RESEARCH

Predisposition for Empathy, Intercultural Sensitivity, and Intentions for Using Motivational Interviewing in First Year Pharmacy Students

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Objective. To assess first-year pharmacy (P1) students’ predispositions (eg, perceptions for empathy, intercultural sensitivity, and motivational interviewing (MI) as a patient-centered communication skillset) and identify potential curricula content/communication skills training needs.

Methods. A cross-sectional survey was used to collect students’ self-reported perceptions for empathy, intercultural sensitivity, counseling contexts, and projected future MI use. Relationships between variables were explored and logistic regression was used to evaluate intention for using MI in future patient encounters.

Results. There were 134 students who participated. Higher predisposition for empathy and for intercultural sensitivity were significantly correlated. Significant predictors for applying MI in future patient encounters were sex, confidence with counseling skills, and current use of MI.

Conclusion. Results suggest the need to incorporate innovative training strategies in communication skills curricula. Potential areas include empathy, intercultural sensitivity and significant predictor variables for future MI use. Further investigation in other schools is needed.

Keywords: patient-centered care, intercultural sensitivity, empathy, motivational interviewing, communication skills

INTRODUCTION

The Accreditation Council for Pharmacy Education 2016 Standards for the Doctor of Pharmacy degree requires pharmacy school graduates to have the knowledge, skills, behaviors and attitudes to provide patient-centered care. Effective patient-centered communication in health care delivery fosters patient confidence in the provider and satisfaction with care. Patient-centered communication requires several factors that include reflective listening, attentiveness, and empathy as well as intercultural sensitivity, among others. Pharmacists can play a major role in providing patient education and counseling to reduce medication errors and non-adherence. Communication skills that incorporate the patient’s perspectives, preferences and needs are essential to the delivery of effective patient-centered care.

Empathy in health care encounters has been conceptualized as a professional state and a communication process and includes active listening, reflection, clarification and validation. Empathy in provider-patient communication is the foundation for understanding patient needs, emotions, and circumstances. Studies suggest a positive relationship between provider’s empathy and improved health outcomes (eg, hemoglobin A1c, and well-being). Batt-Rawden and colleagues reviewed educational interventions aimed at enhancing empathy among undergraduate medical students; communication skills intervention, among other types of educational strategies, was shown to modify empathy among participants. Furthermore, expressing early empathy in health care encounters is a fundamental principle of Motivational Interviewing (MI), which is a patient-centered communication skillset with evidence base for promoting health behavior change.

Pharmacy education has gradually embraced MI as a communication tool box that pharmacists can use to engage patients in health behavior change decision-making. The utility and effectiveness of MI has been explored in various health behaviors for more than 30 years. The fundamental basis of MI is the “Spirit” of MI. This refers to a way of communicating with patients in a purposeful, genuine, and person-centered approach. There are four elements that reflect the spirit of MI: collaboration or partnership, acceptance, compassion, and evocation. These elements embody the true essence of MI and are useful in provider-patient encounters. Studies that examined MI training in pharmacy students reported improvement in student confidence, communication skills, attitudes, and knowledge.
The Center for the Advancement of Pharmacy Education (CAPE) 2016 standards require patient-centered communication skills training in pharmacy curricula; the CAPE guidebook for implementing the 2016 standards specifically names MI as a patient-centered communication skillset available for training student pharmacists. Exposure to MI skills is important in preparing future pharmacists for the active role of patient engagement in health decision-making and behavioral modifications to improve outcomes in advanced care services that will be an important part of the future of pharmacy practice.

Another accreditation requirement in pharmacy education is cultural sensitivity or cultural competence, which is effective toward reducing health disparities that may occur from miscommunication or misunderstandings. Cultural sensitivity and effective intercultural communication helps to reduce the anxiety of providers who serve in a culturally diverse health care organization. In the context of patient-centered communication and care, student pharmacists need cultural competency training to effectively meet the health needs of patients with varying cultural backgrounds, beliefs, attitudes, and health behaviors. Studies have reported various teaching strategies that enhance cultural sensitivity among pharmacy students; these include lectures, small group activities, simulation games, and experiential/patient-encounter activities. A review of the literature in pharmacy education has revealed a dearth of published studies that examined students’ predispositions for empathy and intercultural sensitivity in relation to training in patient-centered communication skills such as MI. This study assessed the intentions of student pharmacists toward applying patient-centered counseling skills like MI after training. Intentions to apply MI skills were evaluated after training and practice sessions in a first-year patient-centered skills course. In addition, predisposition toward empathy and intercultural sensitivity as essential contexts for training MI was engaged using lecture, example videos, written exercises, small and large group active learning activities and discussions. MI skills development and training for MI was engaged using lecture, example videos, written exercises, small and large group active learning activities and discussions. MI skills development exercises were engaged in three weeks of skills lab sessions that included case-based student-paired and standardized patient practice and feedback. Level of acquired skills was assessed by incorporating a standardized patient encounter into the Objective Structured Clinical Examination (OSCE) and were graded using an internally validated tool by MI experts.

