

## **Reflections of simulated patients on breast models as an evaluation of learning media in midwifery education**

**Herlyssa<sup>1\*</sup>, Elly Dwi Wahyuni<sup>2</sup>, Juli Oktalia<sup>3</sup>**

<sup>1\*),2,3</sup> Poltekkes Kemenkes Jakarta III

### **ABSTRACT**

Breast models are one of the learning media used by simulated patients in midwifery care practicums. Simulated patients' perspective is a new understanding in the selection of learning media. It is hoped that the results of the reflection carried out by the simulation patient can be used for the procurement of laboratory equipment and the development of designing learning models that are lower cost but have good effectiveness. This study aims to obtain group reflections from simulation patients regarding breast models used by simulation patients for midwifery cares scenario. This research is conducted by descriptive-analytic research. The sample in this research is the total population of the simulated patients in one midwifery school in Jakarta (24 respondents). Data collection was carried out through questionnaires. There are 3 breast models. We coded these three models into A, B, and C. The research results show that based on model function indicators, model B has a better function with a mean of 4.00 compared to model A (mean 3.18) and model C (mean 3.93). Based on model design, model B is also considered to have the best design (mean 3.67) compared to models A and C. The results of this study show that the most recommended model to use is model B (91.6%), followed by model C (66.7%) and model A (50%). The simulation patient recommends that the use of breast models should meet several criteria such as ethical norms, the weight of the model, the flexible nature of the model, ease of use, and comfort, it can be combined with other learning models, and students are not afraid to use it without worrying about damaging it.

Keywords: Breast Model, Simulation, Learning Media, Midwifery Education.

### **ABSTRAK**

Model payudara merupakan salah satu media pembelajaran yang digunakan oleh pasien simulasi dalam praktik pelayanan kebidanan. Perspektif pasien yang disimulasikan merupakan pemahaman baru dalam pemilihan media pembelajaran. Hasil refleksi yang dilakukan oleh pasien simulasi diharapkan dapat digunakan untuk pengadaan peralatan laboratorium dan pengembangan perancangan model pembelajaran yang berbiaya rendah namun mempunyai efektivitas yang baik. Penelitian ini bertujuan untuk memperoleh refleksi kelompok dari pasien simulasi mengenai model payudara yang digunakan pasien simulasi untuk skenario asuhan kebidanan. Penelitian ini dilakukan dengan jenis penelitian deskriptif-analitik. Sampel dalam penelitian ini adalah seluruh populasi pasien simulasi di salah satu sekolah kebidanan di Jakarta (24 responden). Pengumpulan data dilakukan melalui kuesioner. Ada 3 model payudara. Ketiga model ini kami kodekan menjadi A, B, dan C. Hasil penelitian menunjukkan bahwa berdasarkan indikator fungsi model, model B memiliki fungsi yang lebih baik dengan mean 4,00 dibandingkan model A (mean 3,18) dan model C (mean 3,93). Berdasarkan desain model, model B juga dinilai memiliki desain terbaik (mean 3,67) dibandingkan model A dan C. Hasil penelitian ini menunjukkan bahwa model yang paling direkomendasikan untuk digunakan adalah model B (91,6%), disusul model C (66,7%) dan model A (50%). Pasien simulasi menyarankan penggunaan model payudara harus memenuhi beberapa kriteria seperti norma etika, bobot model, sifat model yang fleksibel, kemudahan penggunaan, kenyamanan, dapat dipadukan dengan model pembelajaran lain, dan siswa tidak takut. untuk menggunakannya tanpa khawatir merusaknya.

Kata Kunci: Model Payudara, Simulasi, Media Pembelajaran, Pendidikan Kebidanan.

Corresponding author: Herlyssa  
Poltekkes Kemenkes Jakarta III  
Jl. Arteri JORR Jatiwarna Pondok Melati Bekasi Jawa Barat Indonesia  
Email: lyssafira3@gmail.com

## INTRODUCTION

Midwifery education aims to produce midwife graduates who are cognitively, affectively and psychomotorically competent. Midwifery care for mothers is one of the main competencies of midwives. In midwifery care for mothers, the learning process has stages from cognitive provision followed by learning that strengthens psychomotor and affective aspects. Before being deployed into the community as professional midwives, midwifery students must completely master all the clinical skills required in midwifery education (Susanti et al., 2022). As an educator who has an obligation to carry out teaching and learning activities, choosing learning media is a critical stage in providing quality learning. The selection of learning aids can refer to Edgar Dale's learning cone in Shaaruddin and Mohammad, which recommends that learning aids involve many human senses. To protect patients from examinations by incompetent examiners, health education will depend heavily on providing learning models that improve students' skills in classroom laboratory settings before practising in health facilities (Simamora, 2020).

