Jordan Journal of Nursing Research, Volume **4**, No. **3**, **2025**
DOI: https://doi.org/10.14525/JJNR.v4i3.04

Jordan Journal of Nursing Research
www.jjnr.just.edu.jo

Exploring Artificial Intelligence Literacy among Midwifery Students

Suad Jakalat, RN, MSN, PhD [1*]; Roba Bdeir, PhD [2]; Rula Rimawi, RN, MSN, PhD [3]; Tamador R. Al-Tarawneh, RN, MSN, PhD [1]; Sarah Al-Ja'freh, RN, MSN, PhD [1]

1 *Department of Midwifery, Faculty of Nursing, Al-Balqa Applied University, P.O. Box 206, Al-Salt 19117, Jordan.*
** Corresponding Author: Email: suad.jaklat@bau.edu.jo*
2 *Department of Basic Sciences, Al-Balqa Applied University, P.O. Box 206, Al-Salt 19117, Jordan.*

ARTICLE INFO

Article History:
Received: April 14, 2025
Accepted: June 19, 2025

ABSTRACT

Background: The study of artificial intelligence (AI) has gained popularity, particularly in the field of education, but the integration of AI in midwifery education is at an early stage, and the AI literacy level among midwifery students' needs to be explored. ***Purpose*:** This study aims to explore the AI literacy levels and the associated factors among midwifery students. ***Methods*:** A descriptive, cross-sectional, correlational research design guided the study protocol. Data was collected using Artificial Intelligence Literacy Scale (AILS), and the literacy total score was categorized into: low (0-49%, scores $\leq$ 51), moderate (50-79%, scores 52-58), and high (80-100%, scores $\geq$59). (AILS) was distributed online to 250 midwifery students across different academic years. One public university in Jordan consisted the study setting. ***Results***: More than a half of the midwifery student (51%) had a low literacy level toward AI and its technologies, while only 9% had a high literacy level, AI literacy was significantly associated with the academic year of the students ($X^2 = 9.064$, $P = 0.05$), their awareness about AI ($X^2 = 9.064$, $P < 0.001$), and frequency of computer use ($X^2 = 9.320$; $P < 0.001$). ***Conclusion:*** This paper provides evidence that literacy levels among midwifery students can vary according to the level of academic year, their awareness of AI, and frequency of computer usage. Students with advanced academic years, who are aware about AI, and frequently using AI technology, have a higher literacy level compared to those with medium or low literacy levels. ***Implications for Nursing:*** Integrating AI technologies within the entire curriculum for theory and practice courses is essential. This could be achieved through informing policymakers to plan policies for AI, taking into account funding issues, ethical, inclusive, and equitable use among students, based on up-to-date evidence that aids in the creation of AI education resources supported by pedagogical research and sound methodologies.

Keywords: Artificial intelligence, Literacy, Midwifery students, Jordan.

What does this paper add?

1. Understanding the current state of AI literacy among midwifery students, which is an indicator for the level of student knowledge and skills when dealing with AI in their recent education, and for their future careers.
2. Identify the factors that affect the level of AI literacy among students, such as the academic year, level of knowledge, and computer use.

Introduction

Artificial Intelligence (AI) refers to the capability of computers to imitate cognitive functions typically linked to human thought, especially those involving learning and problem-solving (Sarman & Tuncay, 2024). Recently, AI has evolved as a transformative service across several sectors (Long & Magerko, 2020; Ng et al., 2021). Healthcare systems are among the important sectors, in which Artificial Intelligence (AI) plays an essential role in the introducing of advanced tools and approaches that transform clinical practices, decision-making, and patient care (Davenport & Kalakota, 2019). Midwifery is considered a crucial professional group in the healthcare sector, as there are approximately 1.9 million midwives worldwide (United Nations Population Fund, 2021). As the upcoming wave of frontline healthcare providers, midwifery students need to achieve a certain degree of AI proficiency to effectively utilize emerging digital tools and deliver safe, evidence-based care (Giaxi et al., 2025)

Several pieces of evidence indicate that educational outcomes are more effective when AI assists learning as compared to traditional teacher-centered methods (Akhu-Zaheya, 2024; Oliveira et al., 2023). Understanding technologies of (AI) can enhance clinical decision-making, improve patient outcomes, and ensure ethical use of AI in maternal healthcare settings (Jiang et al., 2017). This understanding is linked to the perception of usefulness, simplicity, and user-friendliness of AI, which is vital for its acceptance among students (Labrague & Al Harrasi, 2025). Similarly, JJha et al. (2022) found that while medical students acknowledged the potential of AI in clinical environments, a limited number had undergone formal education on the subject. This highlights the potential of integrating AI in education, and offers guidance to educators on developing effective AI educational activities to enhance students' AI literacy (Cerný, 2024).