Prior to being exposed to any course content about empathy or cultural competence, student predisposition for attitudes toward empathy and cultural sensitivity in health care encounters were measured via online surveys. After exposure to the MI content and skills development, their perceptions about importance and confidence for using MI, and intentions for current and future use of MI skills in patient encounters were assessed. Surveys were administered through an online platform (Qualtrics, Provo, UT) as Active Learning Activities (ALA). Students were assured that the data would not be examined for research purposes until the end of the semester after final grades were posted to reduce risk of bias in responses and to reduce potential feelings of coercion for response on surveys of personal attitudes/perceptions.

Predispositions toward empathy and cultural sensitivity were measured using the KCES and ISS measure respectively. The KCES is a 15-item survey based on a Likert-type scale (1=strongly disagree to 7=strongly agree), with a possible score range of 15 to 105, where

METHODS

A cross-sectional survey was implemented in fall 2015 among first-year PharmD students (P1) enrolled in a 4-year doctor of pharmacy program at one dual-campus pharmacy school. The two campuses were synchronized via video conferencing during class time to ensure uniformity of course content delivery. The study was implemented as part of another research endeavor conducted in a first-semester communication skills course. Students were informed and signed consent was obtained for the overall study. Study approval was obtained from the Auburn University Institutional Review Board. The course content was structured to give an overview of patient care and communication contexts, patient motivations and barriers for health behavior, patient decision-making about medication taking, and communication skills for health behavior change, specifically MI. Conceptual development and training for MI was engaged using lecture, example videos, written exercises, small and large group active learning activities and discussions. MI skills development exercises were engaged in three weeks of skills lab sessions that included case-based student-paired and standardized patient practice and feedback. Level of acquired skills was assessed by incorporating a standardized patient encounter into the Objective Structured Clinical Examination (OSCE) and were graded using an internally validated tool by MI experts.

The objectives of this study are to assess predispositions for empathy and cultural sensitivity, including associations between characteristics and predispositions; to assess attitudes toward applying MI communication skills after training; and to determine significant predictors for intentions to use MI in future patient encounters among first-year pharmacy students.
lower scores indicate higher perception toward empathy in health care encounters. Average reliability for the KCES has been reported at .86. The KCES assesses two important domains of empathy: the ability to understand the perspective of other people (cognitive domain) and the ability to relate to the feelings and experiences of another person (affective domain).28

The validated ISS contains 24 items using a Likert-type scale (1=strongly disagree to 5=strongly agree), where higher scores represent higher sensitivity to persons of other cultures, with a possible score range of 24 to 120, and Cronbach alpha reliability coefficient of .86. The ISS evaluates cultural sensitivity based on five factors: interaction engagement, respect for cultural differences, interaction confidence, interaction enjoyment and interaction attentiveness.

Self-report of perceptions of confidence and importance of general patient counseling activities was assessed with single item survey questions using a 7-point Likert-type scale (1=not at all confident/important to 7=very confident/important). In addition, intentions for applying MI in current and future patient encounters were evaluated with survey questions using a 7-point Likert-type scale (1=very unlikely to 7=very likely). Students completed the survey for assessing attitudes toward intentions of future MI use/counseling activities after exposure to MI principles and applications. A dichotomous variable was created by categorizing survey items based on the 7-point Likert-type scale into higher intentions or lower intentions. This was achieved by grouping responses one to four (very unlikely to undecided) into a “lower intentions” category and responses five to seven (somewhat likely to very likely) into a “higher intentions” category. This method of collapsing categories of responses was used for the purpose of binary logistic regression analysis.