Clinical learning carried out by students on campus must be carried out adequately, and the learning is not carried out directly with actual patients (real patients). This is for several reasons, such as patient comfort and patient safety. Safety, from the patient's perspective and in the context of medical error, refers to freedom from unintentional injury. The simulation learning method is one of the learning methods that is often chosen by midwifery lecturers to help students achieve learning outcomes (Alsoufi et al., 2020). According to Latief, Simulation learning is a form of experiential learning. With the simulation learning method, learners can practice solving problems in a controlled learning environment (laboratory). The lecturer or facilitator provides simulation scenarios from real cases. Simulation allows learning in a safe laboratory environment (Fromm et al., 2021).

In simulation learning, the two most essential learning aids are the availability of appropriate models or phantoms and standardized simulation patients. For health students, using the phantom model can reduce anxiety in learning and ethically fulfil the ethics of not putting actual patients into trials. Simulated patients with a large enough participation can be used to increase the level of reality of learning (Towers et al., 2022). Laboratories set up as closely as possible to the reality in service facilities will help students understand their duties and responsibilities as health workers in depth. Simulation patients help students practice skills and receive responses from health services. Besides the patient learning process, simulation is used in the OSCE (objective structured clinical examination) examination method. The visual display of breasts attached to a simulated patient will better help students imagine real-life clinical situations (Glenton et al., 2021).

In carrying out their duties as a simulation patient, the patient needs to be equipped with tools appropriate to the learning objectives. The phantom learning tool that simulated patients can use is essential to make the given case scenario more real. Students can perform physical examinations on standard patients by attaching assistive devices to simulated patients without violating academic ethics. A breast model is one of the assistive devices that can be used by simulated patients, which is widely available in midwife school laboratories. The breast phantom that simulated patients can use can be used by students to practice breast inspection and palpation without exposing the private parts of simulated patients (O'Connor et al., 2021).

There are various breast phantom models available in obstetric laboratories. Various models of breasts are available that are joined to the abdomen; some models are separate from the abdomen (only the breasts). The purchase price for breast models currently on the market (e-catalogue) varies from under 1 million rupiah to 50 million rupiah per model unit. The purchase price of breast models as learning aids is one of the challenges in providing them in adequate quantities (Karambatsakidou et al., 2020). In midwifery laboratory equipment procurement standards or midwifery education accreditation criteria, the ratio of equipment to students is 1:8 students in the accreditation criteria of higher education accreditation institutions (IAAHE). Currently, simulated patients are not yet a source of respondents whose data is taken in exploring the effectiveness of learning models in education. The respondents usually used in other research are student and lecturer respondents. In order to develop a learning model that is low-cost but still fulfils its main function as a learning aid, it is necessary to obtain reflections from simulated patients about the breast models that are currently available (Salifu et al., 2022). Based on the brief explanation above, this study aims to obtain group reflections from simulated patients regarding breast models used by simulated patients for midwifery cares scenario.

## LITERATURE REVIEW

### *Simulation*

Simulation is a system model where the components are presented by arithmetic and logic processors run by a computer to estimate the dynamic properties of the system. Simulation is planning a model of a real system followed by experimenting on the model to study system behaviour or evaluate strategies. Simulation is an imitation of a natural system carried out manually or on a computer, which is then observed and concluded to study system characteristics (Dai et al., 2021) (Herlyssa et al., 2023).

Simulation is planning a mathematical or logical model of a natural system and conducting experiments on the model using a computer to describe, explain and predict system behaviour. Simulation is defined as a set of methods and applications to imitate or represent the behaviour of a natural system, which is usually carried out on a computer using

specific software. Simulation is the application process of building a model of the system, conducting experiments with the model to explain system behaviour, studying system performance, or building a new system according to the desired performance (de Paula Ferreria et al., 2020).

