Original Article

The Impact of Immersion on Perceived Caring in Undergraduate Nursing Students

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Abstract

Background: Caring is a central premise to the nursing profession; however, there is little research on this phenomenon and the methods to increase caring behaviors in nursing education. Immersion experiences are frequently used in nursing education to further knowledge of other cultures and healthcare systems; however, immersion can also be used to further students'
Objectives: The purpose of this project is to examine the differences on the self-reported caring perceptions of undergraduate nursing students between groups of students who received instruction alone on caring for vulnerable populations to those who received instruction plus immersion.
Method: Retrospective analysis of Caring Factor Surveys-Care Provider Versions® was conducted to determine if a significant difference occurred in students who received didactic only versus students who received didactic plus immersion. Students participated in didactic focused on caring for vulnerable populations, social justice and theories of caring in nursing. Half of the students also participated in an immersion experience in the *Colonias* along the Texas-Mexico border.
Results and Conclusions: Overall caring factors mean scores showed significant increase from pre-intervention to post-immersion for the group participating in didactic plus immersion. No significant increase was discovered in the group completing the didactic only. Specific areas of increase were teamwork and caring for the spiritual and emotional needs of patients.

Key words: perceived caring, impact, immersion

Introduction

Caring is a fundamental construct within nursing, and consideration should be given to how it is nurtured and encouraged in nursing students so that they may carry it into practice. Caring is the most prevalent reason for entering the nursing profession (Rhodes, Morris and Lazenby, 2011); however, there is little research on this phenomenon, as to whether it is an innate ability, or if it can be developed concerning its application to nursing practice. The importance of caring has been shown, however, as patient outcomes improved when nurses spent time with patients practicing the phenomenon of nursing presence (Lesniak, 2010).

Much of nursing education focuses on skill development and critical thinking exercises; evidence is limited to support educational interventions effective in promoting caring; however, less is known about the best methods to train nursing students on how to address the concept of caring in nursing, and expand their own caring abilities. Caring requires development which is ongoing throughout the nurse's educational process and career (Watson & Smith, 2002).

Immersion as an Educational Method to Develop Caring

In discussing the need for students to develop cultural competence, deChesnay (2012) states that the two components of knowing self and sharing respect for others are essential doctrines. These doctrines are essential to the phenomenon of caring as well. All humans have an ethnocentric bias from their own lived experiences. Briefly living the experiences of others is a means to develop cultural understandings and begin caring for those who

are different. Immersion experiences serve to help students develop an understanding of the values and standards of others through an awareness of their own ethnocentrism (deChesnay, 2012). Additional benefits of immersion experiences in nursing education include meeting the health needs of the community which, by its nature, may have limited access to care. Students often experience opportunities for leadership, ethical decision making, and public policy leading to advocacy from an immersion experience.

Immersion experiences develop students' understanding of their strengths, weaknesses, problem solving and critical thinking skills (Nauright & Wilson, 2012). The works of Pai, Eng and Ko (2013) and Ou and Lin (2006) demonstrated a link between caring behaviors and critical thinking. The Institute of Medicine's Report on the *Future of Nursing: Leading Change, Advancing Health* (2010) cited the importance of critical thinking in advancing nursing as a profession, providing a safe and effective patient care environment, and understanding how to navigate complex health care systems. Awareness of one's own caring behaviors and the skills for developing the ability to care for those from other cultures, presented in nursing education, can provide an increase in confidence in practice (deChesnay, 2012). Nevertheless, there remains a gap in the literature regarding the effect of immersion experiences on developing caring in nursing students.

Purpose

The purpose of this project was to examine the impact of an immersion experience on the self-reported caring perceptions of undergraduate nursing students. Comparison was made between groups of students who received didactic instruction only, and those who received didactic instruction plus an immersion experience, working with vulnerable populations, specifically Mexican-American immigrants in the *Colonias* of the Texas-Mexico border.

