

Exploring Nursing Students' Experiences of Blindness Simulation: A Phenomenological Study

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Research article

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Abstract

Background: Simulation-based teaching skill is important for nurses who care for blind patients. Nurses should be able to understand their clients in order to provide them with better care. Also, better understanding of blindness enables nurses to take a more appropriate approach in dealing with blind patients and solving their problems. The aim of this study was to explore the experiences of blindness simulation among a group of nursing students.

Methods: This qualitative study was conducted using an interpretive phenomenological method. Using purposeful sampling method, 8 participants were selected to share their experiences regarding blindness simulation through individual in-depth and semi-structured interviews. The transcribed interviews were analyzed by Diekelmann's approach.

Results: The results of data analysis resulted in three main categories and nine subcategories, which were conceptually named based on their nature. The main categories included; abandoned in the labyrinth of life, seeing with the eyes of heart, and personality alienation.

Conclusions: The findings of this study provide a clear picture of students' experiences of blindness simulation. Understanding students' descriptions and perceptions of visually impaired patients in different aspects can provide valuable data in reducing and removing existing problems and planning to improve the quality of care. Therefore, improving and modifying care plan can guarantee the quality of professional services provided to patients.

Background

The visual impairment is a very important public health problem and a serious condition that imposes heavy costs on the health care system (1). Every 7 minutes one person suffers from visual damage (2). According to the World Health Organization (WHO), about 90% of those with low vision and blindness live in developing countries such as Africa and Middle East including Iran (3). The existing statistics show that about 115,000 to 120,000 blind people live in Iran that is among the first 16 countries in terms of blind population (4).

Health care providers are often confused about how to care for the blind patients as they have been trained to care for non-blind ones, as a result they provide a typical care to blind patients as they would to non-blind ones (4). Nurses, as the key healthcare professionals who deal with the blind people, can identify patients' social, health and rehabilitation needs and problems as well as their desire and wishes and design a community-based care plan for them (5). One of the methods that we can use to better understand disable people is to simulate disability. Disability simulation is a form of active learning in which, physical limitations such as blindness is simulated for healthy people like wearing the blindfold. This method can affect individuals' attitudes, especially for students and is useful for in-service training for those who deal with disable people (6).

Currently, most universities around the world are looking for educational methods that can expand and enhance clinical and self-directed learning as well as clinical decision-making capacities (7). Simulation is an educational technology that can facilitate learning and improve learner's performance (8). Application of simulation in nursing can lead to the development of knowledge, skills, performance, critical thinking and self-confidence of nurses (9). Due to inadequate feedback in the clinical setting, lack of access to adequate number of patient for training, variability in patient composition in real environments, lack of access to clinical situations, and large number of students in the clinical setting, the use of simulation in nursing education seems to be a good idea (8). Nurses should be able to understand their clients in order to provide better care for them, so better understanding of experiences that blind people have can help nurses to select a more efficient method to deal with such patients and manage their problems (10). In fact, in-depth study of these experiences can help to shed light on their overt and covert aspects and analyze them in detail. This objective is only possible through qualitative study. Studying and analyzing individuals' experiences can help community to have a more appropriate behavior towards blind people. At the same time, the result of such studies and analysis can be used to provide appropriate a more appropriate health, psychological, social and support services for blind people. Thus, this qualitative study was conducted with the purpose of exploring the experience of nursing students' blindness (loss of vision) simulation.

Method

Aim

The aim of this study was to explore the experience of blindness simulation among a group of nursing students.

Study setting

This study was conducted in different areas of the School of Nursing and Midwifery, Tehran University of Medical Sciences (such as classroom, dining room, yard, library, restroom, hall, etc.).

Study design

This is a qualitative study with phenomenological approach. The main objective of qualitative study is to describe the lived experiences of target group (11). The present study seeks to identify and describe nursing students' experience of blindness simulation.

Participants

Since there is no predetermined sample size in the qualitative studies, sampling in such continues until data saturation where no new data is extracted. For this purpose, we interviewed 8 individuals in this study. The samples were selected from nursing students of Tehran University of Medical Sciences. The inclusion criteria were; having no refractive and visual impairment, having no disorder that could

potentially cause injury to the eye when wearing blindfold (such as hemodynamic, balance and musculoskeletal disorders), and not having a blind family members.

