RESEARCH ARTICLE

The Impact Role-Playing Sessions have on Undergraduate Dietetic Students' Counseling Abilities: A Qualitative Study

Katie Horrell, Jeanette Andrade

Family and Consumer Sciences, Eastern Illinois University, Charleston, 61920, USA
Instructor and DI Coordinator, Family and Consumer Sciences, Eastern Illinois University, Charleston, 61920, USA

Abstract

Objective: Dietitians need to properly communicate both verbally and non-verbally for clients to change their dietary behaviors. Educators can teach dietetic students these communication skills via an active learning approach, specifically through role-playing. Therefore, the purpose of this study was to assess undergraduate dietetic students' counseling skills through role-playing sessions via a qualitative counseling tool.

Methods: A qualitative study was conducted at a Mid-Western University in Fall 2016 in a nutrition therapy class. Each student (2 males, 6 females) counseled a graduate student (i.e. the patient) for a total of 5 sessions. These case studies were based on a chronic condition. Students were informed how to counsel at the beginning of the course, but not guided throughout the course on how to fine-tune their counseling abilities. Sessions (n=40) were tape recorded and verbatim transcripts of each session were coded following a content analysis methodology. Counseling abilities were identified as positive, neutral, or negative based on the 9-item qualitative counseling tool.

Results: Students improved on rapport building, prioritizing information, and reducing the use of nutrition jargon and remained positively consistent on eye contact, body language, relevant scope of questions, and preparedness. Students did not improve on empathy or cross-cultural communication.

Conclusions: The evidence supports that students who are exposed to live, interactive counseling sessions will improve their counseling abilities. Although, emphasis on empathy and cultural competency is needed.

Introduction

Counseling skills are a necessity for dietitians to build trust and rapport with their patients in order for the patients to comply with nutrition therapies and to improve their dietary behaviors. [1-8] Counseling skills include both verbal and non-verbal communication. Verbal communication includes actively listening to patients, using clear language and limiting the use of nutrition/medical jargon (e.g. monosaccharides or hepatitis), expressing compassion, empathy and understanding, and being able to communicate cross-culturally. [2,3,7,9-12] Non-verbal communication involves using body language, physical gestures, eye contact and facial expressions. [2,3,7,9] If verbal and non-verbal communication are lacking or absent, the patient may not be motivated to comply with nutrition therapies and change their dietary behaviors. [3,5,7-10,13] In the classroom, students can enhance their counseling skills prior to entering the dietetics field via an active learning approach.

Active learning engages the learner in the learning process. [14] The educator is a facilitator to guide the learner rather than teach or lecture her about that material. [14-16] This approach tends to improve students' critical thinking skills and ability to perform an activity at a higher cognitive level. [15-18] Among the several strategies within active learning, role-playing is one an educator can use to enhance dietetic students' counseling skills.

Role-playing involves a person acting out or performing based on expectations towards a character. [14] Role-playing involves the use of critical thinking skills, improvisation, and creativity on the part of the student. [12,19] As students immerse themselves in the culture of a role-playing scenario, they can critically think and evaluate their decision in a scenario. [12,19].

Prior studies indicate role-playing improves dietetic students' counseling skills. [13,20-27] Most results, however, are reports of either students' self-reported perceptions [4,20,23,24,26] or perceptions from actors (people hired to act as patients). [21,22,25,27] Additionally, the type of instruments used

to assess dietetic students' counseling skills are most often quantitative types such as the Dietitian's Counseling Self-Efficacy Scale [8] or the Dietitian's Interviewing Rating Scale. [28,29] Limited qualitative tools are available to describe in depth a dietetic student's counseling skills. Thus, the purpose of this study was to assess undergraduate dietetic students' counseling abilities through role-playing sessions in a nutrition therapy class via a qualitative counseling tool.

Methods

Subjects and setting

Data were collected from fourth year undergraduate dietetic students within a nutrition therapy course at a four-year Mid-Western university in Fall 2016. Students participated in the role-playing counseling sessions as part of activities within this nutrition therapy course. Students consented to record and share each of their sessions. IRB approval was obtained through Eastern Illinois University to utilize the data from this study.

