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Multimedia Video to Improve the Competence of Resuscitation Skills in Newborns: A Quasi-Experimental Study

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Abstract

Neonatal mortality remains a global challenge, particularly in cases of neonatal asphyxia that require immediate and appropriate resuscitation management. Neonatal resuscitation competence is an essential skill for midwifery students. This study aimed to analyse the effectiveness of video-based multimedia learning in improving neonatal resuscitation competence among undergraduate midwifery students. A quasi-experimental pretest-posttest control group design was used involving 110 seventh-semester Midwifery students selected through purposive sampling. Participants were divided into and intervention groups (n=55) that received video-based learning and a control group (n=55) that received conventional lecturing. Students' understanding was assessed using questionnaires, while resuscitation skills were evaluated using OSCE observation sheets. Data were analysed using an independent sample t-test with a significance level of $p<0.05$. The results showed significant improvement in students' understanding scores, from 52.65 to 85.98 ($p<0.001$), while practical resuscitation competence increased from 18.2% to 81.8% after the intervention. Video-based multimedia learning was effective in improving neonatal resuscitation competence and may serve as an innovative learning strategy to support neonatal emergency preparedness among students.

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Introduction

The neonatal mortality rate is still high and is a challenge for health workers (obstetrics) globally. Neonatal resuscitation skills are abilities that include cognitive and psychomotor aspects in carrying out immediate emergency treatment for newborns who experience respiratory distress or asphyxia during childbirth. This ability includes opening the airway, providing stimulation,

performing positive pressure ventilation, assessing the condition of the newborn, and performing post-resuscitation stabilization quickly, appropriately and in a structured manner (Lee et al., 2025).

According to the World Health Organization (WHO), there are 2.3 to 2.4 million newborns who die in the first 28 days of life, and nearly 95% of infant deaths occur in lower-middle-income countries (LMICs). The leading causes of neonatal death include complications in neonates, prematurity, infection, and shortness of breath. The failure to perform resuscitation measures quickly and appropriately is the main factor that can increase infant mortality (Aydin et al., 2025).

Ghana states that about 30% of neonatal deaths are caused by shortness of breath at birth, 10% of newborns require spontaneous breathing assistance, and about 1% require positive pressure ventilation (VTP) or advanced resuscitation measures (Salia et al., 2025). Meanwhile, in Tanzania, the implementation of the Safer Births Bundle of Care (SBBC) emphasises that improving the resuscitation skills of health workers, including midwives, has been shown to reduce neonatal mortality (Malya et al., 2025).

Heldring et al. found that resuscitation skills decline (skill decay) unless strengthened through media-based practice and simulation (Heldring et al., 2025). In the Midwifery Education Curriculum, especially in the Maternal and Neonatal Emergency courses, students must master resuscitation skills for newborns to graduate. However, some obstacles arise during training, mainly due to limited time, tools, and opportunities to practice in the field. Conventional learning models that focus on hands-on practice always create a gap between theory and practice in the field (Rosmaria & Haryanti, 2024).

Therefore, innovations are needed that can bridge these gaps through intensive, efficient, and reinforcement-based learning methods, both at home and in their free time, independently. Multimedia video is one alternative that can be used in practical/clinical learning. The multimedia video shows that students can understand the practical procedure in detail. By replaying the video, students get a visual-auditory experience that is very similar to a real-world field experience, in line with reality. This principle aligns with the theory of multimedia learning, which states that combining visual and verbal elements can improve comprehension and skills (Callioglu et al., 2025).

Aydin et al. found that incorporating video and virtual reality (VR) into neonatal resuscitation training increased trainees' confidence in performing Positive Pressure Ventilation (PPVM). Their ability to assess infants' responses improved compared to conventional learning methods (Aydin et al., 2025). The results of this study are in line with Rizvi et al., who found that augmented reality (AR) training and feedback can improve practical skills and improve the quality of practice in the field (Rizvi et al., 2025). Other research has shown that training can improve health workers' competence in carrying out emergency measures. However, such training must be supported by a learning environment that is compatible with the real world, safe, and repeatable (Ly et al., 2014). In midwifery, practical learning has also been shown to improve clinical reasoning skills and increase confidence in decision-making (Zadeh et al., 2025).