The concept of AI literacy has emerged to describe students' competence in using AI technology (Schepman & Rodway, 2023). AI literacy can be defined as "a set of competencies that enables individuals to critically evaluate AI technologies; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace" (Long & Magerko, 2020). AI literacy is increasingly considered to be a key competency for university students to be prepared for their future careers (Cerný, 2024; Laupichler et al., 2022). This is significant, not just for students in technical fields, but for those in every area of study, as AI is becoming increasingly vital across all sectors (Lane et al., 2023).

Wang et al. (2022) highlighted the significance of examining AI literacy to assess the effectiveness of using AI among students, and establishing clear standards for these skills to enhance AI education by creating a detailed and comprehensive framework for curriculum development. In this regard, Wen et al. (2024) suggested that educators should improve students' AI literacy through AI education and help them develop healthy emotions using evidence-based psychological strategies. So, empowering students at all educational levels to learn autonomously with AI technology will provide them with significant advantages (Alkhalifah et al., 2024), such as leading AI projects in healthcare, involvement in evidence-based practice, and addressing moral and legal concerns with AI technology (Kranz & Abele, 2024). Consequently, incorporating AI learning objectives into curricula is essential for students to interact safely, meaningfully, and competently (Miao & Cukurova, 2024).

On the other hand, evidence revealed that numerous demographic and academic characteristics were shown to have an impact on students' AI literacy level. The most significant characteristics were found to be nationality and academic degree, followed by scientific specialty, while age and gender had less of an impact (Mansoor et al., 2024). AI could significantly influence midwifery education by adopting AI programs and applications in educational requirements (Kranz & Abele, 2024).

In Jordan, midwives are crucial in promoting the health of mothers and their newborns, particularly given the increasing population and strain on the healthcare system (Jordanian Nursing Council, 2021). They often serve as the main caregivers for women during pregnancy and childbirth, especially in rural and underserved regions. However, midwifery education in Jordan faces challenges, such as limited resources, changing curricula, and inconsistent adoption of digital technology. As the global healthcare landscape increasingly incorporates technology, assessing the readiness of midwifery students in Jordan to utilize AI in clinical settings is essential (Jordanian Nursing Council, 2021).

In summary, while both international literature and local literature recognize the importance of AI in healthcare, it is clear that more research is needed to understand its significance and application in midwifery education within Jordan. To enhance midwives' understanding of AI-related issues and their effective utilization, it is beneficial to gauge undergraduate midwifery students' perceptions of their AI literacy level. This awareness not only helps them identify the potential downsides of AI, but also aids in preventing negative attitudes or behaviors. Furthermore, it enables students to grasp how AI is implemented in patient care within actual clinical environments. Therefore, this study aims to explore AI literacy level, and its associated factors among midwifery students in Jordan. It seeks to identify knowledge gaps, and readiness to use AI in practice, ultimately contributing to the enhancement of midwifery education and professional development in the country.

Materials and Methods

Design

This study used a descriptive-correlational research methodology, and the primary tool for gathering data was an online survey. This study explores the literacy level of artificial intelligence (AI), and its associated factors within a sample of midwifery students representing the targeted population, which consists of midwifery students in Jordan.

Sample and Setting

Convenience sampling was used to recruit midwifery students at the Faculty of Nursing at one public university in Jordan. *Priori* power analysis for multi-variable multi-nomial logistic-regression analysis indicated that a sample size of 347 participants is required to achieve a power of 0.8, with 95% confidence level, an alpha level of 0.05, and a medium effect size ($d = 0.5$).

Inclusion criteria for this study included: a) being a midwifery student; b) being enrolled in the current semester; c) using a computer/device; d) having access to the internet; and e) voluntarily agreeing to participate in this study. The exclusion criteria included: a) student not enrolled in the current semester; b) students not using a computer/device; c) students with no internet connection; and d) students not willing to take the online survey.

Data Collection Instruments

Structured questionnaires were used to collect the research data, including the student information form and the Artificial Intelligence Literacy Scale (AILS).

First: Student Information Form

The student information from consists of questions regarding the student's age, academic year, GPA, frequency of AI usage per week, their awareness of AI, and the frequency of computer use.

Second: Artificial Intelligence Literacy Scale (AILS)

The AILS consists of 15 items followed by a 5-point Likert scale, ranging from 1 "strongly disagree" to five "strongly agree". This scale gives a minimum of 15 and a maximum of 75, with higher scores indicating greater AI literacy (Ma & Chen, 2024). The scale is divided into four dimensions: the "Awareness" dimension (items 1-4) evaluates students' comprehension of the definition and fundamental principles of AI; the "Usage" dimension (items 5-7) measures the ability to use AI tools to assist learning or solve daily problems; the "Evaluation" dimension (items 8-11) assesses the ability to critically evaluate AI-generated content and its limitations; and the "Ethics" dimension (items 12-15) evaluates compliance with ethical standards and the capacity to protect against security risks (e.g. privacy breaching).