The simulation method is designing a natural system model and implementing experiments with this model to understand the system's behaviour or develop a strategy (within limits determined by one or several criteria) regarding the system's operation. The simulation method can explain the behaviour of a mathematical model created according to the characteristics of the original system so that an analyst can conclude the behaviour of the real-world system (Zhang et al., 2019) (Herlyssa et al., 2022).

### *Instructional Media*

The word media comes from the Latin *medius*, which means middle, intermediary or introduction. In Arabic, media is an intermediary or messenger of messages from the sender to the recipient. According to Gerlach and Ely, if understood broadly, media are people, materials and events that create conditions that enable students to acquire knowledge, skills or attitudes. In this sense, teachers, textbooks, and the school environment are media. According to Criticos, media is a communication component as a messenger from the communicator to the communicant (Suri & Chandra, 2021) (Herlyssa et al., 2022).

Based on the opinions above, it can be concluded that media is any object or component that can transmit messages from the sender to the recipient to stimulate students' thoughts, feelings, attention and interest in the learning process. According to Heinich, quoted by Azhar Arsyad, learning media is an intermediary that carries messages or information for instructional purposes or contains teaching purposes between the source and the recipient (Sexcio & Dafit, 2022).

Learning media conveys learning messages in relation to the direct learning model by the teacher acting as a transmitter of information. In this case, the teacher should use various appropriate media. Learning media is a tool to help the teaching and learning process. Anything that can be used to stimulate students' thoughts, feelings, attention and abilities or skills so that they can encourage the learning process (Tambak, 2021). Learning media are all tools and materials that can be used for educational purposes, such as radio, television, books, newspapers, magazines, computers, etc. Apart from these tools, people, materials and equipment that create conditions that enable students to acquire knowledge, skills and attitudes are also called learning media. Media is a source of learning so broadly; learning media can be interpreted as people, objects or events that enable students to gain knowledge and skills. Media is a tool that can be anything that can be used as a channel for messages to achieve learning goals (Tabroni et al., 2022).

More specifically, Sadiman explained that learning media is software containing educational messages or information usually presented using the equipment. Equipment or hardware is a means of collecting messages contained in the media. According to Schramm, learning media is a technology that carries messages (information) that can be used for learning purposes (Alirezabeigi et al., 2020). Briggs defines learning media as a physical means of conveying learning content or material. Meanwhile, according to Arif, learning media can channel messages from the sender to the recipient to stimulate students' thoughts, feelings, attention and interests. A learning process occurs (Risnaini et al., 2020).

Yusufhadi Miarso said that learning media is anything used to convey messages and can stimulate the students' thoughts, feelings, attention and will to encourage a deliberate, purposeful and controlled learning process. Strauss and Frost identify nine key factors to consider when choosing teaching media. The nine key factors include institutional resource limitations, suitability of the media to the subject being taught, characteristics of students or students, educator behaviour and skill level, subject learning targets, learning relationships, learning location, time and level of media diversity (Lomicka & Ducate, 2021).

Sadiman also states that learning media includes a) intending to demonstrate it as in lectures on media; b) feeling familiar with the media, for example, a lecturer who is used to using a transparency projector; c) wanting to provide a more concrete picture or explanation; and d) feel that the media can do more than it already can, for example, to attract students' interest or passion for learning (Dewenter et al., 2019).

### *Midwifery Education*

Midwifery education is an educational program that aims to train prospective midwives in providing health care and support to pregnant women, mothers giving birth, newborn babies, and women experiencing reproductive health problems. Midwifery education is a type of formal education or training specifically designed to train prospective midwives in caring for pregnant, labour and postpartum women and providing health care to newborn babies. The main aim of midwifery education is to produce midwives with the knowledge, skills and attitudes necessary to provide quality health care to women and babies in pregnancy, childbirth and postpartum situations (Bogren et al., 2021).

Learning material in midwifery education includes reproductive anatomy and physiology, antenatal care, preparation for childbirth, assistance during childbirth, postnatal care, care of newborns, handling complications, reproductive health counseling, and ethical aspects of reproductive health care. Learning methods in midwifery education involve a combination of lectures, clinical practice in hospitals or health facilities, as well as practical skills training. Midwife students will also engage in case studies, simulations, and hands-on practice in real-life situations (Hernon et al., 2023).

