



The effect of the poverty simulation on BSN student attitudes toward poverty and poor people[☆]

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1. Introduction

An estimated 14.5% of people in the United States lived below the poverty line in 2014 (Center for Disease Control, 2015). Poverty rates in the state of Arkansas are estimated at 18.5% overall and are as high as 26% for families with young children. Nurses are on the front lines of delivering safe quality care, while also attending to the social, mental, and spiritual needs of their patients, including those who are living in poverty. It is important to educate and sensitize nursing students to the cultural realities of living in poverty and the impact of poverty on health and health-related decisions. The Community Action Poverty Simulation (CAPS) is one teaching strategy used to help nursing students acquire necessary knowledge, skills, and attitudes to provide care for those living in poverty (Missouri Association for Action, 2012). As use of the CAPS becomes more widespread, it is important to assure that intended student outcomes of the simulation are achieved. The purpose of this study was to measure the effect of the CAPS on BSN student attitudes toward poverty and poor people.

1.1. Literature review

A review of the literature revealed that the use of simulation has an effect on the attitudes of participants toward poor people. While most of the studies reviewed included undergraduate nursing students, one included behavioral health and education students (Loomis and De Natale, 2017), and one studied graduate students of public health, as well as faculty and staff (Strasser et al., 2013). Most studies also used community volunteers to assist in the implementation of the simulation experience. In a study that implemented the CAPS, there was significant change in the participants' perceptions of barriers faced by low-income families, as well as increased empathy (Strasser et al., 2013). Results also indicate an increased confidence in the participant's ability to identify issues associated with poverty and to make a positive impact on people living in poverty. Noone et al. (2012) implemented the CAPS and used the Attitudes Towards Poverty and Poor Populations Scale (APPPS). Students who participated in the CAPS reported a more positive attitude toward the poor that those who did not ($F = 6.135$,

$p = .015$). Conversely, in a similar study, while the means moved in a positive direction toward a more favorable attitude toward the poor, the only factor that resulted in statistically significant results was that of stigma ($p = .02$). There were no statistically significant changes in the factors of Personal Deficiency not Structural Perspective. However, the qualitative data from this study indicated that students found the simulation experience to be valuable in understanding the reality of poverty, the frustration felt by those in poverty, and the need for more resources and services (Patterson and Hulton, 2012).

Yang et al. (2014) found that participants significantly increased their understanding of poverty, especially in the areas of financial pressures, challenges in improving their situation, emotional stresses, and the impact of the social service system. Results from Noone et al. (2012) indicate that undergraduate nursing students who experienced the poverty simulation had an improved understanding of the link between poor living conditions and the health of poor people (53.7% to 70.9%) over those who did not experience the poverty simulation ($p = .023$). However, Yang et al. (2014) did not find statistically significant change in this same area ($p = .061$). In general, participants of poverty simulation stated that the experience influenced their nursing practice by increasing referrals for services (Yang et al., 2014), providing resources for patients (Strasser et al., 2013), becoming better advocates (Loomis and De Natale, 2017; Yang et al., 2014), and raising community awareness (Loomis and De Natale, 2017).

Common themes that emerged from the qualitative data of the simulation experience were limitations on time and resources, stress of accessing basic needs (Loomis and De Natale, 2017; Yang et al., 2014), frustration with timing and long lines, the need for more resources (Patterson and Hulton, 2012; Loomis and De Natale, 2017), and insight into the social services system (Strasser et al., 2013). When using a virtual simulation program, no significant overall changes in attitude were noted in either the intervention or control group, but there were some significant changes on individual questions (Menzel et al., 2014). For example, the intervention group moved toward a more favorable attitude on statements such as, "If poor people worked harder they could escape poverty" and "Unemployed people could find jobs if they tried harder".

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Johnson et al. (2015) conducted the simulation experience in which the students, using public transportation, went directly into the community setting acting as poor people seeking community resources. Reflections by participants expressed surprise in the number of resources available, but frustration in the challenges encountered in accessing those resources. However, participants noted a greater awareness and compassion as advocates for those in poverty.

Based on this review of the literature, a poverty simulation experience can lead participants to an increased awareness of the impact poverty has on individuals and greater empathy and compassion toward poor people. Participants also indicated a better understanding of the limitations and frustrations experienced in everyday life by poor populations.