Literature Review

After conducting a CINAHL search, using the key terms "caring," "nursing students," and "immersion," articles were scanned for inclusion in the review of literature. Specific criteria included the use of Watson's Theory of Caring in Nursing. Articles, which also spoke to service-learning or immersion experiences, were reviewed regardless of the theoretical framework. Ultimately, 16 articles were included which investigated caring in nursing education. Six articles specifically addressed service learning or immersion as an educational method for learning caring in nursing. Bankert & Kozel (2005); Hutchinson and Janiszeswki-Goodin (2013); Lesniak (2010) and Sokola (2013) provided a descriptive analysis, in which a common theme of connectedness and genuine caring transactions was demonstrated to occur in the learning process. One aspect of this learning was described by Hutchinson and Janiszeswki-Goodin (2013), who observed that faculty serves as role models for the expression of caring behaviors, resulting in a decrease in student anxiety in complex learning situations. Porr and Egan (2013) further found that caring behaviors occur intentionally across a continuum, stating that without caring, a nurse acts as a technician and not a practicing professional.

Service learning, or immersion experiences as a means to share phenomena and lived experiences, were frequently discussed in the literature. Brown (2013) noted that during service-learning experiences, students build character and become active participants of the community in which they are immersed. As an active learning strategy, students are fully immersed into the lives of those being served, and are especially beneficial when working with members of vulnerable populations that may be culturally different from the students. Hunt (2009) and Jack and Wibberly (2013) both used a phenomenologic approach to explore student emotions during service-learning. Commonly expressed feelings were struggles with integration of perceptions and experiences. Similarly, Diesel, Ercole and Taliaferro (2013) measured differences in willingness to care for people with AIDS, through the use of stigma scales for a group who were immersed in an HIV positive population in Cameroon, and those who were not. Other areas which are increased through the use of service-learning include leadership abilities and increased understanding of social justice. Groh, Stallwood & Daniels (2011) and Jarrell et al. (2013) both surveyed student attitudes toward service learning and poverty, showing an increase in understanding these concepts through the use of immersion.

The overall conclusion, from review of the literature, was that students bring an innate ability to care for others into their undergraduate studies; and this can be further developed through intentional methods. Both didactic instruction and immersion have been shown to be effective methods for teaching nursing students the concepts of caring; however, a gap was discovered in the understanding that didactic experiences alone or didactic plus immersion experiences, are more effective in developing these caring behaviors.

Methods

Retrospective analysis was conducted between two groups of students enrolled in an elective course entitled Care of Vulnerable Populations at XXX, College of Nursing. Students were allowed to self-enroll in the course, resulting in a total of 17 students from a second-degree BSN cohort of 40. Five weeks of didactic instruction were provided over the topics of theories of caring in nursing, aspects of vulnerability, social justice, and health promotion for vulnerable individuals. Following the five week didactic, nine students volunteered to complete a service-learning immersion experience, along the Texas-Mexico border, working within the *Colonias* of Laredo, Texas. During the course, students developed teaching presentations based upon requests from stakeholders within the *Colonias.*. Prior to beginning the didactic portion, a baseline caring behaviors inventory was collected utilizing the Caring Factors Survey-Care Provider Version (CFS-CPV) (Nelson & Watson, 2012). This tool consists of twenty 7-point Likert questions, asking students to rate self-perceptions of caring interactions with patients. The tool has demonstrated validity when administered to acute care nurses. The same instrument was administered to students participating in the elective at three points of data collection: pre-intervention, post-didactic, and post-immersion. Mean scores were calculated for each of the data collection sets and utilized for comparison.

Data Analysis

In order to determine whether the immersion experience showed a significant impact over the didactic, for the group who received both the didactic and the immersion experience, repeated-measures ANOVA was utilized to compare the three points of data collection (pre-intervention, post-didactic, and post-immersion). Paired samples t-tests compared the mean survey score from their pre-intervention CFS-CPV to the post-didactic and the post-immersion scores. Finally, to examine whether there were specific items on the CFS-CPV which accounted for the overall change in means, ANOVA was conducted for each of the 20 questions on the inventory with a Tukey post-hoc analysis, looking for specific behaviors impacted by the didactic and the immersion experience.