The nutrition therapy course is offered once per semester for 16 weeks and meets twice per week for a total of 240 minutes. This course is required for dietetic students to complete prior to graduation and students generally take it in their senior year. In Fall 2016, eight dietetic students, two males and six females, were enrolled in the course. Despite of the number of students in the course, this sample size was sufficient for a qualitative study [30,31] as each subject (n=8) was exposed to multiple observations (n=5). Each observation is considered an independent observation (i.e. n=40). [30-32] The course covered diseases of major organs (e.g. renal, cardiovascular, and liver) and medical nutrition therapy to potentially prevent or reduce complications associated with a disease. Additionally, in the first two weeks of the course, the instructor reviewed the Academy's Nutrition Care Process Model [33,34] and specifically counseling skills and techniques based on the client-centered, collaborative approach [7,35] as students received similar information in a pre-requisite counseling course. In this pre-requisite counseling course, which was for one semester for a total of 16 weeks, students were provided with an overview of the Nutrition Care Process Model, which incorporated verbal and non-verbal counseling skills. The instructor taught both the pre-requisite course and the nutrition therapy course to reduce inconsistences with how the material about the Nutrition Care Process and counseling skills and techniques were presented.

Counseling Sessions and Scenarios

Three months prior to the course start date, the instructor revised five case studies (gastritis, Crohn's disease, cirrhosis of the liver, heart attack, and Chronic Obstructive Pulmonary Disease (COPD)) that were included in past semesters of the course. These revised case studies were reviewed via a dietetic faculty who had previously taught the course and used these scenarios. Rather than provide students with all the information at once in a case study, as was done in past semesters, the revised case studies were written to mimic the

way a dietitian, a role played by each student, would obtain the information through an outpatient counseling session. [3,9] In the clinical setting, dietitians generally receive medical charts with critical information prior to meeting with patients. The instructor adapted a mock, paper-based medical chart based on the data found in the case studies, which included age (young adult, adult, or older adult), gender, race and ethnicity (African-American, Hispanic, Japanese, and White), current height and weight, medical condition, laboratory values, medications associated with the condition, past surgical history, and past medical history. Some information was purposely left out of the chart including diet history, eating behaviors, dining out frequency, living situation, supplements or other medications not associated with the condition, food preferences, appetite, culture, chewing/swallowing, bowel issues, weight changes, and physical activity. It was expected that the students were to obtain this information during the counseling sessions. Two months prior to the course start date, for each session, the instructor along with one graduate dietetic student developed a script and scenario. The scripts and scenarios were reviewed by a practicing clinical dietitian and a dietetic faculty. Further modifications were made based on this feedback. The graduate student played the role of the "patient" at each session. The instructor was trained in the Nutrition Care Process through the Academy, was trained in counseling as a prior clinical practitioner and taught courses on counseling. The graduate student received training in counseling skills through undergraduate and graduate course work and had job-shadowed a clinical dietitian prior to aiding in this study.

Counseling Sessions

The students received the patient's medical chart twenty-four hours prior to each counseling session to prepare (e.g. potential questions to ask, potential education to provide based on the disease or condition). Each week, the counseling sessions were held in two consecutive days. For this, the students were evenly divided into two groups, A and B, to facilitate the role of the one graduate student as a patient and as an observer of students' counseling abilities. Students had 20 minutes to counsel "the patient." This entailed assessing the patient, determining the nutritional issue(s), and then counseling the patient. If students reached the 19-minute mark, the graduate student informed them they had one more minute left of the session. The students counseled the graduate student in a furnished private room. Students were allowed to bring with them a note pad, a laptop computer, educational materials and other tools (e.g. calculator) they may need for the counseling sessions. The graduate student brought a pen and a notepad to record non-verbal skills throughout the session and a tape recorder to record the session and assess verbal skills (Figure 1).