Although the body of knowledge on Poverty Simulation is growing, the differences in methods of the studies make it difficult to compare results. Patterson and Hulton (2012) and Yang et al. (2014) were the only two studies to use mixed methods. Most of the studies used the CAPS but only Patterson and Hulton (2012) and Noone et al. (2012) used the Attitudes Towards Poverty-Short Form (ATP-SF) questionnaire to gather findings for analysis. In addition, all of the studies were conducted as part of Community/Public Health or Population Based Care course; none were part of a Pediatrics curriculum. While six of the studies included nursing students, Menzel et al. (2014) was the only study to specify BSN students, and Strasser et al. (2013) included only graduate Public Health students. All studies had small sample sizes of less than 200 participants. The inconsistencies and small study groups suggest that more research is needed to understand the impact of Poverty Simulation on BSN students.

The research evidence available on the use of the poverty simulations for undergraduate nursing students is contradictory. Some, but not all found student attitudes moving toward more understanding of the challenges faced by those living in poverty. The time and resources required to implement the poverty simulation is considerable and it is important to verify that intended outcomes are being achieved. Additional research is warranted in order to determine if the time and resources spent on providing the experience for students is in fact beneficial. The purpose of this study was to add to the research evidence by testing the effectiveness of the CAPS on attitudes of BSN nursing students from the rural state of Arkansas where poverty levels exceed national poverty levels.

2. Methods

This research study included both a quantitative and qualitative component. For the quantitative component a single group pre-test, post-test survey design was used. For the qualitative component of the study participants responded to reflection questions (see Fig. 1) after participating in the simulation experience. The Institutional Review Board of the University of Central Arkansas provided approval for this research study. The students in a BSN pediatric class were provided with a detailed explanation of the study, and data collection

procedures. The CAPS was a mandatory component of the course, but students were recruited to complete the surveys and reflection questions. The process provided complete anonymity to the students. The researchers did not know which students chose to participate and there are no advantages or disadvantages for students who agreed to participate. Written informed consent was obtained from all participants.

The study setting was a public university of approximately 12,000 students in the rural state of Arkansas. Eligible students in a Pediatric Nursing course were those who had not previously participated in the CAPS. A total of 67 pre-licensure BSN student participants anonymously completed the Attitudes toward Poverty and Poor People survey (short form) at the beginning of the spring semester. Eight weeks later, 65 participants completed the CAPS. Participants then completed the post-simulation survey and wrote a reflection on the simulation experience. An anonymous ID created by the students themselves allowed the researchers to match pre- and post-survey responses. A total of 65 complete sets of data (97% response rate) were obtained.

2.1. Intervention

The CAPS took place in a large open room with 16 tables representing various community agencies set up around the perimeter, and 11 clusters of chairs set up in the center of the room representing family "homes". Community volunteers were positioned around the room and served as representatives of various community agencies who were providing services, employment, or law enforcement. Each volunteer received information and instructions on the role they were to simulate. Examples of community agencies included, but were not limited to a school, social services, police, pawn shop, grocery store, health clinic, general employer, homeless shelter, mortgage company, and utility company.

As they entered the room each participant was handed a name tag and an information sheet on the role and family scenario they were assigned to for the simulation. Each scenario provided participants with basic information on family members (age, gender, medical conditions, employment status, etc.), and resources available (cash, automobile, food stamps, etc.). Each participant was then escorted to their designated family "home". Once everyone was in position, the simulation coordinator read simulation instructions out loud and then allowed for questions and clarifications.

After receiving instructions, student participants assumed the role of individuals in low-income families. While the family scenarios provided participants with some information, participants had to prioritize and decide how to seek services and support, obtain financial assistance, and determine how to spend their money. The task of each family was to provide basic necessities and keep their families safe for one month, which was represented by four 15-minute time periods or "weeks". Failing to meet obligations resulted in consequences such as lack of food to feed the family, loss of employment, repossession of the home, or even removal of children from the home. After each 15-minute time period, participants had 3 min to return to the family "home" to

- Reflecting on your role in the poverty simulation, what was the biggest challenge you faced as an individual or as a family?
- What did you learn about the life experience of low income families?
- How do you think this experience might impact your nursing practice?
- Are there any other thoughts or feelings you would like to share about your experience with the Poverty Simulation?

Fig. 1. Post-simulation reflection questions.

regroup. At the completion of the fourth “week” the simulation coordinator conducted a debriefing with all participants and community volunteers. The entire activity, including simulation and debriefing, lasted approximately 3 h.

2.2. Outcome measures

For the quantitative component of the study, participants completed a brief demographic questionnaire and the 21-item Attitudes toward Poverty and Poor People survey. The survey is a 5-point Likert scale with responses ranging from “strongly agree” to “strongly disagree”. Yun and Weaver (2010) reported an internal consistency (Cronbach's alpha) for the Attitudes Toward Poverty and Poor People-Short Form of 0.87.