Midwifery education emphasizes developing practical skills such as checking vital signs, performing physical examinations on pregnant women, providing psychosocial support, facilitating birthing, and providing postnatal care. Midwives who are trained are expected to understand ethical principles in health services and carry out safe midwifery practices in accordance with applicable guidelines and regulations. Midwives have an essential role in the health system, especially in rural and remote areas where access to health facilities is often limited. They can provide prenatal, natal and postnatal care and reproductive health education to the community (Firoozehchian et al., 2022).

Midwifery education also includes self-development and further education so midwives can continue to update their knowledge and skills in responding to the latest developments in reproductive health care. Midwifery is about the birthing process and promoting overall reproductive health, including family planning, preventing sexually transmitted diseases, and understanding reproductive rights. Midwifery education is an integral part of the healthcare system and plays a significant role in ensuring the health of mothers and babies during critical periods of pregnancy and delivery. A well-trained midwife is a valuable societal asset in providing safe, quality care in various reproductive health situations (Levorstad et al., 2022).

## RESEARCH METHOD

This research uses descriptive quantitative research methods. The descriptive method in this study was used to describe the simulation patient's reflection on the breast models available in the Jakarta Health Polytechnic obstetrics laboratory 3. The breast models used to be reflected by the simulation patient were 3 breast models. Model A consists of the right and left breasts and a fused abdomen. The phantom weighs around 930 grams with phantom dimensions of 35 cm x 35 cm x 55.5 cm. Model B consists of a chest piece from the lower breast border to the upper breast border consisting of the right and left breast parts. The phantom weighs around 200 grams, and the phantom dimensions are 47.5 cm x 21.5 cm x 11 cm. Model C consists of a cut from the chest border of the xiphoid process to the neck border, which consists of the right and left breast parts. The phantom weighs around 930 grams; the phantom dimensions are 26 cm x 20.5 cm x 13.5 cm. The sample selection technique used was the total population with a research sample of 24 people. The measurement scale uses a Likert scale. The data analysis technique used is analytical descriptive. The data collection technique in this research uses data collection techniques through questionnaires and interviews. The Likert scale used is five (Strongly Disagree, Agree, Neutral, Disagree, Strongly Disagree) (Ramdhan, 2021).

## RESULTS AND DISCUSSION

### *Respondent Characteristics*

The characteristics of the respondents in the univariate analysis in this study are as follows:

**Table 1.**  
**Respondent Characteristic**

Variable	N	%
Age		
20-35 years	16	66.7
>35 years	8	33.3
Education status		
Senior high school	22	91.6
University	2	8.4
Experience as a simulated patient		
1 year	4	16.7
>1 year	20	83.3

Based on Table 1, it can be seen that of the 24 respondents, most of them were less than 35 years old (66.7%). Most of the respondents have an education background at the senior high school level (91.6%). Most respondents have experience as a simulated patient for more than 1 year.

Based on the characteristics of the respondents in the research, it can be seen that all respondents were simulated patients who had experience being involved in midwifery education. The experience of simulated patients in midwifery education can be a tool for validating the learning instruments used. Based on the results of this research, it can be seen that evaluation of simulated patients is an important part that must be carried out to provide appropriate learning aids.

According to Norberg, reflection can help gain a deep perspective. Simulation patient reflections can be input for selecting more effective learning media tools.

*Simulation of Patient Reflections on Breast Model Function and Design*

Based on the results of filling out questionnaires by simulated patients on 3 breast models (models A, B, C), the following results were obtained:

