtain, 2010). Obesity management and interventions are becoming a crucial part in counseling patients struggling with their weight. Small behavior changes (e.g., increasing fruit and vegetables intake and physical activity) have been shown to reduce patient risk for heart disease and Type 2 diabetes by 50% (Hardcastle, Taylor, Bailey, and Castle, 2008; U.S. Department of Health and Human Services, 2004). Obesity not only affects one’s health, but it is estimated that it costs $147 billion per year and around 9% of annual expenditures (Finkelstein et al, 2012; Finkelstein, Trogdon, Cohen, and Dietz, 2009). Primary care health providers are undertaking the role as behavioral counselors to instigate healthier lifestyles for their obese and overweight patients (Hardcastle et al, 2008).

Over the past years, experts in the addiction field have designed ways to reconstruct consulting techniques. Motivational interviewing (MI) was originally designed by William R. Miller in 1983 to help patients with addiction to alcohol and substance abuse (Soderlund, Madson, Rubak, and Nilsen, 2011; Miller, 1983). Recently it has been applied to help with any health-related behavioral issues such as weight loss and smoking cessation. MI has been shown to be an effective approach in assisting patients with healthy weight loss and lifestyle change (Soderlund et al, 2011; Wahab, 2005; Knight, McGowan, Dickens, and Bundy, 2006).

In our society, people expect things to move fast. They want quick responses via e-mail or texting, faster Internet, etc. Similarly, patients want health care practitioners to prescribe the perfect remedy to make them better. The patient is not holding responsibility for their unhealthy lifestyle, but assumes if they seek a health care practitioner their symptoms or illness will be
alleviated (Rollnick, Miller, and Butler 2008). Rollnick, Miller, and Butler describe, “MI works by activating patients’ own motivation for change and adherence to treatment” (2008, p.5). MI also assists the health care provider to “roll with resistance.” Health care providers may feel discouraged when a patient decides not to make behavioral changes. MI encourages the health care provider to take another approach and address the patient’s ambivalence (Wilson and Shlam, 2004; DiLillo, Siegfried, and Smith-West, 2003). However, MI training has its challenges because most of the health care clinicians being trained have years of experience counseling patients in their own manner (Soderlund et al, 2011; Miller and Mount, 2001). Therefore, students going into the health care field may benefit by having MI training during their didactic years.

Physician assistants (PAs) are becoming more populated in primary care because fewer medical student graduates are committing to primary care (Hooker, 2006; Sandy and Schroeder, 2003; Moore and Showstack, 2003; Sox, 2003). PAs can provide a similar range of physician services to patients at lower costs and sometimes with more quality because they can spend more time on patient education (Roush, Fasser, Andrus, and Holcomb, 1980). Adoption of MI in the primary care setting by physicians and PAs does come with its challenges because health care providers are often not adequately trained in these counseling skills (Rollnick, 1996). Recently in 2011, Smith et al were the first researchers to analyze primary care physicians and how they assess, counsel, and follow-up on patients’ diets, physical activity, and weight. According to Healthy People 2020, health care clinicians need to make screening patients for weight issues a priority (Smith et al, 2011; U.S Department of Health and Human Services, 2011).

More specifically in terms of MI, Pollak et al (2010) explain there are few current studies depicting the quality and consistency of how MI is being implemented in weight loss discussion.
Health care providers, including PAs, are falling below the national goals of behavioral counseling and intervention. McLaughlin, Fasser, Spence, and Holcomb (2010) found that more work is needed to establish how effectively PA programs are implementing training in behavioral counseling into their curriculum. The PA curriculum should consist of actual training in MI in order for it to be effective. Previous studies mainly focus on medical schools and designing an MI course for their students. Two studies showed that when physicians were asked why they did not counsel their patients on healthy lifestyle changes they stated that they had a lack of time, reimbursement, and low confidence levels in their own counseling skills (White, Gazewood, and Mounsey 2007; Yeager et al, 1996; Kushner, 1995). Medical schools and residency programs are working to implement MI training, but there has only been one article that has researched MI training for PA students (McLaughlin et al 2010).

