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Simulation as an Alternative to Women's Health Clinical Rotations for Ultra-Orthodox Men: A Pilot Study of Cultural Adjustment†

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cultural diversity;
simulation-based training;
nurse education;
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women's health;
cultural adjustment;
simulation to field ratio

Abstract

Background: Due to the cultural needs of male Jewish Ultra-Orthodox nursing students, the entire women's health clinical rotation in our nursing program was replaced with simulation training. This study sought to determine student and teacher satisfaction and student knowledge and skill acquisition during a pilot of an alternative method of instruction.

Methods: Participants, a total of 96 Ultra-Orthodox male students from four student cohorts. Six clinical settings were created, with 32 hybrid scenarios, covering 47 clinical situations. The program's evaluation was based on student and instructor feedback and pre-post knowledge exams.

Results: Students and instructors reported that the training improved students' skills and readiness to practice. Students significantly improved their post-course knowledge score and were comfortable taking care of female standardized patients in common women's health clinical settings.

Conclusions: Simulation was found to be an effective and feasible way to meet curriculum requirements while also addressing the cultural needs of male Ultra-Orthodox nursing students.

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Background

Cultural diversity among nurses and nursing students is common worldwide. Providing a culturally sensitive environment is a goal that nursing educators and administrators are constantly working to achieve (Craft-Blacksheare, 2018). Students from a minority ethnic background may face barriers when attempting to integrate into the dominant cultural system. They may underachieve and have higher attrition rates (Pitt et al., 2012). One such minority in Israel is Ultra-Orthodox Jews.

Israel is home to the world's largest very religious or Ultra-Orthodox Jewish community. They tend to live in distinct communities, where they are subject to strict religious authority, preserving their way of life and traditions. Men of this culture study the scriptures in religious

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institutions as their primary occupation well into adulthood, turning this group into a learners' society, thereby restricting many from the labor market. There is a growing awareness of the need to encourage employment for this group. Increasing access to academic programs serving their unique needs is one way to achieve this goal (Gal & Malach, 2011). As part of a national plan to integrate Jewish Ultra-Orthodox men into academic studies, the (Anonymized) offers a four-year nursing program exclusively for this community (Haron & Azuri, 2016).

Key Points

- This study describes the use of simulation as a means to adapt clinical nursing training to meet the cultural needs of the learners.
- A simulation-based women's health rotation provided an effective and feasible alternative to the field clinical rotation.
- This study suggests that a field to simulation ratio of 2:1 , i.e. two field hours replaced by one simulation hour, is appropriate.

According to the traditions of this culture, adult men and women who are not married to one another are strictly separated. Touching or even being alone in the same room is prohibited. Therefore, Ultra-Orthodox male students cannot participate in the traditional women's health clinical rotation, caring for women patients, for training purposes, in the intimate settings of this field. The college had to adjust its curriculum to conform with the cultural needs of these students without compromising learning goals, since all students who are allowed to sit for the Israeli national licensing exam for registered nursing must complete all the required theoretical and clinical coursework. Furthermore, although it is probable that Ultra-Orthodox male students will not choose to care for women in any women's health setting, they may care for women and children in other settings.

The course's faculty identified simulation as a workable strategy to completely replace the women's health clinical rotation for this group of students. Simulation is usually integrated into the curriculum as an additional teaching strategy. In this case, simulation was chosen to be the sole clinical teaching strategy.

The aim of this study was to determine whether simulation-based training is a feasible, effective, and culturally appropriate alternative to women's health clinical rotations for Ultra-Orthodox male nursing students.

Methods

Sample

Ninety-six students from four cohorts, one cohort for each year, from 2016 to 2019, were included. Sixty (63%) were over the age of 30, 77 (80%) were married with children and 24 (25%) had more than five children.

Setting

A decision was made to develop a competency- and knowledge-based curriculum rather than one that required the student to participate for a certain number of hours. We based our decision on our experience that simulation-based training is more efficient than field training and that the resources needed to provide one simulation hour for wach field one was too high.

Six clinical fields were included: Delivery Room, Gynecology, Emergency Department, Obstetrics Clinic and High-Risk Pregnancy, Maternity and Newborn Wards. The course faculty identified the relevant common clinical situations for each clinical setting for a total of 47 situations, thirty-two of which were trained through scenario training (encounter with standardized patients - SP) and fifteen through skills training (Table 1).