**Table 2.**  
**Simulation Patient Reflections on the Breast Model Function as a Learning Media in Midwifery Care**

No	Statement	Mean		
		Model A	Model B	Model C
1	The model can protect my privacy from exposed private parts	4.583	4.75	4.67
2	Models can protect me from scrutiny that makes me uncomfortable	4.417	4.58	4.67
3	The model can be worn while remaining fully clothed and layered with other clothing	1.25	4.33	4.08
4	The model can help me understand the case scenario as a mother simulation actor	2.417	3.58	3.67
5	The model helps students more easily understand the shape of a mother's breasts	2.75	3.43	3.83
6	The model is composed of materials that do not cause me allergies	3.583	4.08	4.08
7	I'm not afraid to wear breast models to hurt my self-esteem	3.00	3.67	3.83
8	Breast models can be used in conjunction with baby dolls in breastfeeding simulations	3.12	4.00	3.67
9	The model can be combined with other tools	2.83	3.25	3.17
10	According to my observations, breast models can help students learn effectively to provide services to mothers during pregnancy, childbirth, postpartum and breastfeeding	3.83	4.41	3.67
<b>Mean total</b>		<b>3.19</b>	<b>4.08</b>	<b>3.93</b>

Based on Table 2, it can be seen that Model B has the highest mean value (4.08) compared to model A (mean 3.19) and model C (mean 3.93)

Even though students' learning styles are different, however, having the right learning aids will help make it easier to achieve learning outcomes. In selecting teaching aids, according to Edgar Dale, 1946 in Anderson and Ph, 1970, several indicators can be used, namely: whether teaching aids can help the learning experience become better, whether the teaching aids are similar to real situations that students will experience, can all students use the learning aids; and whether teaching aids can help motivate students.

**Table 3.**  
**Simulation Patient Reflections on the Breast Model Design as a Learning Media in Midwifery Care**

No	Statement	Mean		
		Model A	Model B	Model C
1	The model can be used by simulated patients easily	1.417	3.83	3.75
2	The model can be removed easily	1.25	3.25	3.33
3	The duration for installing the model is less than 5 minutes	1.417	4.17	3.58
4	When using the model, I can still move freely	1.083	4.51	3.83
5	The model is comfortable enough to be worn for a long time (> 4 hours)	1.25	3.58	3.42
6	The abdominal model can be used multiple times by simulated patients	4.667	4.42	4.33
7	The model can be controlled by the simulated patient easily according to the requested case scenario	3.25	3.83	3.50
8	The model has a very light weight	1.33	4.17	3.42
9	When using the model I can still move freely	3.42	4.50	3.83

No	Statement	Mean		
		Model A	Model B	Model C
10	The model uses flexible material so I don't worry that the model will be damaged or broken	1.17	3.33	3.17
11	The color of the fabric on the model is similar to the skin color and breast shape of most women in Indonesia	4.75	1.42	4.25
12	According to my observations, students can use the model calmly without fear of the model being damaged and students having difficulty replacing it	1.08	3.08	2.83
<b>Mean Total</b>		<b>2.17</b>	<b>3.67</b>	<b>3.60</b>

Based on Table 3, it can be seen that model B has the highest mean value (3.67) compared to model A (mean 2.17) and model C (mean 3.60). In appearance, model A and model C has an appearance that is very similar to the skin and shape of a woman's breasts in natural conditions (statement no. 11). However, simulation patients consider the model design to be challenging to use in clinical scenarios in classroom laboratory settings.

For simulated patients to be able to carry out their duties as simulated patients in the process of learning midwifery care for mothers in midwifery education, several indicators of the breast aids/models used are: protecting patients ethically; has a lightweight, the model structure is flexible; easy use of the model both when putting it on and when taking it off; The model provides a comfortable impression when used for a long duration (more than 4 hours); the patient can move freely when using the model; the model can be used with other models such as babies; and the model can be used to simulate breast milk production.

*Recommendations for Using Breast Models in the Learning Process*

Based on the results of filling out a questionnaire by the simulation patient regarding recommendations for continued use of three breasts (models A, B, C) in midwifery care learning, the following results were obtained:

**Table 4. Respondent Recommendation**

Breast Model	Recommendation to use model in learning process				N	%
	Yes		No			
	n	%	n	%		
<b>A</b>	12	50	12	50	24	100
<b>B</b>	22	91.6	2	8.4	24	100
<b>C</b>	16	66.7	8	33.3	24	100

Based on Table 4, it can be seen that the most recommended model to use is model B (91.6%), followed by model C (66.7%) and model A (50%). The simulation patient recommend that the use of breast models should meet several criteria such as ethical norm, weight of the model, flexible nature of the model, ease to use, comfort, can be combined with other learning models, and students are not afraid to use it without worrying about damaging it

The results of this simulated patient selection do not have a straight graph with model values. In terms of price, model B is more affordable than model A. This affordability will make it easier for educational institutions to prepare budgets so that the number of models provided in midwifery laboratories can be in accordance with the ideal criteria for providing models or phantoms. A more affordable price will also make it easier to resupply if the model is damaged when used in the learning process.