Data collection

In order to conduct this qualitative study, the researcher explained the purpose (which was to have the experience of someone who has suddenly become blind through simulation) and method of study to the participants after obtaining their consent. For this purpose, the researcher closed the participant's eyes using a blindfold for at least three hours in a way that, they were not be able to see the surroundings and perceive light. The participants were then asked to perform their normal activities at the faculty during this time with their eyes closed. After at least three hours of restricted vision, the students were asked to describe their experiences. The in-depth and semi-structured interview was the main method of data collection. All interviews were conducted individually by open-ended questions such as: How would you describe the life of a person who has suddenly become blind? What was your experience of blindness simulation?

Data analysis

In order to analyze the data, *Dickelman's 7-step method* was used. In the first step, the interview text was transcribed and reviewed after each interview to obtain a general sense of understanding. Then, in the second step, the text of each interview was interpreted by the researchers and the explicit and implicit meanings of the participant's statements were extracted. In the third step, the coded texts were discussed and analyzed by the research team members. In the fourth step, the inconsistency of the interpretations was explained and resolved within the research team. In the fifth step, the themes were identified and described by comparing and contrasting the texts. In the sixth step, the study results were discussed in the form of themes extracted by the members of the research team. In the seventh step, the final results were presented in the form of main themes (12).

Validity and reliability

In order to ensure the validity and reliability of the data, the Lincoln & Guba's criteria (credibility, confirmability, transferability, dependability) were used (13). The credibility of data was ensured by the participants' confirmation of the results, long-term engagement with the subjects by having constant presence among them, and establishing an effective relationship with the participants and gaining their trust in order to understand their experiences. The confirmability of data was achieved by observers' review, which included submitting parts of the transcribed interviews, related codes, and emerging categories to several observers, and applying their complementary comments in data analysis. The dependability of data was assured by transcribing the interviews as soon as possible and providing similar opportunities for all participants (14).

Results

In this study, the participants comprised of 8 nursing students at the fifth semester who were studying Tehran University of Medical Sciences with a mean age of 20 years. After data analysis and encoding, 357 initial codes were obtained. The codes were classified in three main categories (Abandoned in the labyrinth of life, seeing with the eyes of heart, and personality alienation) and 9 sub-categories (Table 1).

Table 1 - The study results' themes

Category	Sub-category
Abandoned in the labyrinth of life	Living in ambiguity, living in fear, and unpredictable surrounding
Seeing with the eyes of heart	Arousal of intuition, enhanced focus and precision, and optimal use of other senses
Personality alienation	Dependence, emotional isolation, and reduced self-confidence

Abandoned in the labyrinth of life

The participants described their experience of blindness simulation as being abandoned in the labyrinth of life. This category had three sub-categories; living in ambiguity, living in fear and unpredictable surrounding.

Living in ambiguity

The study participants described their blindness experience as living with ambiguity, which was stressful and unpleasant. The uncertainty and confusion about doing things that they normally have no problem doing them had left them in an ambiguity.

“It was like riding a car that has no steering wheel. You just have the accelerator and brake pedals with no steering wheel to control the car. You can't drive when you have no steering wheel (P7).”

“There was darkness that was confusing, for example you don't know which way to go even for couples of steps (P4).”

Living in fear

Fear is a feeling, which is created in human as a result of being threatened. Undoubtedly, for a person who has always relied on his vision for navigation and everyday living, the loss of strongest and most helpful sense of vision can be a powerful experience that is associated with fear. The participants referred to the loss of vision as a dominant experience.

“Fear of abuse; some directed us to wrong direction. Anything could have happened to us. I was also scared of such thing happen to me in reality” (P5).

"I felt insecure as people could easily take my purse and hurt me" (P4).

"When the class was over, someone came and took me to the midwifery building. I didn't know how much I could trust him/her, or where he/she is taking me and what is happening" (P8).

Unpredictable surrounding

The notion that, the participants had lived with vision to this day and they suddenly had to continue living in the dark world, induced a sense of unpredictability toward surrounding and individuals in them. The students also believed that, prior knowledge reduces this feeling and patients who have no idea of surroundings and individuals in their mind are unable to predict their surroundings.