The grouping method was repeated for variables that assessed the likelihood of current use of MI, perceived importance of and confidence in MI counseling skills; however, these variables were reported as percentages and the dichotomous variable was utilized as independent variables in the logistic regression analysis. The grouping method produced dichotomous variables for lower or higher perceived confidence in counseling skills; lower or higher perceived importance for counseling activities; lower or higher intentions/likelihood of current application of MI skills; and lower or higher intentions/likelihood of future application of MI skills. The survey item for current MI use referred to MI skills application with patient encounters in the near future (e.g., current work settings, Pharmacy Practice Experience), while students’ future MI use referred to intentions for MI skills application with patient encounters in their future practice settings.

Descriptive statistics were generated to report characteristics and self-reported items among the participants. Student characteristics were analyzed based on descriptive statistics and summary scores for surveys. Associations between variables were determined using the Pearson product-moment correlation coefficient or Spearman’s rank correlation coefficient test if the data was continuous or categorical respectively. Group differences were examined using ANOVA or t-test. Two ethnic categories were merged due to low responses and to accommodate data analyses. Binary logistic regression was used to identify significant predictors for the likelihood of future use of MI skills (objective 3). Statistical analyses were performed using SPSS 20.0 for Windows (SPSS, Inc., Chicago, IL) and a significance level of $p<.05$ was applied.

RESULTS

Of the 149 P1 students enrolled in the course, 134 had consented to the study (89.9% response rate). The average age of participants was 23 years (range 20 to 45 years). There was a higher proportion of females (68.7%) than males (31.3%); ethnicity was predominantly Caucasian (79.9%), while Asian (8.2%), African American (8.2%), Hispanic (3.0%), and Native American Indian (0.7%) ethnicities were less predominant (Table 1).

Table 2 identifies significant relationships between variables assessing predispositions (KCES and ISS) and demographic variables. The mean (SD) score for the ISS was 94.0 (10.1) and 32.4 (6.5) for the KCES in the overall student population. In examining the objective, one question regarding predisposition for empathy, the independent samples t-test showed a significant association between empathy and sex; where females reported higher perceptions for empathy compared to males ($2.52, p=.013$). There was a significant relationship between cultural sensitivity and ethnicity (F (df) = 3.37 (3), $p=.020$). The magnitude of mean differences within ethnic groups was modest (partial eta squared = .07) and statistical power was .75. Post hoc analysis using the Bonferroni test showed that the Asian group (101.8 (SD=10.1)) was significantly different from the Caucasian group (92.7 (SD=9.8)). In looking at associations between predisposition for empathy and intercultural sensitivity, the Pearson correlation revealed a significant relationship ($r= 0.42, p<.001$), where higher attitudes toward empathy were associated with a higher predisposition for intercultural sensitivity.

In reporting students’ attitudes toward applying MI communication skills (objective 2), results suggest that a higher proportion of participants anticipate using MI in future patient encounters (74.0%) compared to intentions for current use at 57.0% (Table 3). There was greater
awareness of the importance of counseling patients for medication adherence compared to counseling on comprehensive disease management behaviors. A large proportion of students reported high perceived confidence in the ability to counsel patients about medication adherence and/or disease management behaviors.

In looking at significant predictors of intentions to use MI communication skills in future patient encounters (objective 3), binary logistic regression analysis was conducted to determine which independent variables [Motivational Interviewing OSCE grade (MIOSCE), perceived confidence with counseling ability, likelihood of current MI use, sex, KCES score, and ISS score] are significant predictors of the likelihood of future use of MI (apply or not apply MI in future patient encounters). Three factors significantly predicted future use of MI: sex, confidence with counseling skills, and the intentions for current use of MI (Table 4). The model reliably classified 86.6% of the cases in the sample and accounted for 58% of the variance in the dependent variable (Nagelkerke R square). The overall model significantly predicted the intention to apply MI skills in future patient encounters ($\chi^2 (6) = 58.35, p<.001$).

The odds ratio (OR) revealed that the likelihood of applying MI in future patient encounters was 80% less likely to occur among male students (OR, .20, 95% CI, .043-.89) compared to their female colleagues; was 73% less likely to occur among students who reported lower confidence in counseling skills (OR, .27, 95% CI, .073-.97); and was 98% less likely to occur among students with lower intentions to apply MI in current patient encounters (OR, .020, 95% CI, .004-.090). Other independent variables in the analysis were not significant predictors of intentions for future MI application. Perceived empathy, intercultural sensitivity score, and MIOSCE grade did not significantly increase or decrease the odds of engaging MI in future patient encounters.