**CONCLUSIONS AND SUGGESTIONS**

The breast models currently available in several obstetric laboratories have very varied levels of user satisfaction, so it is necessary to develop a breast simulator that can meet the indicators of being light, flexible, easy to use and easy to remove, comfortable during use and with a long duration (use can be longer) from 4 hours), free to move when used, the model can be used simultaneously with the baby model and can be used to simulate breast milk release. Simulated patient recommendations for recommended breast models can be a basis for consideration for the financial department in managing midwifery education in procuring the ideal number of models for the number of students studying.

## REFERENCES

- Alirezabeigi, S., Masschelein, J., & Decuypere, M. (2020). Investigating Digital Doings through Breakdowns: A Sociomaterial Ethnography of a Bring Your Own Device school. *Learning, Media and Technology*, 45(2), 193-207.
- Alsoufi, A., Alsuyihili, A., Msherghi, A., Elhadi, A., Atiyah, H., Ashini, A., ... & Elhadi, M. (2020). Impact of the COVID-19 Pandemic on Medical Education: Medical Students' Knowledge, Attitudes, and Practices Regarding Electronic Learning. *PloS one*, 15(11), e0242905.
- Bogren, M., Kaboru, B. B., & Berg, M. (2021). Barriers to delivering quality midwifery education programmes in the Democratic Republic of Congo—An Interview Study with Educators and Clinical Preceptors. *Women and Birth*, 34(1), e67-e75.
- Dai, X., Ke, C., Quan, Q., & Cai, K. Y. (2021). RFLySim: Automatic Test Platform for UAV Autopilot Systems with FPGA-Based Hardware-in-the-Loop Simulations. *Aerospace Science and Technology*, 114, 106727.
- de Paula Ferreira, W., Armellini, F., & De Santa-Eulalia, L. A. (2020). Simulation in Industry 4.0: A State-of-the-Art Review. *Computers & Industrial Engineering*, 149, 106868.
- Dewenter, R., Linder, M., & Thomas, T. (2019). Can Media Drive the Electorate? The Impact of Media Coverage on Voting Intentions. *European Journal of Political Economy*, 58, 245-261.
- Firoozehchian, F., Zareiyani, A., Geranmayeh, M., & Behboodi Moghadam, Z. (2022). Domains of Competence in Midwifery Students: A Basis for Developing a Competence Assessment Tool for Iranian Undergraduate Midwifery Students. *BMC Medical Education*, 22(1), 704.
- Fromm, J., Radianti, J., Wehking, C., Stieglitz, S., Majchrzak, T. A., & vom Brocke, J. (2021). More than Experience?- On the Unique Opportunities of Virtual Reality to Afford a Holistic Experiential Learning Cycle. *The Internet and Higher Education*, 50, 100804.
- Glenton, C., Javadi, D., & Perry, H. B. (2021). Community health workers at the dawn of a new era: 5. Roles and tasks. *Health Research Policy and Systems*, 19(3), 1–16.
- Herlyssa, H., Wahyuni, E. D., Astuti, J. D., & Rahayu, S. (2022). Penggunaan Model Abdomen Smart pada Pasien Simulasi dalam Meningkatkan Kompetensi Penilaian Tinggi Fundus Uteri pada Ibu Nifas. *Prosiding Semnas Hilirisasi Hasil Penelitian dan Pengabdian Masyarakat Tahun 2022*, 52-59.
- Herlyssa, Elly Dwi Wahyuni, Jujun Dwi Astuti, & Sri Rahayu. (2022). SMART Abdomen Model as Clinical Learning Media in Improving Midwifery Student Competence in Postpartum Care. *SEAJOM: The Southeast Asia Journal of Midwifery*, 8(2), 75-82. <https://doi.org/10.36749/seajom.v8i2.181>
- Herlyssa, H., Wahyuni, E. D., Astuti, J. D., & Rahayu, S. (2023, July). The Use of the " SMART" Abdomen Model to Achieve Student Competency Improvement in Physical Examination in Postpartum. In *Proceeding International Conference on Health Research and Science* (Vol. 1, No. 1, pp. 276-289).
- Hernon, O., McSharry, E., MacLaren, I., & Carr, P. J. (2023). The Use of Educational Technology in Teaching and Assessing Clinical Psychomotor Skills in Nursing and Midwifery Education: A State-of-the-Art Literature Review. *Journal of Professional Nursing*, pp. 45, 35-50.
- Karambatsakidou, A., Steiner, K., Fransson, A., & Poludniowski, G. (2020). Age-Specific and Gender-Specific Radiation Risks in Paediatric Angiography and Interventional Cardiology: Conversion Coefficients and Risk Reference Values. *The British Journal of Radiology*, 93(1110), 20190869.
- Levorstad, T., Saue, M. S., Nilsen, A. B. V., & Vik, E. S. (2022). Midwives' Experiences of an Organizational Change in Early Postpartum Care Services in Norway: A Qualitative Study. *European Journal of Midwifery*, 6.
- Lomicka, L., & Ducate, L. (2021). Using Technology, Reflection, and Noticing to Promote Intercultural Learning during Short-Term Study Abroad. *Computer Assisted Language Learning*, 34(1-2), 35-65.
- O'Connor, M., Stowe, J., Potocnik, J., Giannotti, N., Murphy, S., & Rainford, L. (2021). 3D Virtual Reality Simulation in Radiography Education: The Students' Experience. *Radiography*, 27(1), 208-214.
- Ramadhan, M. (2021). *Metode Penelitian*. Cipta Media Nusantara.
- Risnaini, E., Hakim, Z. R., & Taufik, M. (2020). Thematic-Based Big Book Learning Media as a Facility of Visual Learning Styles for Students. *Jurnal Ilmiah Sekolah Dasar*, 4(3), 407-419.
- Salifu, D. A., Heymans, Y., & Christmalls, C. D. (2022). Facilitating the Development of Clinical Competence in a Low-Resource Setting: Perceptions and Challenges of Nurse Educators. *Nurse Media Journal of Nursing*, 12(1).
- Sexcio, E. B., & Dafit, F. (2022). Card Macth Circle: Innovative Learning Media on Social Science Learning in Grade IV Elementary School. *Journal of Education Technology*, 6(1), 156-164.
- Simamora, R. M. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *Studies in Learning and Teaching*, 1(2), 86-103.