Data Collection

Due to the limited qualitative-observational counseling criteria tools available, the researchers created a counseling criteria tool. The qualitative counseling criteria tool was based on best-

Figure 1: Patient's medical chart twenty-four hours prior to each counseling session.
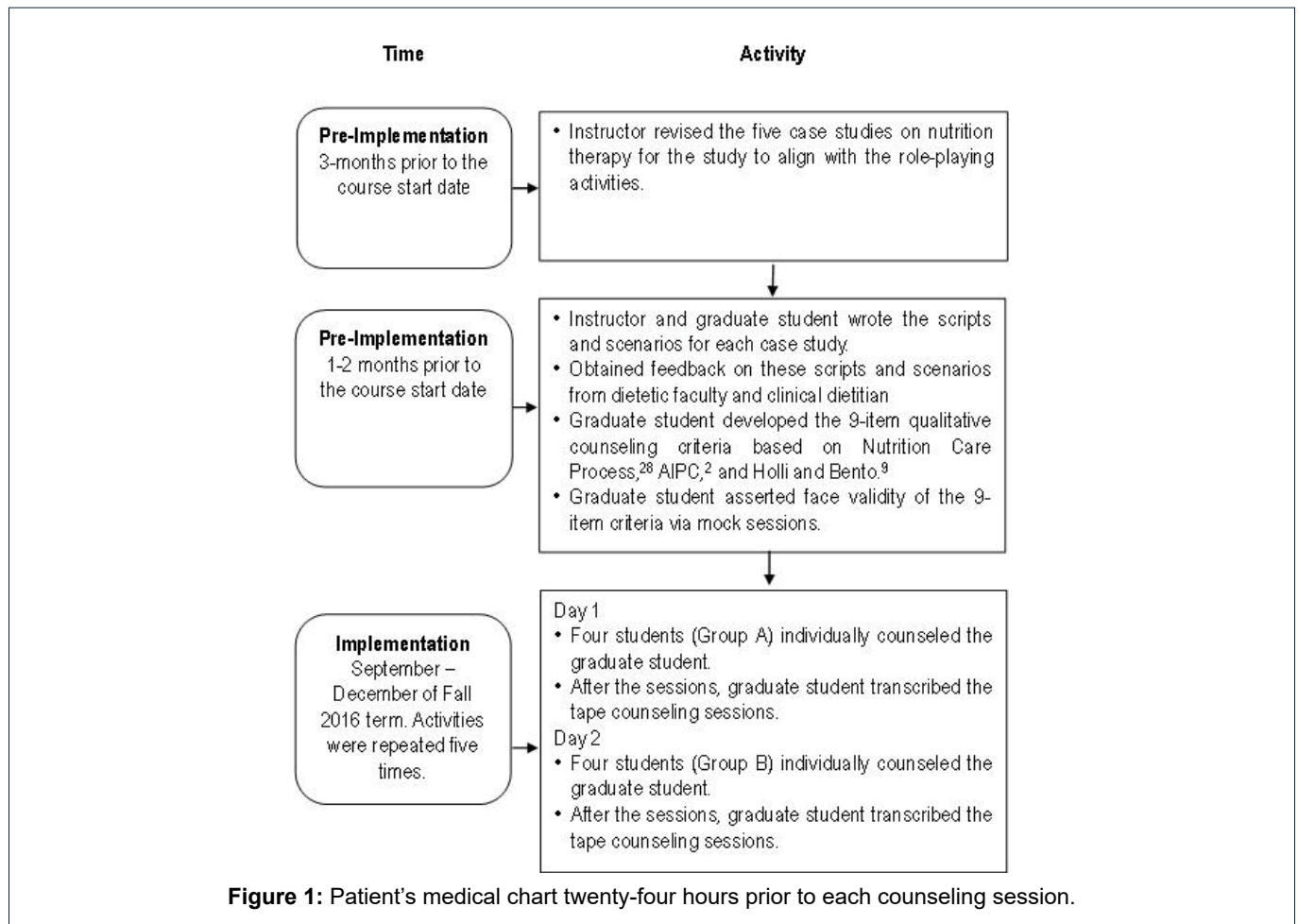
practices for counseling. [9] The tool had 9-items that included both verbal skills such as building rapport and non-verbal skills such as body language. Descriptors were established for each criterion to facilitate the role of the graduate student during each session (Table 1). These descriptors were based on the language used in the Nutrition Care Process, [33] AIPC, [2] and Holli and Beto's (2012) counseling book. [9] To ascertain face validity, the researchers conducted a few mock counseling sessions a month prior to the course start date, in which the instructor played the role of the dietitian and the graduate student that of the patient. During these mock counseling sessions, the graduate student used the qualitative counseling criteria tool to ensure she was attentive to the descriptors by indicating the positives and negatives of the instructor counseling her. For example, during one mock counseling session, the instructor built rapport, but displayed lack of empathy and did not consider cultural aspects when counseling the graduate student. After this mock session took place, the instructor reviewed the graduate student's notes to ensure she had indicated the positive indicators for building rapport, but the negative indicators for empathy and cultural considerations. If the graduate student did not capture all the indicators to mark the criteria as positive or negative, there was discussion on ensuring detailed descriptions were provided for each criterion. This was done after each mock counseling session until the graduate student was capturing the information.