2.3. Data analysis

Descriptive statistics were used to analyze demographic data. Differences between baseline and post-simulation scores were analyzed using the Wilcoxon signed ranks test. In addition, student participants submitted post-intervention reflections on the CAPS experience that were analyzed using qualitative methods that included coding, constant comparison, and identification of common themes. The three team members independently read participant responses to the reflection questions and assigned codes to the lines of text. The research team then met to discuss the coding and to reach agreement on definitions of each code. After agreement was reached, the text was aggregated by code. Key ideas were compared within and across codes to generate common themes that emerged from the data.

3. Results

A total of 65 pre- and post-survey pairs were included in the final analysis. Participants had a mean age of 21.9 years, were predominantly white (86.2%), and most identified themselves as “Christian” (96.9%). The majority of participants (89.6%) described their families of origin as financially “somewhat secure” to “very secure” with the remaining 10.7% indicating “somewhat insecure” to “very insecure”. Fourteen (21.5%) participants indicated that their families had received public assistance.

Of the 21 items included on the pre/post-test, Z-scores were statistically significant ($p < .05$) for 12 of the items, indicating a shift toward more understanding and sensitivity of the challenges faced by those living in poverty. The three items showing the most significance included: “An able-bodied person collecting welfare is ripping off the system” ($Z = -3.663$, $p < .000$, $r = 0.46$); “If I were poor, I would accept welfare benefits” ($Z = -3.870$, $p < .000$, $r = 0.48$); and “I would support a program that resulted in higher taxes to support social programs for poor people” ($Z = -3.691$, $p < .000$, $r = 0.46$). Statistical information for all 21 items is outlined in Table 1.

In addition to the quantitative findings discovered through the Attitudes Toward Poverty and Poor People scale (short form), student knowledge regarding poverty and poor people was examined through three post-simulation reflection questions that students answered as open-response items on the post-test. Qualitative data from these reflections were analyzed using a thematic analysis approach. Thematic analysis is used to analyze the qualitative information and to systematically gain knowledge about patterns that are important to the description of a particular phenomenon. Analysis of the qualitative data from this study suggested that the CAPS was “an eye-opening experience” that helped students gain “insight” and “awareness.” Students described feelings such as “helplessness,” “sadness,” “guilt,” and “frustration” as they worked through the simulation scenarios. Three themes emerged from the qualitative data: challenges and priorities, stress and worry, and awareness and understanding.

3.1. Challenges and priorities

In their roles as members of low-income families, students found financial struggles to be their biggest challenge. This may be indicative of the fact that the majority of students who participated in this simulation identified the financial status of their family to be somewhere between “somewhat secure” and “very secure” (89.6%). Students responded with statements such as, “As a family, the biggest challenge we faced was deciding what bills we should pay and which would just have to not be paid”; “We struggled with making sure all the bills got paid and that we could eat.”; and “There was no way to pay all of my bills, feed my kids, transport myself, and make it to work on time.” Helplessness was also reported by several of the students with statements such as, “My biggest challenge was that I could see that my family was struggling, but I couldn't help since I was only a teenager who had to go to school.” and “The biggest thing I faced as an individual was feeling helpless as a 16-year-old pregnant teen. I couldn't help my parents because I was supposed to be in school and hanging with my best friend.”

Several of the families in the simulation had members with health problems, yet few accessed healthcare. Students responded with surprise that even in the simulation they elected to avoid seeking health care so that they could pay bills. For example, one student commented, “We had to worry about money and bills instead of enjoying life and being able to move past necessities like food and utilities to more luxuries like healthcare.” Comments such as, “health care is the first thing to go” and “health care is usually last on the list” were not uncommon; however, one student summed up the reality of poverty by simply stating, “Food and shelter take priority over receiving health care. They don't seek health care unless it is an emergency.”

3.2. Stress and worry

Students commented on the stress faced by families in the simulation. Some of the most impactful statements made by students included: “They go through a lot of stress worrying about paying bills, finding time to work, and caring for their family.”; “It is stressful to live in a constant state of how am I going to pay for bills and food and make sure I get to work on time and keep my benefits.”; and “It was very stressful during the simulation, so I can only imagine what it is like in real life.” Statements such as these provide evidence to support the claim that students who participated in this simulation experience have a limited understanding of the struggles faced by low-income individuals and families.

3.3. Awareness and understanding

Awareness and understanding was the final theme identified. One student said, “I think it opens my perspective to those who struggle with income and where their priorities lie.” Another student responded, “I think it will allow me to better understand clients/patients and also be able to get them helpful resources that would greatly help them.” Finally, one student summed up their feelings by reporting, “It helps me be more aware of where low-income patients are coming from. I think this will change the way I treat low income families and help me to put myself in their shoes a little when interacting with them.”