This study shows that computer-based ultrasound simulations in intensive care training can significantly improve nurses' technical skills and learning satisfaction compared to conventional methods. Overall, these results show that interactive videos and simulations enhance psychomotor and affective skills, thereby improving students' mental readiness and self-efficacy in dealing with emergencies (Gong et al., 2025).

In Indonesia, the competence of undergraduate midwifery students in managing neonatal emergencies is critical to achieving Sustainable Development Goal (SDG) 3.2, which aims to reduce infant mortality below 12 per 1,000 live births. With advances in learning technology and wider access to video content in digital media, video-based learning in resuscitation practice offers an effective solution to improve students' clinical skills and preparedness in managing neonatal emergencies (Delubom & Tatira; Karlinah, 2025).

Based on this background, this study was conducted to analyze the effectiveness of video multimedia learning in improving the understanding and skills of neonatal resuscitation in students. This research is expected to contribute to the development of an evidence-based practice-based learning model that supports safe, appropriate and professional newborn services. This study provides empirical evidence regarding the effectiveness of video-based multimedia learning in improving neonatal resuscitation competence among undergraduate midwifery students in Indonesia.

Materials and Methods

Research Design

This study uses a quantitative method with a quasi-experimental pre-test post-test control group design. The design was chosen because it is appropriate for evaluating the effectiveness of educational intervention through comparisons of students' knowledge and skills before and after the intervention in the intervention. This research was carried out at Hang Tuah University, Pekanbaru in the 2024-2025 academic year. This study aims to analyze the effectiveness of video-based multimedia learning in improving neonatal resuscitation skills in S1 Midwifery students.

Population and sample

The population in this study comprises all students in the VII semester of the S1 Midwifery study program at Hang Tuah University, Pekanbaru, totalling 110 students. The sampling technique used was purposive sampling.

The criteria for this study are as follows:

Inclusion criteria:

1. Students who have completed maternal and neonatal emergency courses
2. Willing to be a respondent
3. Willing to participate in a series of research activities

Exclusion criteria:

1. Students who were not present during the research process
2. Students who do not complete the pretest and posttest

The number of samples in this study was 110 students, who were divided into an intervention group of 55 students and a control group of 55 students.

Research Instruments

The instruments used in this study are:

1. Video-based multimedia on the procedure for performing resuscitation in newborns
2. A questionnaire to measure a students' understanding
3. OSCE observation sheet to assess students' skills in resuscitation

The validity of the instrument was tested using the Product-Moment correlation test, while the reliability of the instrument was tested using Cronbach's Alpha. The value of the reliability coefficient obtained was 0.82, which shows that the research instrument has good reliability and is suitable for measuring neonatal resuscitation understanding and skills in students.

Intervention Procedure

The intervention group was given video-based multimedia learning that included neonatal resuscitation procedures, including airway management, positive pressure ventilation (VTP), newborn assessment and post-suscitation stabilization. Each learning session was held for 60 minutes in 2 meetings. Students were given the opportunity to independently access and repeat the learning videos to strengthen procedural understanding and practical skills. In addition, the control

group was given lecture-based conventional learning without video multimedia. Before the intervention was carried out, both groups were given a pretest to assess the initial ability of knowledge and skills related to neonatal resuscitation. After that, all intervention sessions are completed, posttests and practical assessments are carried out using the Objective Structured Clinical Examination (OSCE) observation sheet to evaluate students' competencies in conducting neonatal resuscitation practicum.

Data Analysis

Data were analyzed using SPSS version 16. Univariate analysis was conducted to describe the characteristics of respondents, the level of student understanding, and neonatal resuscitation skills. Bivariate analysis using an independent sample t-test was performed to compare the intervention group and the control group. The level of statistical significance was set at $p < 0.05$ to assess the effectiveness of video-based multimedia learning interventions.

Ethical considerations

This research has received ethical approval from the research ethics committee of Hang Tuah University, Pekanbaru, with ethics number: 606/KEPK/UHTP/III/2025. All respondents have given informed consent before the implementation of the research. The confidentiality of the respondents' identities was maintained during the research process.