Data Analysis

Qualitative analysis was conducted via the content analysis method. [36] In the content analysis method, both qualitative and quantitative techniques can be used to analyze the information to enhance the quality of the phenomena being studied. [37-39] One researcher, JA, had extensive training in conducting content analysis method via courses and conducting research in this area. The other researcher, KH, completed online training modules and performed a mock content analysis prior to conducting this content analysis method. Following this methodology, Atlas.ti 7 [40] was used to identify key words within each of the 9-item qualitative tool criteria that described a students' communication skills from each session. The two researchers then separately read all observational descriptions from each session and classified them as either positive, neutral, or negative. A description was deemed positive if >75% of the words matched with the descriptors of each counseling criteria. A description was deemed neutral if 25-75% of the words matched with the descriptors of each counseling criteria. A description was deemed negative if <25% of the words matched with the descriptors of each counseling criteria or else were not present in the session. After the researchers independently classified the student's counseling skills based on the 9-item qualitative tool criteria for each session (n=360), the consistency (i.e. inter-rater reliability) of this classification was assessed for

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Indicators	Descriptors
Building rapport	Introduce self and role; Explain purpose of counseling objectives; Pts explain the purpose of the visit; Demonstrated the 'RULE' principles: Respect, Understanding, Listening Skills, Empathy throughout the counseling session
Eye-contact/tone of voice	Maintained eye contact throughout the session; Portrayed a confident/positive/non-threatening/non-condescending tone of voice throughout the session
Body Language	*Gestures*- Shakes hand at the beginning/end of session; talks with hands when explaining about portion sizes, examples of food *Facial expressions*- Maintains neutral facial expressions; smiles when appropriate; does not have a condescending look (furrowing the brows, frowning, dropping mouth open) *Posture*- Sits up straight, but relaxed; leans in slightly; non-crossed arms; faces the patient
Expression of empathy and compassion for patient	Listens to the patient and reads cues from the patient concerning emotions connected to the disease, environment, or social issues; responds appropriately (e.g. does not ignore the struggles one may have with changing their behavior)
Listening Skills/Scope of Questions asked	Asks open-ended questions; provided full/undivided attention when patient was speaking; Repeats or summarizes information provided from patient to ensure the student was listening; Took notes, but did not spend the entire session typing/writing
Nutrition "jargon" and use of consumer-friendly language	Explains complicated nutrition information in lay-person's term (e.g. says protein, but also explains what protein is found in and what it does); Chunks and checks the information provided, stops and asks the patient for clarification to ensure the patient understood the information; Provides examples and explains information by using analogies
Cultural Competency, Personal and Religious-based Preferences	Asks patient about preferences based on religion and culture; Asks clarification questions to ensure the student understood about the patient's religious/cultural preferences; Provided information adhering to these preferences; Did not judge patient based on body language
Prioritizing important information	Provided information based on patient's readiness or agreeableness to make certain changes; Did not overwhelm the patient with information; Included a minimum of 1 goal with the patient and focused on that particular goal when explaining information
Preparation	Student was organized; prepared questions prior to the session; spoke confidently; understood about disease state and the type of information to provide patient; provided additional educational materials
Note: Counseling skills identified from: AIPC[2]; Academy of Nutrition and Dietetics: Nutrition Care Process[28]; Holli & Beto[9]	