"At first, I felt confused about where I was and half an hour, I could guess that I was near the stairs and I could go up and down, but still didn't know where I exactly was" (P1).

"Nothing is like what you think. I was talking to someone as at first I thought he is someone I know. I asked his name and after I opened my eyes, I saw it is nothing like what I thought" (P3).

Seeing with the eyes of heart

The arousal of intuition, the enhancement of focus and precision, and the optimal use of other senses are among factors that allow people who experience blindness to see with the eyes of their hearts.

Arousal of intuition

Human being receives information through his five senses, which is called the power of intuition. Intuition is a very powerful weapon that will be enhanced in the case of blindness.

"They don't see, but they understand everything. They even understand the heavy look" (P1).

Enhanced focus and precision

When the sense of vision is impaired, people use all sense of precision and focus to do things and continue living.

"I may not care about everything during the day. For example, I have a friend who wear a special deodorant. I might not pay attention to that, but today when he passed me, I recognized the scent and guessed that might be him" (P3).

"Not seeing will make you notice someone who passes you by. You try to focus more" (P2).

Optimal use of other senses

According to the participants' experiences, in the absence of vision, focusing on other senses helps to partially compensate for the vision lost and reinforce other senses.

"I lost my vision but instead I use my hands a lot. Other senses will be reinforced when someone loses a sense. The lost sense cannot be replaced, but this helps a little" (P7).

Personality alienation

Alienation literally means losing, or cutting off from something. In this case, the person loses self-awareness. Also, dependency, emotional isolation, and reduced self-confidence were the cases of alienation from the perspective of participants.

Dependency

Dependency is a term that evokes a sense of need. The need for help and support of others for daily tasks, mobility, routing, and affairs that the healthy people alone can accomplish. Dependency along with blindness was an experience that the participants mentioned in their statements.

"Nothing really can be done alone. You can't even walk never mind going out to do important work. There should always be someone there to help you. Dependency is always there. You should have someone to take care of you" (P3).

"When I entered the self-service, they gave me a tray. I took two steps and said: I can't go any further. I felt that I was about to fall at any moment so, I gave the tray to someone else to carry it for me" (P6).

Emotional isolation

The need to communicate is one of the most basic needs of every person in life. The emotional isolation was referred to by the participants as a component of personality alienation. According to the participants, not seeing and being deprived of the sense of vision can lead to emotional isolation.

"It can affect one's emotional relationships. For example, appearance is one of the things that attracts opposite sex. You can't see the personality of someone" (P6).

Reduced self-confidence

Self-confidence is a psychological condition in which, one has the confidence and ability to successfully perform a task because of previous experiences. For students, the others' sense of compassion and perception, and negative feelings about own self affect the self-confidence of blind person.

"Others' sense compassion towards blind people does not increase their confidence. Sense of compassion may help them, but it is very harmful mentally" (P5).

Discussion

The results of this phenomenological study suggested that, the experience of blindness simulation by nursing students could be classified in three main categories, including abandoned in the labyrinth of life,

seeing with the eyes of heart, and personality alienation. Living in ambiguity, fear and unpredictable surroundings create a labyrinth in the life of blind people. Living in ambiguity was one of the experiences mentioned by the participants during the simulation. A moderate level of ambiguity can have very positive effects on the human life. Individuals, according to their understanding, have some or little ambiguity, so some degree of ambiguity is essential for personal development (15). Of course, ambiguity tolerance was different among the students. Those with lower ambiguity tolerance considered the ambiguous situation as threatening and suffered from it anxiously. In contrast, those with high ambiguity tolerance considered ambiguity as an advantage, and looked for more questions with better answers (16). Along with the ambiguity, living in fear was another category that was mentioned by the participants. Fear is a passive and psychoactive reaction that a person shows against a threat or danger (17). Fear of being in an environment that is unpredictable and having the ability to control the environment depend on the use of all five senses.