Results and Discussions

Results

The results of this study are presented in the following tables, including the distribution of students' understanding and resuscitation skills, as well as comparative analyses between the intervention and control groups in the pretest and posttest phases.

Table 1. Results of the Distribution of Frequency of Student Understanding of Pretest and Posttest Resuscitation in the Intervention and Control Groups

Understanding Resuscitation	Mean	SD	Min	Maximum
Intervention				
Pre test	52,65	6,15	40	71
Post test	85,98	6,08	71	100
Control				
Pre test	51,11	5,71	40	64
Post test	71,25	7,21	57	90

Table 2. Results of the Frequency Distribution of Pretest and Posttest Resuscitation Skills in the Intervention and Control Group

Resuscitation Skills	Pretest		Post-test	
	n=55	%	n=55	%
Intervention				
Not Passing	35	31,8	10	18,2
Pass	20	18,2	45	81,8
Control				
Not Passing	40	36,4	26	47,3
Pass	15	13,6	29	52,7

Table 3. Analysis of Students' Understanding and Skills of Pretest and Posttest Resuscitation in the Intervention and Control Groups

Understanding Resuscitation	Mean/SD	P-Value
Intervention		
Pre test	52,65/6,15	0,000
Post test	85,98/6,08	
Control		
Pre test	51,11/5,71	0,000
Post test	71,25/7,21	
Resuscitation Skills		
Intervention		
Not Passing	0,36/0,48	0,000
Pass	0,82/0,38	
Control		
Not Passing	0,27/0,44	0,000
Pass	0,53/0,50	

Table 4. Analysis of Differences in Students' Understanding and Skills about Resuscitation in the Intervention and Control Groups

Understanding Resuscitation	Mean/SD	P-Value
Intervention		
Post test	85,98/6,08	0,000
Control		
Post test	71,25/7,21	
Resuscitation Skills		
Intervention		
Post test	0,82/0,38	0,001
Control	0,53/0,50	
Post test		

Discussions

The results of the study showed that video-based multimedia learning was able to improve understanding and resuscitation skills in newborns of S1 Midwifery students of Hang Tuah University, Pekanbaru. The intervention group experienced an increase in comprehension score by 33.33 points, from 52.65 at the pretest to 85.98 at the posttest, with a statistically significant score ($p<0.001$). Meanwhile, the control group only experienced an increase of 20.14 points from 51.11 to 71.25. These results show that video-based multimedia learning provides a greater increase in understanding compared to conventional lecture-based learning methods. This shows that learning using multimedia video is able to provide a deeper and more effective understanding, especially related to resuscitation in newborns. Compared to the control group that only used conventional learning methods, multimedia-based learning was more effective in supporting the understanding and skills of neonatal resuscitation practice in students.

In neonatal resuscitation practice, the proportion of students who achieved competence in the intervention group increased significantly from 18.2% at the time of the pretest to 81.8%. In contrast, the control group only increased from 13.6% to 52.7%. These results show that video-based multimedia learning is more effective in improving students' psychomotor skills and procedural understanding compared to conventional learning methods. Repeated exposure to practicum videos also helps to increase students' confidence and memory during neonatal resuscitation practice.

Overall, this series of studies shows that video-based multimedia is highly effective for improving the knowledge and skills of S1 Midwifery students, preparing them to clinical practice settings, including hospitals and maternity clinics. The use of video multimedia can support students' cognitive, psychomotor, and affective competencies, which is very important for preparing students' abilities to deal with emergencies involving newborns.

The study results show that video-based multimedia learning can significantly improve the skills and resuscitation readiness of Midwifery students in handling neonatal emergencies. These findings are consistent with current developments in multimedia-assisted health education. Education is integrated with multimedia technology to achieve the competencies outlined in maternal and neonatal emergency courses. Multimedia-based learning offers several advantages over conventional learning methods, particularly in improving procedural understanding and clinical skill retention among students. With good procedural visualisation, students can systematically understand the resuscitation steps and repeat them at any time to strengthen their memory of the obstetric procedure.