The objective of this research project is to bring insight on how confident PA students feel in implementing MI in their future practice in terms of guiding their patients in weight loss management.
Literature Review

Weight loss and obesity

The *Healthy People 2010* goal was to reduce obesity rates to 15%. Instead the proportion of adults aged twenty years or older who were obese increased by 47.8% (National Center for Health Statistics, Center For Disease Prevention and Control, 2011). The overall estimated prevalence of obesity in United States is approximately 32% (Webber, Gabriele, Tate, and Dignan, 2010; Ogden et al, 2006, National Center for Health Statistics, 2008). Obesity is one of the most common presenting conditions seen in the primary care setting (Simkin-Silverman and Rena, 1997; Marsland, Wood, and Mayo, 1976). Studies report that, even though obesity is a primary concern for the United States, it is being overlooked and not properly addressed in primary care (Rutledge, Groesz, Linke, Woods, and Herbst, 2011; Simkin-Silverman and Rena, 2008). Also other studies have shown that primary care physicians are aware of the risk factors that coincide with their patient’s excess weight, but do not focus their care around general preventive practices (Smith et al, 2011; Ewing, Selassie, Lopez, and McCuthceon 1999; Ko et al, 2008). An obese patient is at risk for developing chronic diseases (e.g., cardiovascular disease, diabetes, etc.), psychosocial problems (e.g., depression, anxiety, etc.) and functional limitations due to the excess adipose tissue (Armstrong et al, 2011; Flegal, Carrol, Ogden, and Curtin, 2010; Malnick and Knobler, 2006). Finkelstein et al report that if their study is accurate in predicting obesity trends, there will be a 33% increase in the number of obese Americans over the next two decades (2012).

All these factors portray a vicious cycle for patients. Patients who are depressed or anxious about their weight have difficulty getting proper sleep at night. The next day they may feel fatigued and describe having no motivation to exercise. As the cycle continues patients
continue to gain more weight which produces more of a burden on their major joints, such as knees and hips. This is an all-to-common theme seen on a daily basis in the primary care setting. Therefore, training health care providers how to counsel obese or overweight patients needs to be a priority. This not only helps patients reduce their risk of developing chronic diseases or psychosocial issues, but also reduce that nation’s health care cost. Research has shown that there is hope because it is predicted that even a small decrease in obesity population could save a significant amount of money in terms of healthcare expenditures (Finkelstein et al, 2012).

Behavioral change and preventive medicine

Behaviors (e.g., smoking, physical inactivity, and poor dieting) can lead to a number of chronic diseases. These chronic diseases such as, heart disease, cancer, and stroke, are in the top ten causes of death in the United States. Patients’ risks for developing chronic diseases can be decreased by modifying health behaviors by increasing exercise and reducing tobacco use (Ramsey et al, 2008; U.S Department of Health and Human Services, 2004). Traditional advice giving has been the common way that health care providers are discussing health-related behaviors during the medical interview. This approach often results in resistance from the patient or disregard for what the health care provider is advising (Rollnick, 1996; Miller and Beech, 2009; Hardcastle et al, 2008).

Pollack et al (2010) conducted a study to analyze the quality of MI that was being delivered to patients about weight loss. The study found that half the physicians felt they were not adequately trained in behavioral counseling (Pollack et al, 2010; Smith et al, 2011). Hence, more studies are needed to address whether health care professionals using MI are effective in terms of delivery, content, time, and efficiency when talking with patients about weight loss. Smith et al (2011), surveyed physicians in primary care setting, internal medicine, OB/GYN, and
family medicine, asking how they conduct appointments with patients “without weight-related chronic diseases, but are overweight, have unhealthy diets, or physically inactive vs. patients who have weight-related chronic diseases and are overweight, have unhealthy diets, or physically inactive”. This research study implied that physicians seem to counsel and manage weight in patients with weight-related chronic disease rather than those without weight-related chronic disease. In other words, the study suggests primary care physicians are not working towards preventing their patients from developing weight-related chronic diseases (Smith et al, 2011).