Seeing with the eyes of heart was another category in this study, which had three sub-categories; arousing intuition, enhanced focus and precision, and optimal use of other senses. Husserl refers to intuition as a generic term for anything that results from the immediate sensory experience of a person (18). Blind people learn to use intuition, and sense of hearing and smell or touch to compensate for their lack of vision (19). Sense of hearing plays an important role in the life of blind people (20), as they use hearing through voice recognition, interpretation, and orientation to move and detect their surroundings. Also, many blind people use this skill to walk in hallways and indoors by using sonar waves which is reflection of the sound of their footsteps (21). In other words, taking advantage of intuition and other abilities will partly replace their lost sense of vision.

Personality alienation is the third category found in this study. Dependency, emotional isolation, and reduced self-confidence were the sub-categories of personality alienation as mentioned by the students. Dependency, as one of the most obvious limitation induced by the simulation, was referred to by all students as the experience of helplessness. Following the loss of support a strong sense of helplessness is created in the dependent person. They also have high level of mental concern about the possibility of being abandoned (22). The emotional isolation caused by lack of vision was another experience mentioned by the participants, which is consistent with the results of Tuttle and Tuttle study as they showed that blind people have a more tendency towards isolation and avoid crowded places (23). Also, restrictions on transportation and fear of being ridiculed, punished, and judged as well as traditional attitude of community towards blindness make those with visual impairments to have a more tendency towards isolation and loneliness (4). The challenge of self-confidence to fit within the community was one of the experiences mentioned by the students. Dealing with those around us is one of the obstacles that exist in our psychosocial environment. These negative attitudes and psychosocial obstacles affect the mental health of blind people and cause them to have lower self-esteem and self-confidence than others (24).

In this study, the simulation method was used to induce a sense of blindness in the students, which changed their attitude and perspective in regard to caring for blind patients. Pazargadi and Sadeqi (2011)

in their study showed that simulation leads to changes in the attitudes of learners and readiness of them to learn new roles, helps learners to understand professional role, displays the influential roles of the learners, increases motivation and interest of the learner and creates critical thinking skills in the learner (8). The study of Tivener (2015) showed that accurate simulation is effective in student's education and has similar effect on their knowledge acquisition, self-confidence, and emotional response (25) . Therefore, due to the limitations of this experience with the experience of real blind patients, it is recommended to use simulation method to enhance the knowledge and skills of healthcare staff who care for patients with disabilities, especially blindness.

Study limitations

The learners' anxiety during the simulation was the limitation of the present study which could affect our data. Therefore, we attempted to greatly reduce anxiety by reassuring the students and increasing their knowledge.

Conclusion

The main objective of this study was to simulate blindness in nursing students in order to help them better manage all aspects of care for blind patients. In this study, the students reported several experiences that they had, including reduced self-confidence, emotional isolation, fear, ambiguity, and other negative emotions. These negative emotions are largely rooted in the interaction of blind people with their family, community, and caregivers. The results of present study can help to better understand the conditions of blind people, reduce their negative emotions and improve the quality of care for them. It is recommended to simulate conditions for other disabilities in order to increased knowledge and promote care and management for disable patients. The results of this qualitative study can also provide suggestions and strategies for future planning, policy making and interventions. Understanding the deprivations and experiences of blind people within the community is needed to adopt right policies and make plans not only for disabled, but also for the healthy.

Declarations

Ethics approval and consent

The ethical principles observed by the researchers included obtaining permission from the Ethics Committee of Tehran University of Medical Sciences with the code: IR.TUMS.VCR.REC.1396.4576, obtaining written informed consent from all participants, granting participants the right to withdraw from the study at any, applying the principles of anonymity and confidentiality, and providing participants with the results upon their request.

Consent for publication

Not applicable

Availability of data and materials

Data would be available by contacting the corresponding author.

Competing interests

The authors declare no competing interests regarding the present study.

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Authors' contributions

This study was designed by HJ and ANN. HJ and MM wrote the proposal and ANN reviewed and modified this. AN, HJ and MM performed simulations of blindness and conducted interviews. All authors were involved in the analysis of the interviews. MSH wrote the final text of the article.

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References

1. Frick K, Kymes S, Lee P, Matchar D, Pezzullo M, Rein D. The cost of visual impairment: Purposes, perspectives, and guidance. *Invest Ophthalmol Vis Sci.* 2010;51(4):1801-5.
2. Shamshiri M, Mohammadi N, Mohammadi M, Heidarzadeh M, Mozafari N, Karimipour S. Lived experience of self-care in blind individuals: A phenomenological study. *Qom Univ Med Sci J* 2016;10(3):28-37.