Live practicum learning combined with multimedia can lead to significant psychomotor improvements compared to practicum learning with conventional methods. Consistent procedural demonstrations delivered via video may help reduce students' anxiety during clinical practice and improve their confidence in performing neonatal resuscitation. The results of this study align with those of others who found that combining videos with instructor instruction improves students' knowledge and understanding during the learning process. In addition, video media helps students better understand complex and effective clinical information, thereby boosting their confidence (Nugroho et al., 2025).

Research conducted by Bagheri et al. using Mini-CEX exercises, accompanied by video recordings and feedback, showed a significant improvement in clinical learning compared to conventional notebook recording. In the midwifery education learning process, students are required to repeat actions/practicums in both group and independent settings. Repeated exposure to video-assisted learning may encourage reflective learning and strengthen students' readiness to independently perform neonatal resuscitation procedures (Bagheri et al., 2025).

Learning to be effective through video media is enhanced when combined with repeated clinical simulations and reflective mentoring. This finding is consistent with Sawyer & Gray (2017), who stated that video-assisted simulation training in neonatal resuscitation improves clinical performance, decision-making, and long-term retention of resuscitation skills through repetitive and structured practice. Aguma et al. found that simulation-based education can improve confidence, team cohesion, and decision-making accuracy among nurses in Uganda; However, during the learning process, some obstacles may arise, such as inadequate teaching staff or human resources and limited resuscitation skills (Aguma et al., 2025).

A study conducted in India found that simulation-enhanced guidance improves healthcare workers' ability to handle neonatal emergency cases, especially when resuscitation measures are systematically monitored. These findings support the role of multimedia videos and simulations in improving clinical learning experiences and neonatal emergency preparedness (tantu et al., 2025).

In a learning practicum with newborns, video-based learning helps standardize skills. A study conducted by Rostoker et al. established a minimum pass score of 70.6% for simulated training in Less Invasive Surfactant Administration (LISA) procedures, emphasizing that evaluations must accompany clinical training to ensure patient safety. This principle can be applied in the midwifery curriculum by establishing an objective graduation threshold for the practicum of resuscitation skills in newborns (Rostoker et al., 2025).

All discussions in this study are based on multimedia learning theory. Effective learning is maximised when information is presented in both auditory and visual formats. Combining

multimedia videos on resuscitation with voices, text, and movements aligned with the field practicum improves students' understanding, enabling them to handle neonatal emergencies more precisely, quickly, and professionally (Malya et al.,2025; Wen et al., 2025).

In its implementation, multimedia video learning and simulation are combined through three mechanisms, starting with increasing knowledge (cognitive). Third, behaviour: in particular, positive, rapid, and accurate responses during resuscitation of newborns.

Thus, video-based multimedia in the midwifery practicum lies not in improving skill scores, but in the formation of resilient midwives who are empathetic, ready to act quickly and precisely, and professionally in case of neonatal emergencies. This approach presents a new direction for humanistic, digital, and evidence-based obstetrics education and is an essential pillar in efforts to reduce newborn mortality globally.

Conclusion

The results of the study showed that video-based multimedia learning was able to significantly improve neonatal resuscitation competence in S1 Midwifery students. The intervention group experienced an increase in the average comprehension score from 52.65 to 85.98 with statistically significant results ($p<0.001$). In the practical skills assessment, the proportion of students who achieved competency increased from 18.2% to 81.8% after the intervention was given. The effectiveness of this learning method is not only demonstrated by the average increase but also supported by statistical significance, which shows that the increase did not occur by chance. Video-based multimedia learning allows students to repeat practicum demonstrations independently to improve cognitive understanding, psychomotor skills, and confidence in handling neonatal emergencies. Thus, video-based multimedia learning can be an effective and sustainable learning strategy to improve neonatal resuscitation competence in midwifery education.