Physician assistants and their health care role

As the life expectancy continues to increase, PAs play a vital role to accommodate our growing nation (Hing and Uddin, 2011; Paradise, Dark, and Bitler, 2011). Patients seen by a PA or advance practice nurses (APN) increased from 10 to 15% over the past ten years. PAs and APNs are seeing patients mostly in the primary care setting and with most visits focused on preventive type care rather than routine chronic check-up or surgical post-op care. Also about one fourth of the visits that patients make to their primary care office, they see only the PA or APN (Hooker, 2006). As the United States pushes to increase access to health care, more PAs are sought to provide care. Studies have found that PAs are a cost effective way of complementing physicians in practice because PAs can perform similar roles of a physician such as, counseling patients about preventive care (Zenzano et al, 2011; Grzybicki, Sullivan, Oppy, Bethke, and Raab, 2002; Hooker, 2000).

PA education needs to focus on educating PA students how to interact when encountering a person who is overweight or obese. All type of health care practitioners, including PAs, have been documented for having negative bias against overweight or obese patients (Wolf, 2010; Wee, McCarthy, Davis, and Phillips, 2000). The United States health care system and health
professional schools need to work to overcome the challenges that coincide with preventive medicine. Wolf (2010) proposes that the way to eliminate bias is to have the PA students recognize and identify their negative perceptions before they advance to become working clinicians.

**Physician assistant education**

In the *Healthy People 2020* objectives, it proposes to increase the inclusion of core clinical prevention in PA training (U.S. Department of Health and Human Services, 2011). However, studies have shown that there is a lack of training in PA education in counseling instruction (Smith, Fasser, Spence, McLaughlin, and Holcomb, 2007; Simon, Link, and Miko, 1999). The approved PA competencies by the National Commission on Certification of Physician Assistants (NCCPA), Accreditation Review Commissions for Education of the Physician Assistant (ARC-PA), and the American Academy of Physician Assistants (AAPA) agree that PAs should use effective communication and listening skills. PAs should be able to counsel patients and provide education focused on preventing health problems and promoting healthy behaviors (National Commission and Certification of Physician Assistants, 2005). ARC-PA has set specific guidelines stating, “PA program curriculum must incorporate instructions in basic counseling and patient education skills” (Accreditation Review Commission on Education for the Physician Assistant, 2010, p. 15; Kilgore, Richter, Siler, and Sayre-Stanhope, 2008). MI training has been piloted in medical schools, pharmacy schools, and PAs in the work force, but has not yet been included in PA schools (McLaughlin et al, 2010; Bell and Cole, 2008).

In a study conducted on PA students’ cancer prevention skills (e.g. screening, motivational interviewing, etc.), it illustrated that the students had limited self-efficacy. The PACE (Physician Assistant Cancer Education) project is working towards improving cancer
education in PA programs. This program believes that enhancing PA students’ self-efficacy can generate a more skillful and adequate clinician in assessing and counseling patients about their cancer risk (Spence, Fasser, McLaughlin, and Holcomb, 2010; Gramling, Nash, Siren, Eaton, and Culpepper, 2004). PACE illustrates that PA education has room for improvement in terms of primary and secondary prevention. Students reported increased confidence levels after completing a behavioral counseling course providing evidence that students may be able to enhance their counseling skills in tobacco cessation (Kelly, Davis, and Dicocco 2011; McLaughlin et al, 2010). However, PA education is lacking in providing any type of program to help PA students manage patients’ other risky behaviors, such as physical inactivity and obesity.
Methods

The survey was adopted from Kelly et al (2011), which was originally developed from Stockdale, Davis, Cropper, and Vitello (2006), by Davis and Koerber (2010), and Davis, Stockdale, and Cropper (2005). The survey was altered to incorporate MI confidence levels according to weight loss counseling rather than smoking cessation counseling. The University of Toledo Biomedical Institutional Review Board (IRB) approved the survey and research project on September 24, 2012.

An initial e-mail was sent to 158 PA program directors on July 9, 2012, to ask their approval to send this survey to their students. Twenty program directors approved sending the survey to their students and were documented in the IRB application. On September 26, 2012 an e-mail invitation was sent to the twenty program directors that approved the survey and they were asked to forward the e-mail to his or her students who have completed their didactic portion of school and are currently enrolled in their clinical rotations. The e-mail opened with an explanation of the study and why it was important. It also included how all anticipated precautions were taken in order to maintain anonymity and confidentiality as well as proof of IRB approval. If the participant agreed and wished to continue with the survey, the student was then able to click on a hyperlink connecting him or her to the survey. The e-mail invitation included the hyperlink to connect to SurveyMonkey.com. This intranet database was used to format the survey questions in order for the students to electronically answer and comment on the survey questions. Using the SurveyMonkey.com database and sending the e-mail invitation helped maintain anonymity and confidentiality for the elected participants.