Results

Data from the CFS-CPV surveys was entered into SPSS Version 21.0® using unique identifiers. Data were analyzed in an aggregate manner to report caring factors mean scores from the control group to the didactic only group versus the didactic plus immersion group. In order to determine whether significant differences in the baseline measurements existed between the control group, the didactic only group, and the didactic plus immersion group, one-way ANOVA was conducted for comparison of CFS-CPV scores on pre-intervention and CFS-CPV means. No significant difference was noted between the three groups at baseline.

A repeated-measures ANOVA was calculated for the group receiving the didactic plus immersion ($n = 9$), comparing the mean CFS-CPV scores of participants at three points of collection: pre-intervention, post-didactic, and post-immersion. A significant difference was discovered between the pre-intervention survey and the post-immersion survey with $F(2, 16) = 15.121$, $p < .05$. Due to the inability of SPSS Version 21.0 to conduct an adequate post-hoc analysis for repeated measures ANOVA, protected t-tests were conducted utilizing a significance level of .017 (.05/3) (Cronk, 2012). These data are provided in Table 1. A significant increase was found from pre-intervention to post-immersion with a mean of 6.533 ($sd = .452$) and post-immersion mean of 5.944 ($sd = .420$) with ($t(8) = 6.2$, $p < .001$). However, pre-intervention to post-didactic and post-didactic to post-immersion mean changes were not significant with a pre-intervention mean of 6.533 ($sd = .452$) and post-didactic mean of 6.338 ($sd = .402$) at ($t(8) = 6.2$, $p > .017$) and post-didactic to post-intervention means with ($t(8) = 3.011$, $p > 0.17$).

Table 1: Paired t-test Comparison of Didactic versus Didactic Plus Immersion

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-intervention to post didactic	.19444444	.20224435	.0674147 8	.0389856 7	.3499032 1	2.884	8	.020
Pre-intervention to post immersion	.53888889	.26074146	.0869138 2	.3384652 6	.7393125 2	6.200	8	.000
Post didactic to post immersion	.34444444	.34318767	.1143958 9	.0806470 5	.6082418 4	3.011	8	.017

Table 2: Analysis of Specific Caring Factors Behaviors

Question Number and Text	Collection Points of Significance	Mean Difference	Significance
2. I believe the healthcare team that I am currently working with solves unexpected problems really well.	Pre-intervention to Post didactic Pre-intervention to Post-immersion	.1.222 .8889	.003 .035
4. As a team, my colleagues and I are good at creative problem solving to meet the individual needs and requests of our patients	Pre-intervention to post immersion	1.00	.003
10. I create an environment for the patients I care for that helps them heal physically and spiritually	Pre-intervention to Post immersion	1.00	.014
14. I work to meet the physical needs as well as the emotional or spiritual needs of the patients I care for	Pre-intervention to post didactic Pre-intervention to post immersion	.778 .778	.032 .032
15. Everybody on the healthcare team values relationships that are helpful and trusting	Pre-intervention to post immersion	1.00	.04

Supplemental Data: The Impact of Immersion on Perceived Caring Factors in Undergraduate Nursing Students

Table 1: Paired t-test Comparison of Didactic versus Didactic Plus Immersion

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pre-intervention to post didactic	.19444444	.20224435	.06741478	.03898567	.34990321	2.884	8	.020
Pre-intervention to post immersion	.53888889	.26074146	.08691382	.33846526	.73931252	6.200	8	.000
Post didactic to post immersion	.34444444	.34318767	.11439589	.08064705	.60824184	3.011	8	.017

Table 2: Analysis of Specific Caring Factors Behaviors

Question Number and Text	Collection Points of Significance	Mean Difference	Significance
2. I believe the healthcare team that I am currently working with solves unexpected problems really well.	Pre-intervention to Post didactic Pre-intervention to Post-immersion	.1.222 .8889	.003 .035
4. As a team, my colleagues and I are good at creative problem solving to meet the individual needs and requests of our patients	Pre-intervention to post immersion	1.00	.003
10. I create an environment for the patients I care for that helps them heal physically and spiritually	Pre-intervention to Post immersion	1.00	.014
14. I work to meet the physical needs as well as the emotional or spiritual needs of the patients I care for	Pre-intervention to post didactic Pre-intervention to post immersion	.778 .778	.032 .032
15. Everybody on the healthcare team values relationships that are helpful and trusting	Pre-intervention to post immersion	1.00	.04