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References

Aguma, N., Ekak, S., Emetu, L., Ojok, S., & Akera, P. (2025). Prevalence and factors associated with neonatal mortality at the neonatal intensive care unit at St. Mary's Hospital Lacor, Northern Uganda. *BMC Pediatrics*, *25*(1), 403. https://doi.org/10.1186/s12887-025-05743-0

Aydin, M. Y., Curran, V., White, S., Peña-Castillo, L., & Meruvia-Pastor, O. (2025). A comparative study of the use of extended reality simulation in neonatal resuscitation training. *Advances in Simulation*, *10*(1), 1–10. https://doi.org/10.1186/s41077-025-00344-4

Azfar, S. M., Saeed, S., Masood, S., Azim, S. R., Baig, M., & Malik, M. G. R. (2025). Role play versus video-based learning for interprofessional communication and teamwork skills in nursing and medical students: a mixed-methods study in Pakistan. *BMC Medical Education*, *25*(1). https://doi.org/10.1186/s12909-025-06840-5

Bagheri, M., Adelmanesh, Y., Alizadeh, A., Sadeghi Meymand, S., Amiri, A., & Khaki, S. (2025). The effect

of combined training program on clinical competence and professional commitment of perioperative nursing students in laparoscopic surgery: a quasi-experimental study. *BMC Medical Education*, *25*(1), 817. https://doi.org/10.1186/s12909-025-07400-7

Behmanesh, F., Gholamnia-Shirvani, Z., Ghaffarifar, S., Nikbakht, H.-A., & Nazmi, S. (2025). Designing, implementing, and evaluating a gamification approach in childbirth training for midwifery students using computer and mobile application. *BMC Medical Education*, *25*(1), 1050. https://doi.org/10.1186/s12909-025-07370-w

Callioglu, N., Yildirim, Z. K., & Tuna, G. (2025). The effect of video-based multimedia information before amniocentesis on pain, anxiety, and pregnancy outcomes. *Scientific Reports*, *15*(1), 7742. https://doi.org/10.1038/s41598-025-90929-w

Delubom, S., & Tatira, B. (2025). Integrating PHET simulations and YouTube videos in teaching vertical projectile motion in Grade 12. *Multidisciplinary Science Journal*, *7*(11). https://doi.org/10.31893/multiscience.2025526

Fung, T. C. J., Chan, S. L., Lam, C. F. M., Lam, C. Y., Cheng, C. C. W., Lai, M. H., Ho, C. C. J., Au, S. L., Mak, L. Y., Hu, S., Phetrasuwan, S., Granger, J., Yoon, J. M., Malik, G., Moreno, C. C., Kwok, M. H. P., & Lin, C.-C. (2025). Effects of generative artificial intelligence (GenAI) patient simulation on perceived clinical competency among global nursing undergraduates: a cross-over randomised controlled trial. *BMC Nursing*, *24*(1), 934. https://doi.org/10.1186/s12912-025-03492-0

Gong, C., Shen, Y., Wang, J., Zhang, P., & Li, Z. (2025). Application of ultrasound simulation training in intensive care nursing teaching. *BMC Medical Education*, *25*(1). https://doi.org/10.1186/s12909-025-06968-4

Heldring, S., Jirwe, M., Wihlborg, J., & Lindström, V. (2025). Acceptability and applicability of using virtual reality for training mass casualty incidents- a mixed method study. *BMC Medical Education*, *25*(1). https://doi.org/10.1186/s12909-025-07319-z

Karlinah, N. H. et al. (2025). *Aplikasi Pembelajaran Praktikum 60 Langkah Asuhan Persalinan Normal (APN) dan Antomi Tulang Tengkorak Kepala Bayi Berbasis Multimedia Interaktif*.