First, the survey (Appendix) asked the participant to give what age range they were in, what gender they associate with, and region of the United States their accredited PA program
they attend is located. The participants were then asked a series of questions about their confidence levels in counseling patients regarding weight loss using MI. The students’ confidence levels were assessed using a 5-point Likert-type scale where 5 equaled ‘strongly agree’ and 1 equaled ‘strongly disagree’.

Students were also asked about what forms of education or training they received on MI or weight loss management while in their didactic portion of PA school. A second e-mail was resent to the twenty Program Directors on October 4, 2012, after the initial e-mail reminding the Program Directors to please forward the survey link to their students or to resend a reminder for their students to please consider taking the survey. The survey was closed on October 26, 2012. No compensation was given to those who participated in the survey and there was no fee for the students to participate.
Results

Demographics

The data was collected via surveymonkey.com and transferred into SPSS v17.0 for analysis. Out of the 20 accredited PA programs in the United States, the survey ended with 89 responses and 82 of the surveys being completed. The response rate was estimated using the Physician Assistant Education Association 26th annual report averaging the 2010 graduating PA class size of 44.3 and by the 20 PA program directors (Physician Assistant Education Association, 2008). This estimated a return rate response of 10%. Most PA students’ age ranged from 23 to 28 years old with a 70.8% (63/89) response. The PA students were primarily female with a 78.7% (70/89) response. The highest number of responses (Figure 1) was from PA students within PA Programs of the South East region (43.8%), included the states – Alabama, Arkansas, Florida, Georgia, Mississippi, Puerto Rico, Virgin Island, North Carolina, South Carolina, West Virginia, Tennessee, and Virginia. Second most common PA program region was the Mid-West region (40.4%), included the states – North Dakota, South Dakota, Wisconsin, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, and Ohio.

Obesity and health risks

PA students felt confident on their knowledge of obesity and its health risk factors with 69.5% agreeing. Confidence levels in encouraging patients to lose weight using MI resulted in 48.8% agreeing, but followed by 28.1% unsure of their confidence level.

Motivational Interviewing

Out of the 82 responses, 51 (62.2%) of the students answered correctly on what defines MI. Most students (48.8%) agreed that they felt confident encouraging patients to lose weight using MI (Figure 2). The second most common response was that the students were unsure
(28.0%) if they were confident in encouraging patients to lose weight using MI. The third most common response was strongly agree (12.2%) followed by disagreement with the previous statement (9.8%). Forty-one out of 82 (50.0%) students felt confident in working with patients who were resistant to change over patients’ weight loss goals using MI. While 22 out of the 82 (26.8%) students were unsure about working with patients who were resistant to change over patients’ weight loss goals using MI. This was followed by 14 out 82 (17.1%) disagreeing to this statement. Students mostly agreed (42.7%) that they did not have enough class time devoted to MI followed by 23.3% disagreeing with this statement. Also most students disagreed (46.9%) that they received all the MI knowledge, comprehensive evidence-based materials, and resources they needed during their PA education. The next most common response was that 29.6% were unsure about this statement. Most students agreed (37.8%) that that their PA education provided them the environment and encouragement to pursue MI training, followed with 31.7% disagreed with this statement. PA students mostly agreed (40.2%) that during their PA education their faculty possessed the basic counseling skills to teach, model, and assess their MI skills on weight loss. The second most common response to this statement was in disagreement (31.7%) followed by unsure (22.0%). Most students believed that they would benefit from MI training and weight loss management during their PA education with 55.6% agreeing followed by 27.2% unsure if they would benefit or not from MI training. The third most common response with 11 out of 81 responding disagreement (11.1%) with the previous statement followed by 6.2% strongly agreeing. Also, most students agreed (58.5%) that they believed that MI was a key component in encouraging patients to reach their weight loss goals. The second most common response was unsure (24.4%) followed by 13.4% strongly agreeing with this statement. Three out of the 82 responses disagreed that MI is a key component in encouraging future patients to
reach their weight loss goals while no student strongly disagreed with this statement. Most students reported ‘no’ (59.0%) (Figure 3) to the statement asking whether they were properly assessed on their MI skills in weight loss management. Twenty-two out of the 78 responses stated maybe (28.2%) followed by ‘yes’ (10.3%) for the previous statement. Most students felt (37.3%) that MI was covered during their didactic portion, but not to the extent where they would feel comfortable using it in their future practice.