### DISCUSSION

Student development of patient-centered communication skills is an important goal in pharmacy education. Predispositions for intercultural sensitivity and empathy are patient-centered components which prepare the student pharmacist for the highly diversified patient population inherent in future practice settings. In addition, the evolving role of pharmacists in the health care continuum requires knowledge on how cultural identity influences health care seeking behaviors, uptake/adherence to health behavior recommendations, and provider-patient interactions.31

Male students reported lower salience for the role of empathy in contrast to female students. The ability to express empathy has been reported as a positive indicator of patient-centered disposition among health care providers and sex-based differences have also been reported.28-32 Bratek and colleagues assessed empathy among medical school candidates, students, trainees, residents and specialists using a self-report survey (The Interpersonal Reactivity Index).33 Similar differences based on sex was reported, where female participants reported higher empathy compared to male participants. The presence of sex-based disparity in health care providers’ levels of empathy signals a need for focused reinforcement of developing skills for empathic responses during patient-centered communication skills training. This factor is more imperative because studies have reported a relationship between provider’s empathy and improved health outcomes.8,9

The results of this study showed Asian students had significantly higher intercultural sensitivity compared to Caucasians, but other ethnic groups did not differ on the ISS measure. These findings could be influenced by...
predisposing cultural backgrounds and differences in communication styles among the target racial/ethnic groups. Intercultural sensitivity could be enhanced by providing increased opportunities for student interactions with patients from diverse cultures and more team-based practice sessions so that students could learn vicariously from each other’s backgrounds and perceptions.

Predisposition for empathy was significantly associated with intercultural sensitivity in this study and suggests support for empathy as one of the six affective elements for intercultural sensitivity proposed by ISS Table 2. Associations Between Perceptions for Empathy and Intercultural Sensitivity with Demographic Variables (N=134)

Table 3. Proportion of Students With Lower or Higher Perceptions of Patient Counseling and Intentions for Using Motivational Interviewing (N=134)

How important do you feel is providing patient counseling for medication adherence to your role as a pharmacist? Lower\(^a\) 1.6 Higher\(^b\) 98.4

How important do you feel is providing patient counseling on additional disease management behaviors to your role as a pharmacist? 4.0 96.0

How confident are you in your ability to counsel patients about medication adherence and/or disease management behaviors? 35.1 64.9

How likely are you to use MI in your current professional encounters with patients? 43.0 57.0

How likely are you to use MI in your future professional encounters with patients? 26.0 74.0

\(^a\)Lower category = responses 1-4 (not at all important/not at all confident/very unlikely to undecided)

\(^b\)Higher category = responses 5-7 (somewhat important/confident/ likely to very important/confident/likely)
Table 4. Logistic Regression of Variables Associated With Intentions for Using Motivational Interviewing (N=134)\textsuperscript{a}

| Variable                                | β    | OR  | 95% CI          |
|-----------------------------------------|------|-----|-----------------|
| Future MI use                           |      |     |                 |
| Sex\textsuperscript{b}                  | -1.63| 0.2| 0.043-0.89      |
| Confidence in counseling skills\textsuperscript{c} | -1.33| 0.3| 0.073-0.97      |
| Current MI use\textsuperscript{d}       | -3.92| 0.02| 0.004-0.090     |
| MIOSCE                                  | 0.018| 1.0| 0.842-1.23      |
| ISS score                               | 0.047| 1.1| 0.976-1.13      |
| KCES score                              | -0.022| 1.0| 0.870-1.10      |

Abbreviations: $\beta$ = Estimated Logit Coefficient; OR = Odds Ratio; CI = Confidence Interval; MIOSCE = Motivational Interviewing Objective Structured Clinical Examination; KCES = Kiersma-Chen Empathy Scale; ISS = Intercultural Sensitivity Scale
\textsuperscript{a}Cox and Snell R square = 0.353
\textsuperscript{b}The comparison group was females
\textsuperscript{c}The comparison group was students with high confidence in counseling skill
\textsuperscript{d}The comparison group was students with a high likelihood of using MI in current patient encounters
\textsuperscript{e}p < .05

originators, Chen and colleagues.\textsuperscript{29} It is important to note that association does not suggest causation. However, the relationship between the two factors suggests a complex relationship that influences human interactions and warrants further investigation. Furthermore, expressing empathy is one of the key communication principles in MI, and is specifically characterized as part of the ‘Spirit of MI’ way of being.\textsuperscript{37} Therefore, empathy and intercultural sensitivity could be considered as important factors in communicating with patients for effective health behavior change.