However, pre-intervention to post-didactic and post-didactic to post-immersion mean changes were not significant with a pre-intervention mean of 6.533 (*sd* = .452) and post-didactic mean of 6.338 (*sd* = .402) at (t (8) = 6.2, $p > .017$) and post-didactic to post-intervention means with (t(8) = 3.011, $p > 0.17$). For purposes of understanding the effect of the didactic only (n = 6), a paired t-test was run on the pre-intervention to post-didactic mean scores for this intervention group. No significant increase from pre-intervention to post-didactic mean CFS-CPV scores was noted with a pre-intervention mean of 5.841 (*sd* = .766) and post-didactic mean of 6.2833 (*sd* = .515) with (t(5) = -2.827, $p > .001$). Those who participated in the immersion experience had significantly higher mean CFS-CPV scores than those in the control group or the didactic-only group.

Analysis of Specific Caring Factors

To further understand the specific caring factors demonstrating significant change for the didactic plus immersion group, comparison was made by computing one-way ANOVA for the means of each question on the 20-question CFS-CPV, for each of the three data collection points this group completed: pre-intervention, post-didactic, and post-immersion. A significant difference was noted for five of the 20 questions on the survey. The remaining 15 questions did not demonstrate a significant difference. Analysis of these five questions is outlined in Table 2.

The five questions reaching significance include question 2, 4, 10, 14, and 15. Question 2 asks participants to rate their response to the question, "I believe the healthcare team that I am currently working with solves unexpected problems really well." Analysis of these responses at all three points of collection revealed a significant difference. ($F(7.185, 12.0) = 7.185$, $p < .05$). Tukey's HSD was utilized to determine the nature of the differences between the three time points. This analysis revealed that responses for both the post-didactic and post-immersion surveys were significantly different from the pre-intervention survey with $p < .003$ and .035 respectively.

For question 4, which states "As a team, my colleagues and I are good at creative problem solving to meet the individual needs and requests of our patients," comparison between the three points of collection showed a significant difference ($F(4.667, 8.0) = 7.0$, $p < .05$. Post hoc Tukey HSD revealed significant change ($p = .003$) from the pre-intervention to the post-immersion measurements, but not from the pre-intervention to the post-didactic measurements.

In response to question 10, which states "I create an environment for the patients I care for that helps them heal physically and spiritually," analysis from the three points of collection demonstrated a significant difference ($F (4.519, 11.556) = 4.602$, $p < .05$). Tukey HSD post-hoc analysis indicated that the significant difference for this question again occurred from pre-intervention to post-immersion ($p = 0.014$). Differences between the pre-intervention and post-didactic group and the post-didactic to post-immersion scores were not significant.

Question 14 was significant with ($F(3.630, 8.889) = 4.900$, $p < .05$). Question 14 asks the participant to rate "I work to meet the physical needs as well as the emotional or spiritual needs of the patients I care for." Post hoc analysis for this question indicated a significant difference from pre-intervention to post-didactic and pre-intervention to post-immersion with $p = .032$ each. There was no significant difference on this question between the post-didactic and post-immersion measurements.

Question 15, which states "Everybody on the healthcare team values relationships that are helpful and trusting," also revealed a significant difference with ($F(4.963, 16.0) = 2.452$, $p < 0.05$). Post-hoc analysis for this question revealed this significance to be due to differences between the pre-intervention to post-immersion survey responses ($p = .04$). There was no significant difference between the pre-intervention to post-didactic or post-didactic to post-immersion survey results.

Evaluation and Discussion

Significant increase in overall CFS-CPV means were noted from pre-intervention to post-immersion for the group who received both didactic and immersion experiences. Of note, this difference was not demonstrated after the didactic portion or between the didactic and immersion; therefore, there is benefit from receiving both the didactic and immersion over a single didactic intervention. Further support for this finding is the lack of significance noted on the group who received only the didactic portion of the intervention. There was no statistically significant improvement in their overall mean CFS-CPV scores.