Faculty, staff, or guest teaching classes on counseling skills (52.1%) was the most common choice (Figure 4) for what type of resources were given to PA students about MI for weight loss management. Second most common choice ranked by the students was receiving lectures only on weight loss management (43.8%) followed by lectures only on MI (37%). Seventeen out of the 73 (23.3%) marked that they had standardized patients or simulation used as a resource for MI training.

An overview question assessed to what extent MI was covered in the students’ didactic year and if that had influenced their overall feelings of MI in their future practice (Figure 5). The majority marked that MI was covered but not to the extent they would feel comfortable actually using MI as a form of counseling in their future practice (37.3%). Eighteen out of the 75 (24%) who responded to this question reported that MI was covered a lot and they do feel comfortable using MI in their future practice.

Internal consistency and reliability (Table 1) for measuring confidence levels in using MI was found to be acceptable with Cronbach’s alpha obtaining .80. However the internal consistency and reliability for measuring the students’ opinions on their education (Table 2) in terms of MI and weight loss management was computed to an alpha of -.49 and therefore is not reliable. The bivariate correlation (Table 3) between the students’ confidence levels in
implementing MI for weight loss management and whether the students were assessed on their MI skills during their didactic portion was evaluated using the Spearman’s rank order correlation. The correlation was not found to be significant ($r_s(78) = -.16, P = .15$). A second bivariate correlation (Table 3) was conducted between students’ confidence levels in implementing MI for weight loss management and whether they believed they would be a better practitioner if they received MI training for weight loss management. The correlation was not found to be significant ($r_s(81) = -.05, P = .64$).
Discussion

Confidence levels

PA students do agree that they feel confident in encouraging patients to lose weight using MI and working with patients that are resistant to change. However, the majority of PA students also agreed that they believe they would benefit from receiving training in weight loss management using MI during their didactic portion of their PA education. These results display that even though the students feel confident they do believe that weight loss management training should be implemented into their education. Also the majority of these students felt that MI is a key component for encouraging patients to lose weight. The Cronbach’s alpha was used to test internal consistency. The idea is to confirm that the survey asks questions about the same concept are reliable. Assessing students’ confidence levels shows that it is a good reliable measurement with an alpha level of .80. However, assessing the students’ opinions on their education on MI and weight loss management was not found to be reliable and lacked internal consistency ($\alpha = -.49$). Possible errors may have occurred in the survey questions. First, one of the questions assessing their opinion on their education was phrased as a negative question. If the student did not read the question appropriately, they may have misinterpreted the question in its entirety. Also, another question asked about whether their faculty possessed basic counseling skills to teach and assess their skills on weight loss. This question may have caused an internal conflict within the student and not wanting to give negative feedback on behalf of their program faculty.

According to the Spearman’s correlation computation, there was no significant correlation between the students’ confidence levels and the fact that the majority of the students reported no formal assessment of their MI skills. Therefore, it is perceived that even though the
students feel they were not properly assessed on their MI skills they still have confidence. The second Spearman’s correlation was assessing a for a relationship between the students reporting they agree that they are confident encouraging patients to lose weight using MI and students reporting the believe they would be better practitioners if they would have receiving MI training in terms of weight management. No correlation was found between these two responses and therefore no relationship was found between those students who felt confident and those who believe they would benefit from more training.

**MI training for weight loss management**

The questions assessing what type of training or education PA students received during their didactic portion generally concluded that PA students did not feel they received enough class time or all the resources they needed. It appears that the majority of the students reported that their faculty possessed basic counseling skills to teach, model, and assess their MI skills on weight loss. However, when asked whether or not the students were properly assessed on their MI skills in weight loss management the majority of students responded no. The inconsistent results could be due to threats to internal validity. In other words, the students may have answered the survey questions differently just due to the fact that they knew they were being studied even though the research team worked to explain that this survey is anonymous and their program had no means of evaluating their responses.