- Suri, D., & Chandra, D. (2021). Teacher's Strategy for Implementing Multiculturalism Education Based on Local Cultural Values and Character Building for Early Childhood Education. *Journal of Ethnic and Cultural Studies*, 8(4), 271-285.
- Susanti, A. I., Ali, M., Hernawan, A. H., Rinawan, F. R., Purnama, W. G., Puspitasari, I. W., & Stellata, A. G. (2022). Midwifery Continuity of Care in Indonesia: Initiation of Mobile Health Development Integrating Midwives' Competency and Service Needs. *International Journal of Environmental Research and Public Health*, 19(21), 13893.
- Tabroni, I., Irpani, A., Ahmadiyah, D., Agusta, A. R., & Girivirya, S. (2022). Implementation and Strengthening of the Literacy Movement in Elementary Schools Post the COVID-19 Pandemic. *Multicultural Education*, 8(01), 15-31.
- Tambak, S. (2021). The Method of Counteracting Radicalism in Schools: Tracing the Role of Islamic Religious Education Teachers in Learning. *MIQOT: Jurnal Ilmu-ilmu Keislaman*, 45(1), 104-126.
- Towers, A., Dixon, J., Field, J., Martin, R., & Martin, N. (2022). Combining Virtual Reality and 3D-Printed Models to Simulate Patient-Specific Dental Operative Procedures—A Study Exploring Student Perceptions. *European Journal of Dental Education*, 26(2), 393-403.
- Zhang, Z., Chong, A., Pan, Y., Zhang, C., & Lam, K. P. (2019). Whole Building Energy Model for HVAC Optimal Control: A Practical Framework Based on Deep Reinforcement Learning. *Energy and Buildings*, pp. 199, 472-490.