Lee, H. C., Strand, M. L., Finan, E., Illuzzi, J., Kamath-rayne, B. D., Kapadia, V., Mahgoub, M., Niermeyer, S., Schexnayder, S. M., Schmölzer, G. M., Weglarz, J., Williams, A. L., Weiner, G. M., Wyckoff, M., Yamada, N. K., & Szyld, E. (2025). *Part 5 : Neonatal Resuscitation : 2025 American Heart Association and American Academy of Pediatrics Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care*. *152*(suppl 2). https://doi.org/10.1161/CIR.0000000000001367

Ly, A., Kouanda, S., & Ridde, V. (2014). Nursing and midwife staffing needs in maternity wards in Burkina Faso referral hospitals. *Human Resources for Health*, *12*(1), 1–7. https://doi.org/10.1186/1478-4491-12-S1-S8

Malya, R. M., Mahande, M. J., Urstad, K. H., Rogathi, J. J., & Bø, B. (2025). Perception of simulation-based education among nursing and midwifery students in Tanzania: a qualitative study. *Advances in Simulation*, *10*(1), 1–9. https://doi.org/10.1186/s41077-025-00339-1

Nugroho, Y. S., Bourguet, M.-L., Soyel, H., & Mareschal, I. (2025). Avatars vs. Video Presence: Effects of Instructor Presence on Cognitive Load in Video-Based Learning. *Electronic Journal of E-Learning*, *23*(3), 79–91. https://doi.org/10.34190/ejel.23.3.3964

Rizvi, S. A. Q., Rehman, U., Cao, S., & Moncion, B. (2025). Exploring technology acceptance of flight simulation training devices and augmented reality in general aviation pilot training. *Scientific Reports*, *15*(1), 1–16. https://doi.org/10.1038/s41598-025-85448-7

Rosmaria, R., & Haryanti, N. (2024). Development of Digital Virtual Reality-Based Multimedia Learning to Improve Student Skills in Delivery Services. *Health Education and Health Promotion*, *12*(2). https://doi.org/10.58209/hehp.12.2.189

Rostoker, H., Guillois, B., Caradec, A., & Chollat, C. (2025). Establishing a minimum passing score for

the rating scale in simulation training for surfactant administration using the LISA procedure. *BMC Medical Education*, *25*(1). https://doi.org/10.1186/s12909-025-06778-8

Salia, S. M., Kaba, R. A., de Haas, B., & Stekelenburg, J. (2025). Adherence to guidelines on quality neonatal resuscitation practices among healthcare professionals in Ghana: an observational study. *BMJ Open*, *15*(8), e099941. https://doi.org/10.1136/bmjopen-2025-099941

Sawyer, T., & Gray, M. M. (2017). Neonatal resuscitation : advances in training and practice. *Advances in Medical Education and Practice*, 11–19. https://doi.org/https://doi.org/10.2147/amep.s109099

Sia, W. T., Tay, J. C., Lee, T. C., Nah, S. A., A. Nallusamy, M. A., & Mahendran, H. A. (2025). Current practice and barriers for transition of care (TOC) in pediatric surgery: perspectives of adult surgeons from different subspecialties. *Pediatric Surgery International*, *41*(1), 76. https://doi.org/10.1007/s00383-025-05969-0

tantu, T., Tantu, T., Hailu, Y., Gashaw, D., & Melkamu, B. (2025). Prevalence and factors associated with low 5th minute APGAR score among mothers who birth through emergency cesarean section: prospective cross-sectional study in Ethiopia. *BMC Pregnancy and Childbirth*, *25*(1), 342. https://doi.org/10.1186/s12884-025-07456-9

Wen, X., Zhai, J., Lilenga, H. S., & Wang, X. (2025). Improved compliance of midwives with stillbirth prevention and control practices after creating and implementing an educational program in a Chinese obstetric clinic. *BMC Medical Education*, *25*(1), 1–10. https://doi.org/10.1186/s12909-025-07406-1

Xiao, Y., Lian, G., Zhang, J., Chen, Q., Wang, H., Huang, L., Yang, H., Zhu, C., Mei, W., Zhuang, C., Zhong, C., & Huang, R. (2025). Efficacy of a smart glass-enhanced training programme for core doctor-patient communication skills among radiology residents in China. *European Radiology Experimental*, *9*(1), 92. https://doi.org/10.1186/s41747-025-00630-w

Zadeh, T. H., Tabrizi, K. N., Fallahi-Khoshknab, M., Khankeh, H., & Shokooh, F. (2025). A clinical reasoning skills development plan for coronary care nurse: an action research. *BMC Nursing*, *24*(1), 490. https://doi.org/10.1186/s12912-025-03106-9