ARC-PA and NCCPA outline training in preventive counseling as one of their goals for PA students (ARC-PA, 2010; NCCPA, 2005). However, this study showed the majority of the PA students believed they would benefit if they had received training in weight loss management using MI during their PA education. Also the majority agreed that MI is a key component in encouraging their future patients to reach their weight loss goals. A previous study by Kelly et al
(2011), discussed the fact that PA faculty members are working to teach PA students’ skills on assisting patients to quit smoking. Similarly, this study reported faculty members rating an ‘above-average’ confidence level for teaching counseling skills needed for tobacco cessation, but indicated that there was a need for further training. The most recognized barrier conveyed in the study was faculty training in MI and appeared to be the greatest challenge to be addressed (Kelly et al, 2011). The results from Kelly et al (2011) and this current study display the need for prevention counseling into the PA curricula. In order to remain competent and mold with the changes in the community, prevention counseling is a necessity for the PA profession.

Limitations

This scholarly project has provided some useful information on how PA students feel about MI and weight loss management. However this survey has a number of limitations. The response rate was low which made it challenging to conclude how PA students rank their confidence level across the nation. The study worked to maintain anonymity by contacting the PA students via the program director, but this did make it difficult to monitor which students were responding and which students were not responding. Also the PA programs start at various times throughout the year and this may have affected the students’ responses depending on where they are in their current PA education. This factor was considered when planning for what population to send the survey, but still may have affected the results and responses collected.

Also the content validity is questioned for this type of survey. As stated previously, the two similar questions yielded contradicting responses. This may have been due to the structure of the question. In other words, the first question was asking the student to give their opinion on
how much the agreed with the statement. Contrary to the following ‘yes’ or ‘no’ type question on whether the student was properly assessed on their MI skills in weight loss management.
Conclusion

This research project’s main focus was to explore PA students’ confidence levels on implementing MI for their future patients who warrant a weight loss intervention. Also this project wanted to find out what counseling skills and education PA students were receiving during their didactic portion of their PA education. Most students felt confident in implementing MI for weight loss management. However, the majority of students felt they would benefit from having formal MI training on weight loss management using MI.

This research project is an appropriate first step to determining and evaluating how PA students feel about MI and weight loss management. However, an idea for a future study would be to assess new PA graduates and how confident they feel in implementing weight loss management using MI when they are actually counseling their own patients. This would give insight on how practicing PAs felt their PA program prepared them and if they believe it was adequate to work with the obese or overweight population. Also it would be a good evaluation tool to see how the PA programs are doing on a national level compared to other healthcare professionals. In conclusion, the limited data warrants each individual PA program to reassess their didactic curriculum and continue to work to increase formal training in weight loss management using MI to help further solidify PA students’ confidence levels in counseling their future patients.
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## Tables

### Table 1
*Cronbach’s alpha measuring internal consistency on assessing confidence level using MI for patients needing weight loss*

<table>
<thead>
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<td>0.80</td>
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### Table 2
*Cronbach’s alpha measuring internal consistency on assessing students’ opinions about their education*

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<thead>
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Table 3

*Spearman’s correlations assessing the relationship between confidence levels and MI skills assessment and belief in MI training*

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<th>$p$</th>
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<td>Assessed on MI skills</td>
<td>-.16</td>
<td>78</td>
<td>.15</td>
</tr>
<tr>
<td>Believe would be better practitioners if received</td>
<td>-.05</td>
<td>81</td>
<td>.64</td>
</tr>
<tr>
<td>MI training</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Figures

Figure 1: Region of PA programs included in this study
Figure 2: Percentage of respondents reporting ‘strongly disagree,’ ‘disagree,’ ‘unsure,’ ‘agree,’ or ‘strongly agree’ in respect to the statement whether the PA student felt confident encouraging patients to lose weight using MI.
Figure 3: Percentage of respondents in regards to question asking whether the student was properly assessed on their MI skills
Figure 4: Marked choices for what MI or weight loss management resources PA students received
Figure 5: Marked opinions about MI during PA students’ didactic curricula
# Motivational Interviewing and Physician Assistant Students