Table 1: Quality Characteristics and Descriptors.

the pair (KH-JA) using quadratic weighted Cohen's kappa statistic. [41] A quadratic weighted Cohen's Kappa was selected to account for the degree of disagreement among raters in which values ≤ 0 indicate no agreement, 0.41-0.60 indicate moderate agreement, 0.61–0.80 indicate substantial agreement, and 0.81-1.00 indicate almost perfect agreement. From the open-ended responses, main themes were identified for the strengths, weaknesses, and improvements.

Results

All registered students participated in each of five counseling sessions and completed the self-evaluation survey at the end of each session. The overall Kappa for agreement in the scores provided to students between the two investigators (i.e., KH and JA) was 0.61. This demonstrates substantial agreement between researchers when providing "positive," "neutral," or "negative" ratings to students' counseling abilities. This also indicates that subjective interpretations of students' counseling abilities were rated similarly between researchers. Discrepancies between researchers were most often observed when one researcher rated an action as neutral, while the other researcher rated it as positive or negative.

Students' Counseling Abilities

Qualitative analysis revealed that over the five sessions, students improved or remained consistently positive on seven of the 9-item criteria of the qualitative counseling tool. Students received a consistently positive assessment on keeping eye contact, assertive body language, addition of relevant questions, and preparedness for each session. Three students received a lower rating (negative/neutral) on their preparedness for sessions 4 and 5 in comparison to the first three sessions. Over the course of the five sessions, students improved on rapport building, prioritizing information, and reducing the amount of nutrition jargon. In the 3rd counseling session, however, four students were rated neutral in limiting the use of nutrition or medical jargon. Students used medical jargon to associate a consumption behavior with a disease outcome, e.g., reduce alcohol consumption to two portion sizes as it could lead to hepatitis, jaundice, and cirrhosis; or reduce salt and fat consumption as it could lead to hypertension and hypercholesterolemia.

In all sessions, students received a poor rating in the quality criterion associated with cross-cultural communication. Even though students received a medical chart that explained race/ethnicity and during the session the "patient" emphasized her cultural/religious preferences for foods, students did not address these cultural/religious preferences. Students also struggled with their expression of empathy to certain "patients," particularly those facing addictive behaviors, e.g. alcoholics and smokers. Only three students remained positive in their empathetic behavior to any patient, while the remaining five students developed a more aggressive tone and acted in a negative fashion when counseling patients with addictive behaviors (Table 2).

Quality Characteristics	Positive	Negative	Neutral
Building Rapport	Session 1, Subject G: Introduced self, smiled, locked eye contact, engaged about client	Session 2, Subject F: No introduction of self, started in on session without asking much about client	Session 5, Subject C: No introduction of self, engaged about client
Eye-Contact	Session 2, Subject A: eye contact 75-100% of time	Session 4, Subject D: eye contact <50% of time	Session 2, Subject F: Eye contact 50% of time
Body Language	Session 4, Subject E: Faced patient, Smiled often. Pointed body toward patient.	Session 4, Subject D: Body not directed at patient, focused on laptop majority of session (75%).	Session 1, Subject G: Relaxed, slouched back in seat
Empathy/ Compassion	Session 1, Subject H: Empathized with patient, explained further about condition	Session 5, Subject G: [in response to pt smoking/not wanting to quit] "That's not going to help anything… Do you want to breathe?"	Session 5, Subject F: Did not "react" when patient admitted to smoking 1 pack per day, though did not offer any outward empathetic responses.
Listening Skills/ Scope of Questions Asked	Session 5, Subject B: Heard the patient out; Focused on what patient likes and what they would eat.	Session 1, Subject B: Asked questions prepared, but did not deviate from questions	N/A
Nutrition Jargon	Session 1, Subject D: No jargon observed.	Session 2, Subject G: Used jargon often without explanation.	Session 3, Subject C: Use of <1 without explanation.
Cultural Competency/ Personal Preferences	Session 5, Subject C: Asked cultural, religious and personal preferences	Session 1, Subject F: Did not ask about preferences.	N/A
Prioritizing Information	Session 1, Subject B: Prioritized focusing on patient education	Session 2, Subject F: Skipped over some key info in 24-hour recall	Session 1, Subject A: Asked about food likes/dislikes and allergies. Missed some pertinent information about patient.
Preparation	Session 4, Subject A: Had set of questions to ask patient, prepared with research	Session 4, Subject B: Had list of questions with little to no deviation from them.	N/A
Note: Counseling skills identified from: AIPC[2]; Academy of Nutrition and Dietetics: Nutrition Care Process[28]; Holli & Beto[9]			