3. Pascolini D, Mariotti S. Global estimates of visual impairment: 2010. *Br J Ophthalmol* 2012;96(5):614-8.
4. Shahbazzadegan S, Behboodi-Moghadam Z, Ghiyasvandian S, Shamshiri M, Mozaffari N, Mohammadi M. Blind Mothers' Experiences of Marginalization: A Hermeneutic Phenomenological Qualitative Study. *J Qual Res Health Sci* 2018;7(1):23-34.
5. Kopp K. Staff lack vital skills in caring for visually impaired people. *Nurs Times*. 2013;109(25):11.
6. Silverman AM. The Perils of Playing Blind: Problems with Blindness Simulation and a Better Way to Teach about Blindness. *Journal of Blindness Innovation and Research*. 2015;5(2).
7. Kassab M, Kenner C. Simulation and Neonatal Nursing Education. *Newborn and Infant Nursing Reviews*. 2011;11(1):8-9.
8. Pazargadi M, Sadeghi R. Simulation in Nursing Education. *Iran J Educ Strategies* 2011;3(4):161-67.
9. Adib-Haj-Bagheri M, Salsali M, Ahmadi F. Clinical Decision-Making: a Way to Professional Empowerment in Nursing. *Iranian Journal of Medical Education*. 2003;3(2):3-13.
10. Sharts-Hopko N. Low vision and blindness among midlife and older adults: a review of the nursing research literature. *Holistic Nursing Practice*. 2009;23(2):94.
11. Speziale, Streubert H. Qualitative research in nursing:advancing the humanistic imperative2011.
12. Wojnar DM, K MS. Phenomenology: An Exploration. *Journal of Holistic Nursing*. 2007;25(3):172-80.
13. Hsieh H, Shannon S. Three approaches to qualitative content analysis. *Qual Health Res*. 2005;15(9):1277-88.
14. Polit D, Beck C. *Essentials of nursing research: Appraising evidence for nursing practice*: Lippincott Williams and Wilkins, USA; 2010.
15. Grenier S, -Ladouceur RB. Intolerance of uncertainty and intolerance of ambiguity: Similarities and differences. *J Pers Individ Differ*. 2005;39:593-600.
16. Hosseini S, Keraskiyan-Mojembar A, Ferdousi-Pour A. The contribution of five major factors of personality in the prediction of ambiguity tolerance. *Journal of Thought & Behavior in Clinical Psychology*. 2014;9(30):17-26.
17. Alaei-Rahmani F, Hasanzade M. Analyzing the concept of "fear" by relying on its kind of defamiliarization in the Qur'an. *Ma'rifat-i Ākhlaqī*. 2013;4(1):74-55.
18. Conner A. Intuition Theory in Husserl's Phenomenology. *Name Mofid*. 2006:56.
19. Kohal AN, Tavousi-Tafreshi S, Aghasi M. The Influence of the Olfaction, Audition and Tactile Senses in Mobility and Orientation of Blinds Iranian Rehabilitation Journal. 2015;13(4):13-9.
20. Ahadian M. *Educational technology arrangements*. 3 ed: Tehran: Boshra; 2011.
21. Etebari B, Karimi A, Aghilzadeh N. *Orientation and mobility*. Tehran:Organization of Exceptional Education. 2001;13:16-7.
22. Farsham A, Khodabakhsh R. The effectiveness of insight-based psychotherapy in treating a disorder Affiliated person. *Clinical Psychology Studies*. 2015;20(5):227-43.

23. Tuttle D, Tuttle N. Self-esteem and adjusting with blindness: The process of responding to life's demands. Springfield, IL: Charles C Thomas. 2004:328.
24. Moradi A, Kalantary M. Impact of life skills education on mental profile of women with physical disabilities - mobility. *Journal of Exceptional Children*. 2006;56(12):34-44.
25. Tivener K, Gloe D. The effect of high-fidelity cardiopulmonary resuscitation (CPR) simulation on athletic training student knowledge, confidence, emotions, and experiences. *Athl Train Educ J*. 2015;10(2):103-12.