The training program took eleven full days: (a) two days of theoretical knowledge; (b) six days of practical training, one day for each clinical field; (c) one day for case presentations and clinical discussions; (d) two days of computerized simulations in the nursing school. The simulation-based rotation took 74 hours, while the traditional women's health clinical rotation core curriculum consists of 144 hours. According to the literature, a field-to-simulation ratio of approximately 2:1 (two field hours replaced by one simulation hour) is considered an appropriate ratio (Sullivan et al., 2019).

The Training Day

Most of the simulation training took place at the (Anonymized). Groups of four or five students were assigned per day to an instructor and a SP for each clinical setting. Each day started with specific skills practice, followed by five or six 10-20 minutes scenarios.

Hybrid scenarios were developed to bridge the gap between the students' cultural needs and the training goals. Female SPs were used for the non-physical aspects of care, such as history taking and patient education, and mannequins and models were used for the training of clinical skills. In each scenario, one student cared for the SP, thus each student actively participated in one or two scenarios per day, observed all others and took an active role in the debriefing sessions for all scenarios. The female SPs were actresses very experienced in medical simulation. They played all of the patient roles and took an active part in the debriefing sessions, representing the patient's perspective.

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Table 1 Women's Health Simulation Scenarios in the Six Clinical Areas and Skills Training.

Clinical Fields Newborn Ward	Delivery Room	Maternity Ward	Obstetrics and Gynecology Clinic	Gynecology Emergency Department	High-Risk Pregnancy Ward
First normal newborn physical assessment, including maternal education	Treatment of a women in the latent phase of labor	Family planning and decision making related to anti D vaccination administration post birth	Patient education before a glucose challenge test in pregnancy	Care and support of a woman after a missed abortion	Care of a hospitalized woman with unstable gestational diabetes
First newborn physical assessment (Mongolian spots, including maternal education)	Support and education of a laboring woman in pain	Recognition and treatment of post-partum blues	Patient education before an oral glucose tolerance test	Assessment and caring for a woman with hyperemesis gravidarum	Care of a hospitalized woman with pre-eclamptic toxemia
First vaccinations and umbilical cord care, including maternal education	Care of a woman reporting decreased fetal movements	Maternal education, discharge planning, and home self-care	Care of a woman with pregnancy related anemia	Assessment and care of a woman with an ectopic pregnancy	Care of a hospitalized woman with bleeding due to placenta previa
In-hospital basic breastfeeding consultation	Decision- making related to a woman presenting with contractions in a community clinic	Care of a mother soon after vaginal delivery	Maternal education related to counting fetal movements and its significance	Assessment and care of a woman with Pelvic Inflammatory Disease	Care of a hospitalized woman with premature contractions
Baby care and safety training of parents before discharge from the hospital	Decision- making and treatment of a woman giving birth in a non-clinical setting in which the baby has shoulder dystocia	Care of a mother soon after C section	Maternal assessment and education related to proper nutrition during pregnancy	First diagnosis and treatment of a woman with ovarian torsion	Care of a hospitalized woman with premature rupture of membranes
First newborn physical assessment after vacuum extraction and cephalo-hematoma, (including maternal education)	Decision making related to a woman giving birth in a community clinic				
Common clinical situations training via skills training					
Measurement and care of low sugar levels in newborns	Reading a fetal monitor during labor	Late postpartum hemorrhage	Care of pregnant women with a medical history of chronic illness	Genetic testing and abortions in early pregnancies	Challenges in pregnancy follow up: highlights related to the ultra-orthodox community
	Performing Leopold maneuvers	Treatment of uterine atony	Screening for perinatal depression	Identification and care of women with Ovarian hyper-stimulation syndrome	Interpretation of fetal heart rate during high-risk pregnancy
	Understanding grand multiparity as a predictor of adverse pregnancy outcomes Maternal genetic screening as risk evaluation during delivery			Recognition of the signs and symptoms of Endometriosis	Risk evaluation of delivery after cesarean

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Instructors and SP Training

The instructors, all experienced nurse educators, completed a two-day skills and scenario-based training course. Each SP completed a half-day training session, including review of the scenarios and role playing. Cultural sensitivity was included in both instructor and SP training. This training was led by ODO, a midwife, lactation consultant and simulation expert who supervised the entire program.

Student Assessment

We employed a structured, formative and summative assessment scheme. Summative assessment was based on the Creighton Competency Evaluation Instrument (Hayden et al., 2014), and assessed professionalism, safety-related behavior, clinical skills, and knowledge. The assessment was completed at the end of each day and combined into a final overall score. A daily formative assessment consisted of a personalized oral and written instructor feedback session for every student and completion of a student reflection form.