## 1. Please mark your age range.
- [ ] 17-22
- [ ] 23-29
- [ ] 29-34
- [ ] 35-40
- [ ] 41-45
- [ ] 46-52
- [ ] 53-58
- [ ] 59-64
- [ ] 65-70
- [ ] Other (please specify)

## 2. Please mark the gender that you best describes you.
- [ ] Female
- [ ] Male
- [ ] Transgender
- [ ] Other (please specify)

## 3. Please mark the region that best describes your PA school location.
- [ ] East (Washington D.C., Delaware, Maryland, Pennsylvania)
- [ ] North East (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont)
- [ ] Heartland (Kansas, Louisiana, Nebraska, Oklahoma, Texas)
- [ ] South East (Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, Puerto Rico, Virgin Island, North Carolina, South Carolina, West Virginia, Tennessee, Virginia)
- [ ] Mid West (North Dakota, South Dakota, Wisconsin, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio)
- [ ] Other (please specify)
Motivational Interviewing and Physician Assistant Students

4. Which statement below best describes the definition of Motivational Interviewing (MI) in terms of the health care provider's view?
   - Patient-centered counseling method for addressing the common problem of ambivalence about change
   - Eliminating involuntary behavior patterns and substituting appropriate behaviors
   - Identifying the patient's perception and working to alter his or her cognitive behaviors
   - Supporting the patient to return to optimal level of functioning
   - Other (please specify)

5. I feel confident in my knowledge about obesity and the risk factors associated with obesity (e.g. Type 2 Diabetes, Sleep Apnea, Hypertension, Hyperlipidemia, Peripheral Vascular Disease, Coronary Arterial Disease, etc.)...

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<tr>
<th>Answer</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
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6. I feel confident encouraging patients to lose weight using MI...

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7. I feel confident working with patient's who are resistance to change and encouraging them to lose weight using MI...

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<th>Strongly disagree</th>
<th>Disagree</th>
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8. In my didactic portion of my PA education, we did not have enough class time devoted to MI.

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## Motivational Interviewing and Physician Assistant Students

9. In my didactic portion of my PA education, I received all the MI knowledge / comprehensive evidence-based materials / resources I need.

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10. In my didactic portion of my PA education, I was provided the environment and encouragement to pursue MI training.

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11. In my didactic portion of my PA education, my faculty possessed the basic counseling skills to teach, model, and assess my MI skills on weight loss.

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12. I believe I would be a better practitioner if I would have received training in weight loss management using MI during my didactic portion of my PA education.

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13. I believe that MI is the key component in encouraging my future patients to reach their weight loss goals.

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Motivational Interviewing and Physician Assistant Students

14. During my didactic portion I was properly assessed on MI skills in weight loss management.
   ☐ Yes
   ☐ No
   ☐ Maybe
   ☐ I don’t remember
   Other (please specify)

15. Mark below what your program provided in terms using MI for weight loss management.
   ☐ Lectures on MI
   ☐ Lectures on weight loss management
   ☐ Lectures on MI and weight loss management
   ☐ Faculty, staff, or guests taught my class counseling skills
   ☐ Used standardized patients/simulation (i.e., faculty, staff, or guest pretended to be a patient and you had to use MI)
   Other (please specify)

16. MI in my didactic year was...
   ☐ Covered a lot and I feel comfortable using it with my future patients
   ☐ Covered but not to the extent that I understand it
   ☐ Covered but not to extent where I feel comfortable actually using it in my future practice
   ☐ Covered but not to extent where I would use it in my future practice
   ☐ Do not remember if it was covered or not
   Other (please specify)
Abstract

Objective: The purpose of this study is to provide insight on how confident PA students feel in implementing MI in their future practice.

Method: Descriptive research study that was collected by online questionnaire via e-mail invitation to PA students.

Results: Most students (48.8%) agreed that they felt confident encouraging patients to lose weight using MI. Majority students believed that they would benefit from MI training and weight loss management during their PA education with 55.6% agreeing followed by 27.2% unsure if they would benefit or not from MI training.

Conclusion: Most students felt confident in implementing MI for weight loss management. However, the majority of students felt they would benefit from having formal MI training on weight loss management using MI.