In looking at significant predictors of participants’ intentions of engaging patients with MI in the future, confidence in counseling skills was one of the three predictors. In addition, the proportion of students who anticipated using MI in the future was higher compared to intentions for current use. Miller and Moyers identified eight stages in MI training and competency.\textsuperscript{38} Training begins with learning the underlying principles of MI which are collaboration, evocation, and support for patient autonomy, and culminates in the skillful blending of MI with other counseling skills. The second step in the training process is developing patient-centered counseling skills which requires commitment toward the practice and feedback process that will eventually build confidence for future MI delivery.\textsuperscript{38,17} This step supports the need for continuous skills development and practice in order to achieve confidence in skills application. Various strategies have been shown to improve confidence in MI skills, such as multiple rounds of practice role-play with MI expert feedback, and using mock-patients or trained standardized patients.\textsuperscript{15,16,21} The feedback process should use positive reinforcement strategies to support self-efficacy for attempts at using MI skills. In addition, regular application of MI skills in various settings could be effective at building confidence and sustaining acquired skills.\textsuperscript{39,40}

Another significant predictor of future MI use was intent for current use of MI for patient counseling. This finding could be useful in translating brief MI training into practice where students are encouraged to apply newly acquired counseling skills in patient encounters (eg, current work setting or PPE). Rubak and colleagues assessed the effectiveness of general practitioners briefly trained in MI (1.5 days) to improve understanding, beliefs, and motivation for behavior change among patients living with type 2 diabetes.\textsuperscript{41} Patients in the intervention group were significantly more inclined toward behavior change after one year compared to the control group.\textsuperscript{41} This suggests the effectiveness of translating MI skills into practice settings for patient engagement after MI training.\textsuperscript{41,42}

The findings reported in this study have implications for training pharmacy students based on various factors such as the sex of trainees; where male participants were less likely to report intentions for applying MI in future encounters. Innovative training techniques that target the unique characteristics specific to the sex of the trainees could be applied in communication skills practice sessions. Training modules could emphasize empathic responses to patient concerns, intercultural sensitivity, and patient-centered counseling techniques. Current training strategies which include workshops/lectures, role-playing, simulations and discussions could be adapted.\textsuperscript{43-45} Pharmacy schools and faculty should evaluate the needs of their student population and engage student-centered methods that encourage skills uptake and future applications since the adoption of MI skills represents a behavior change itself; being aware that some male students may have less predisposition for patient-centered communication skills is an area for further research.

Various methods were employed to minimize threats to validity, but the study had limitations. Certain factors which could potentially influence predisposition to empathy and cultural sensitivity were not included in the survey. These include number of spoken languages, levels of exposure to other cultures, undergraduate cultural sensitivity education and study abroad exchange programs, among others. The survey items for counseling attitudes and confidence and the likelihood of current/future MI use were not based on an established, validated measure; however, item wording was consistent with other measures of self-report of perceptions and attitudes. Merged categories for data analysis on two ethnic groups, counseling variables and intentions for MI use is acknowledged as
a potential limitation for this pilot study. The setting of the study may influence responses since consenting participants were students responding to surveys that were also part of course credit. The potential for this bias was addressed by assuring the students that data would not be analyzed until after the semester was over and would have no influence on grades or faculty perceptions. In addition, social desirability bias may have existed in self-reported responses and may account for the self-report on high levels of perceived confidence in the ability to counsel patients on medication adherence and/or disease management behaviors. It is also important to note that study findings represent one convenience sample of pharmacy students at one setting and may not be generalizable to others.

CONCLUSION

Expressing empathy and intercultural sensitivity are useful skills for patient engagement and enhancing provider-patient communications. Predictors of future MI use were providers’ confidence in counseling skills, sex, and current MI use. Training strategies that target confidence building could increase levels of self-assurance and sustain the use of newly acquired counseling skills among students. Additionally, education and training for patient-centered communication skills should be explored for understanding how to engage student-centered strategies to address sex-based differences in confidence and attitudes toward skills application.

Consistent practice and feedback on the interaction process reinforces patient-centered communication skills acquisition and sustainability. It is important for future providers to be proficient in patient-centered encounters that require a focus on individual patient needs, preferences, and motivations for any target health behavior change.

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