Program Evaluation

The program was evaluated based on three elements: student feedback questionnaires, instructor feedback, and a pre-post knowledge exam. The students completed a quantitative feedback questionnaire. It included an evaluation of instructional quality (scenario realism and instructor contribution to learning), and the contribution of the course to their training. Instructors received a structured, open-ended questionnaire evaluating all aspects of the program. Both instructors and students were asked to choose their preferred percentage of simulation training: 10%, 25%, 50%, 75%, or 100%.

Students completed two written exams, one on the first day of the rotation and the second on the last rotation day. The first exam served as an entrance exam, requiring a passing grade to start the rotation. The second served as a measure of knowledge attainment. Written exams scores were not included in the rotation score.

Results

Student Feedback

Students reported being highly appreciative of the course's contribution to their clinical skills, theoretical knowledge and their readiness to practice, scoring (M = 3.7-3.8 out of 4).

Students felt comfortable during their encounters with the female SPs (M = 3.6) and reported that instructor explanations and interventions contributed to their learning (M = 3.9). Simulation was considered a suitable alternative for real clinical experience (M = 3.4). Sixty students (82%) stated that they would prefer that half of their training use simulation.

Instructor Feedback

Instructors found the learning aids, setting, and SPs to have a significant impact on students' learning. They emphasized the contribution of SP feedback to the educational process. They also appreciated the end-of-the-day feedback that contributed to students' learning, even though for some students this reflection and feedback session felt more like a burden than a learning opportunity.

Comparisons of student pre- and post-course knowledge scores showed a statistically significant difference (M = 86.3, SD = 10.6 and M = 75.6, SD = 9.7, respectively (t [94] = -8.36, $p < .001$).

Discussion

The simulation-based training provided a realistic clinical experience, as close to real life as possible, given the cultural restrictions. The Jewish Ultra-Orthodox male students acquired the required knowledge and skills in women's health without compromising their beliefs.

We were concerned as to how to use women SPs in this course. On the one hand, male students are prohibited from taking care of women for training purposes in an intimate setting, this was the primary reason for developing this alternative rotation. On the other hand, women SPs should be used in women's health training. SPs' and instructors' culturally sensitive behavior made students feel comfortable when performing as nurses and caring for their female patients. Therefore, the students were able to experience women's health nursing with real women in a culturally sensitive environment.

Unlike the clinical field, the simulation lab provides better consistency in training. The students completed all planned theoretical and practical sessions, and all course goals were met, all with close instructor supervision. Most students in a standard clinical rotation in women's health are not privileged to experience all of these scenarios. Students and instructors realized and appreciated these advantages.

Although students forfeited informal ward training, such as meeting actual women patients and staff and experiencing the ward atmosphere, program leaders felt that the students learned as well as, and perhaps even more than, male students on a traditional clinical rotation. In our experience as well as those of others, as described by Mitra, Phillips, and Waces (2018), women in women's health settings often refuse male nursing students' care, thereby decreasing the quality of the male students' clinical rotation experience.

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Using simulation training instead of the traditional clinical rotation raised the question of the appropriate ratio of field as opposed to simulation-based training. Although the common ratio is 1:1, nursing schools have used ratios ranging from 1:1 to 1:4 (Breymier et al., 2015). Our program offered a 2:1 ratio (two field hours replaced by one simulation hour), allowing the students to complete all of the clinical, theoretical and cognitive skills specified in the course syllabus, suggesting that a 2:1 ratio is appropriate (Sullivan et al., 2019).

This study had some limitations. The results are based on student and faculty self-report and not on objective observations. This study is a descriptive one, and we have no measure of program effectiveness compared to a real field experience; however, a multicenter study found that replacing 50% of field training hours with simulation-based training was not inferior to traditional field experiences (Hayden et al., 2014). Lastly, this study was conducted on four cohorts from one nursing school, thereby limiting its generalizability. Nevertheless, the study provides useful preliminary data in a largely unexamined population of nursing students.

Conclusions

To conclude, simulation was found to be an effective teaching strategy, yet flexible enough to adjust the BSN program to student cultural needs and still meet curriculum demands. Although replacing 100% of the clinical experience with simulation is an extreme measure with high resource demands, we found it feasible. The course is now a routine part of the male Jewish Ultra-Orthodox nursing student curriculum.

Conflict of Interest

PA is the Dean of the school of nursing science of the Academic College of Tel-Aviv Yafo. DS, RZ and ODO designed the course and are involved in managing it.

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