Table 2: Results from Observations – Examples of Positive, Negative, and Neutral Characteristics.

The average time for sessions 1-5 were 12.75, 12.72, 13.43, 14.24, and 14.02 minutes. The net average for all sessions was 13.43 minutes. Two students consistently used the full 20 minutes to counsel their patients in all their sessions. Three students spent between 16-20 minutes to counsel their patients in all their sessions. Three students spent less than 15 minutes (30-60% less time) to counsel their patients in all their sessions. Although the length of each session did not directly impact the graduate student's observations, those students who spent less time with their patients received 54% more "negative" or "neutral" comments on their skills compared to those students who spent more time with their patients.

Discussion

The evidence from these results indicates that the addition of role-playing in counseling sessions improved students' counseling abilities. Students improved their ability to build rapport, prioritize information, and reduce nutrition jargon when counseling patients. Moreover, their eye contact and tone of voice, body language and preparation skills were positively ranked and consistent over the five sessions. These findings coincide with results from other studies [13,20-22,24-27,43] that support the use of role-playing in the classroom to improve the counseling skills of dietetic students.

Gibson and Davidson [21] conducted a similar study to determine whether simulated case studies would improve dietetic students' verbal communication skills. All students (n=215) were educated on counseling techniques, which included communication methods. Local people were hired and trained to act as patients. Using a tool developed by the researchers, the actors provided written feedback to the students about their counseling abilities, primarily focused on their verbal communication skills. Results from this study showed that students slightly improved their verbal communication skills. The researchers, however, did not discuss specific verbal communication improvements. The authors concluded that role-playing can improve dietetic students' communication skills, but further training and educational opportunities need to be provided to students to be more effective at counseling. In another study, Stephenson and colleagues [22] reported similar results, which indicated that students (n=32) perceived their communication skills improved (e.g. actively listening, providing support) after they counseled a set of paid actors (i.e. college students majoring in theater arts) in the context of a focus group. Nonetheless, students reported there was a lack of feedback from the actors about how they could improve in their counseling abilities. Overall, these studies showed that direct interaction with patients in more realistic scenarios promotes students' counseling skills. However, in our study,

students were consistently ranked low on their ability to express empathy and cross-cultural communication with the patients.

The Accreditation Council for Education in Nutrition and Dietetics (ACEND) [44] requires that higher educational institutions educate dietetic students on cross-cultural communication due to the rise of diverse populations within the United States. [45] Even though in this study the instructor educated dietetic students on cross-cultural communication, the qualitative results indicated that students had 34% more neutral or negative comments in regards to cultural/religious preferences compared to the other skills throughout the five sessions. Additionally, students rated their ability to counsel a patient from a different cultural/religious background as low (poor at the initial session and neutral at the final session). In regards to using various ethnic/cultural backgrounds for these role-playing case studies, this would be an ideal situation to improve their cross-cultural communication skills. However, due to the limited diversity prevalent in the academic institution (93% White) as well as in the graduate program (74% White), in which the study took place, it might be difficult for students to converse face to face with someone from a different ethnic/cultural background. Our results were similar to those from a study by Beshgetoor and Wade. [20] They showed that students preferred role-playing case studies as they were more realistic and effective. In their studies, students counseled paid actors, who performed as 'patients' with close similarities to the ethnicities provided in the case studies, and rated their perceptions of their counseling experiences and provided recommendations about the case studies. The students recommended the patients should match the cultural/ethnic background as the case study scenario to enhance their ability to counsel someone from a different background. Another strategy that can be employed is using computer simulated scenarios such as virtual worlds to create characters from various ethnic/ cultural backgrounds. Mitchell and colleagues [46] demonstrated that physicians (n=13) were able to enhance their counseling skills with clientele from various ethnic/cultural backgrounds after being exposed to Second Life™. However, the financial cost and extensive training for both the faculty and the students would need to be taken into consideration prior to implementing this type of simulation in the classroom.