For the group receiving both didactic and immersion, the five questions which demonstrated significantly improved mean scores, centered on two main areas: teamwork and spiritual considerations. On question two, participants were asked whether they *believe the healthcare team that I am currently working with resolves unexpected problems really well*. Question four similarly asks whether, *as a team, my colleagues and I are good at creative problem solving to meet the individual needs and requests of our patients.* Question 15 also pertains to the team aspect of caring, asking participants to rate whether *everybody on the*

healthcare team values relationships that are helpful and trusting. A possible explanation for the increase in these scores is the nature of relying on teammates during the time of immersion. Being in an unfamiliar environment can cause anxiety, causing participants to rely on familiar things for comfort. Activities occurring during the immersion experience were based upon team-based health teaching programs. The assigned activities occurring during the immersion experience were to provide health teaching based upon needs analysis within the *Colonias* communities. These topics included cancer prevention, basic first aid training, bullying prevention, and domestic violence awareness.

Questions 10 and 14 pertained to areas of meeting both physical and spiritual needs, with question 10 asking participants to rate whether they *create an environment for the patients I care for that helps them heal physically and spiritually*. Question 14 states *I work to meet the physical needs as well as the emotional or spiritual needs of the patients I care for*. Spirituality was not an intended focus of the immersion experience. Spiritual needs were not a direct focus on the immersion experience. The significant increases on questions relating to providing for the physical, emotional and spiritual needs of clients, are an indirect result of the time spent in discussing these topics with the population in the *Colonias*.

Limitations

Due to the relatively small sample size of participants in this study (control = 16, didactic only = 6, didactic plus immersion = 9) further research needs to be conducted, with larger samples, to validate and generalize these findings.

Also, within the limitations of this study, is the difficulty in controlling for potential bias created by the repeated exposure of the intervention group to the same measurement tool. Students were allowed to self-select for both the didactic and the immersion portion of the intervention with the potential for selection bias; however, baseline CFS-CPV means for those who selected the interventions were not significantly different from a group of students who did not participate in any intervention at baseline. Therefore, it was felt selection bias was not a factor.

Significance to Nursing Practice

Being able to relate to others, and to provide a caring, therapeutic environment for members of vulnerable populations are important skills for nurses to possess. There is no clear method for promoting these skills in undergraduate nursing education. Immersion is typically used in nursing education as a means to provide cultural encounters; however, the value to nursing students in regard to caring skills, has not been adequately measured.

Findings of this study suggest that didactic combined with immersion does have a significant impact on the perceived caring factors in undergraduate nursing students, specifically in the areas of being able to care for team mates, and to address the physical, emotional, and spiritual needs of patients being served.

Recommendations

While the sample size is small, this intervention demonstrates a significant increase in the overall caring means from pre-intervention to post-immersion. Didactic alone for either group did not create a significant impact. With literature showing a connection between caring behaviors and critical thinking (Pai et al., 2013; Porr & Egan, 2013; and Ou & Lin, 2006), the correlation between these increased caring factors scores and critical thinking scores, on standardized testing, should be evaluated.

If interventions, which are shown to increase caring, show a converse increase in critical thinking, they should be considered for all nursing students. Due to the limited sample size, it is recommended that this intervention be replicated for larger numbers of students. Also, the targeted population was second-degree BSN students. For application to all undergraduate students, replication would need to be conducted with traditional cohorts. It is unclear whether age, maturity or previous exposure to vulnerable populations played a role in these results.

Combined with the findings of the studies in the literature review, undergraduate programs should consider the implementation of service-learning experiences as part of the routine undergraduate curriculum as a means of exposure to different cultures. Such experiences will contribute to the understanding, compassion, and sense of social justice for undergraduate students.

Place of Research: Texas A&M University Health Science Center College of Nursing 3950 North A. W. Grimes Blvd Round Rock, TX 78664

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