4. Discussion

The quantitative and qualitative findings of this study are consistent with previous studies in which participant attitudes toward poverty and poor people shifted to greater understanding (Loomis and De Natale, 2017; Noone et al., 2012; Yang et al., 2014). While scores on the survey were statistically significant, student responses to qualitative, open-ended questions were rich in describing the impact this simulation had on their awareness of living in poverty. An essential component of

Table 1
CAPS item analysis.*

| Question | Z-score | p-Value | Effect size |
|--|---------|---------|-------------|
| Poor people are different from the rest of society | −0.143 | .886 | 0.017 |
| Poor people are dishonest | −1.015 | .310 | 0.13 |
| Most poor people are dirty | −0.314 | .754 | 0.04 |
| Poor people act differently | −0.316 | .752 | 0.04 |
| Children raised on welfare will never amount to anything | −0.229 | .819 | 0.03 |
| I believe poor people have a different set of values than do other people | −0.733 | .464 | 0.01 |
| Poor people generally have lower intelligence than non-poor people | −0.148 | .882 | 0.02 |
| There is a lot of fraud among welfare recipients | −2.135 | .033* | 0.2668 |
| Some “poor” people live better than I do, considering all their benefits | −2.891 | .004* | 0.36 |
| Poor people think they deserve to be supported | −2.978 | .003* | 0.37 |
| Welfare mothers have babies to get more money | −2.931 | .003* | 0.37 |
| An able-bodied person collecting welfare is ripping off the system | −3.663 | .000* | 0.46 |
| Unemployed poor people could find jobs if they tried harder | −2.967 | .003* | 0.37 |
| Welfare makes people lazy | −3.075 | .002* | 0.38 |
| Benefits for poor people consume a major part of the federal budget | −1.103 | .270 | 0.14 |
| Poor people are due to circumstances beyond their control | −2.707 | .007* | 0.34 |
| I would support a program that resulted in higher taxes to support social programs for poor people | −3.691 | .000* | 0.46 |
| If I were poor, I would accept welfare benefits | −3.870 | .000* | 0.48 |
| People who are poor should not be blamed for their misfortune | −2.011 | .044* | 0.25 |
| Society has a responsibility to help poor people | −1.469 | .142 | 0.18 |
| Poor people are discriminated against | −2.583 | .010* | 0.32 |

* Statistical significance at $p < .05$.

nursing education is preparing students to care and advocate for vulnerable populations, such as those living in poverty.

Students in this study were particularly surprised at their own decisions to forgo healthcare. People living in poverty suffer disproportionately from chronic illness and often delay seeking treatment. Nursing students who have little personal experience with the challenges faced by those living in poverty are at risk for being judgmental and may even have unrealistic expectations. The CAPS experience enabled students to increase understanding, and many reported that the experience had an effect on their awareness of community resources available. Greater awareness of community resources increases the likelihood that nurses will advocate and connect those in need with available resources.

The use of simulation in nursing education gained popularity over the last 15 years as enrollment in nursing programs expanded, technology for high-fidelity manikins improved, and competition for clinical experiences increased. High-fidelity simulations mimic real life scenarios and may or may not include the use of advanced technology. The CAPS does not require advanced technology yet is a high-fidelity or “realistic” simulation that can have a powerful impact on student learning. The effect of participation in the CAPS on student attitudes – or the affective domain – is particularly promising. In addition, the cost of the simulation is minimal.

Additional experiences may be needed to increase BSN student skill in advocating and caring for poor people. The use of the CAPS to affect student knowledge and attitudes toward poverty and poor people early in a nursing curriculum could be followed with other experiences that require students to access actual community resources.

The small sample size along with the single research site limits the generalizability of the findings. In addition, there was little ethnic or socioeconomic diversity among the students who participated. Additional research is needed to determine how the CAPS experience might affect students from more varied backgrounds. Finally, future research should include additional outcome measures to measure BSN student skills in advocating and providing culturally sensitive care to poor people.

5. Conclusion

The results of this research suggests that the CAPS is an effective teaching strategy in that it allows students to explore realistic situations through interactions designed to simulate the lived experience of low-

income families. Furthermore, we found the CAPS to be useful in improving BSN student knowledge and attitudes toward poverty and poor people. While the generalizability of these findings is limited due to the relative homogeneity of the sample, the findings are consistent with previous studies (Patterson and Hulton, 2012; Yang et al., 2014) that found participation in the poverty simulation led to greater empathy for the experiences of those living in poverty. In addition, participants indicated that the simulation truly helped them to understand the importance of knowing what community resources are available. Use of the high-fidelity poverty simulation has the potential to have a positive impact on culturally competent care of BSN students.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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