Aside from cross-cultural communication, another important skill that dietitians should possess for effective counseling is empathy. [12,23,47-50] In this study, students were unable to express empathy, especially for those patients who had addictive behaviors. Even though educators teach students how to be empathetic while counseling through active learning methods such as role-playing or using computer simulations, students may struggle with this skill when counseling patients as they need to internally reflect and actively listen to the patient's issues. [47,48,51,52] In opposition to the results of this study, Heuberger [50] demonstrated that dietetic students' (n=93) empathetic skills can improve through role-playing. However, this author also employed an immersion technique in which students had to adhere to a specialized diet for two weeks and then counsel one another. Thus, students may not have employed empathetic techniques, but rather sympathetic. Furthermore, Kushner and colleagues [52] demonstrated that medical students (n=127) were able to improve their empathy skills through role-playing sessions with standardized patients over a course of a year. Although, prior to and after each session, the faculty preceptor educated the students on communication skills and provided feedback along with the patient. Therefore, educating students about empathy and exposing students to not only role-playing, but also a combination of other techniques such as immersion may aid students in improving their empathetic skills.

In this study, the research supports that students who are exposed to live, interactive counseling sessions will improve their counseling abilities. Role-playing and counseling activities in an undergraduate classroom can improve the communication skills of dietetic students; this will potentiate their abilities to provide effective nutrition counseling to future patients. Role-playing is a form of active learning recognized as a better method for teaching in the 21st century compared with lecture-based learning. [14] Students are more likely to participate if they are a part of the lesson and actively engaged. [14] They are also more likely to retain information with active learning, which can benefit students as future health professionals. Effectively, this type of active student engagement activity will help students as future Registered Dietitian Nutritionists.

Limitations

The value of incorporating role-playing activities in the classroom to improve dietetic students' counseling skills is well recognized. However, this study is limited by its sample size. Nonetheless, in qualitative studies with multiple observations of the same subject, the sample size was adequate. [30,32] Further evaluation of the 9-item qualitative counseling tool should continue in similar courses. Additionally, feedback by the 'patient' should be provided at the end of the counseling session for students to further improve their skills. Finally, one graduate student played the role of each patient for the length of the study as well as the observer to reduce bias and maintain consistency in the qualitative feedback. Therefore, rotating graduate students to act as patients may help students improve undergraduate dietetic students' counseling skills. This can be strengthen by adding an observer who is not participating in the role-playing activity to further minimize bias.

Conclusions & Implications for Future Research

Improving the counseling skills of dietitians to assure compliance among patients to comply with nutrition therapies and ultimately change patient's dietary behaviors is a critical endeavor. Addition of active learning techniques such as role-playing in the classroom can support this goal. In this study, students participating in live, interactive counseling sessions improved their counseling abilities. However, further attention should be devoted to strategies for educating students on cross-

cultural communication and communicating in an empathetic manner. Use of this educational approach in classrooms should enhance undergraduate dietetic students' verbal and non-verbal communication skills to allow them to be an effective counselor. Research is needed to further validate and ensure the reliability of the 9-item qualitative counseling tool. Additional research is needed to follow students who used this educational approach to verify the effective application of their verbal and non-verbal communication skills during their dietetic internships. If these skills are not maintained over time, further studies on possible confounding variables should take place. If these skills are maintained over time, then this educational approach should be incorporated into dietetic courses.

Conflict of interest statement

The authors declare no conflict of interest.

Acknowledgements

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