The scale demonstrated good convergent validity and discriminant validity, and the Cronbach's alpha was 0.83 for the original instrument used in this study (Ma & Chen, 2024).

Ethical Considerations

Ethical approval was obtained from the Institutional Ethical Review Board of Al-Balqa Applied University (IRB number: 118/1/3/26). Informed consent was obtained from the study participants after a clear explanation of the study's aim and after they were informed that participation is voluntary and that they have the right to discontinue at any time during the research process. The information sheet includes the study's purposes, details of the study protocol, and how the findings will be used.

Data Collection

An online survey was used to collect data from midwifery students using Google Forms. The survey is designed to protect the privacy and anonymity of the students; each student's responses were presented as numbers from 1-250, without presenting the students' names or e-mails. Students understand the purpose of the survey and find it neither invasive nor excessively demanding. Every student level has a WhatsApp group as a standard communication channel at school. One of the authors made a new WhatsApp group specifically for this study, and the link to the new group was sent to each student-level group. They were told that they only needed to join the group if they were willing to participate in the study, that the information which they provide will be kept private and that their identities won't be displayed.

Following the formation of the new group, the survey was delivered, along with information about its purpose and approval to participate. The link was made to only take one response per student. After reading the permission form and confirming their willingness to participate, the participants finished the online survey. One month was given as a limited time for data collection, after which no further responses were received; permission to quit the group was obtained, and the group was deleted.

Data Analysis

Frequency distribution and percentages were determined for the demographics and characteristics of the participants. Differences in the levels of AI literacy (high/moderate/low) across independent variables were analyzed using the chi-square test or Fisher's exact test. An initial bi-variable multi-nomial logistic regression analysis was conducted between dependent variables (AILS score groups) *versus* each independent variable (demographics and characteristics of the participants), and only the independent variables with *p*-values < 0.3 were used in the multi-variable analysis. A multi-variable multi-nomial logistic regression analysis was conducted for the multi-nomial outcomes (high/moderate/low literacy), categorized based on the adjusted Bloom's cut-off standards used in a similar study (Ashebir et al., 2022), through which the literacy total score was categorized into three levels: low (0-49%, scores ≤ 51), moderate (50-79%, scores 52-58), and high level (80-100%, scores ≥59). Since the primary tool merely shows that higher scores correspond to more AI literacy, which is regarded as general, it is insufficient to assess midwifery students' levels of AI literacy.

Results are presented as odds ratios (OR) with 95% confidence intervals (CI). All tests were two-tailed, with the significance level set at $p < 0.05$. All analyses used SPSS, version 25.0 (IBM SPSS Statistics for Windows, version 25.0, IBM Corp., Armonk, NY, USA).

Results

Demographics and Characteristics of Midwifery Students

384 midwifery students were invited to participate, and 250 of them completed the survey, yielding a 64% response rate. Table 1 shows the characteristics of the participants. The participants' ages ranged from 18 years to 30 years, and more than 70% were aged between 21 years and 30 years. Most students were in their 3^{rd} or 4^{th} academic year; 37.2% and 40.4%, respectively. The majority of the students (76%) had a GPA of more than 2.00. About 39% of the students use AI once to two times per week. Approximately 52% of the students had some awareness about AI. Lastly, 52% of the students were average computer users, while 9% hardly used the computer.

Table 1. Demographics and characteristics of participants

Characteristic	n (%)
Age	
< 20 years	75 (30.0)
21-30 years	175 (70.0)
Academic year	
1^{st} year	56 (22.4)
2^{nd} year	0 (0.0)
3^{rd} year	93 (37.2)
4^{th} year	101 (40.4)
Frequency of Artificial Intelligence (AI) Usage per Week	
Zero times	
1-2 times	23 (9.2)
3-4 times	99 (39.6)
5 or more times	59 (23.6)
	69 (26.6)

GPA	
No GPA (first semester)	55 (22.0)
Less than 2	5 (2.0)
2.00 – 2.49	53 (21.2)
2.50 – 2.99	66 (26.4)
3.00 – 3.64	71 (28.4)
3.65 – 4.00	0 (0.0)
Awareness about AI?	
I am not aware	16 (6.4)
I have some awareness	131 (52.4)
I have enough awareness	90 (36.0)
I am fully aware	13 (5.2)
How often do you use the computer?	
I can hardly use the computer	23 (9.2)
I am a below-average computer user	67 (26.8)
I am an average computer user	129 (51.6)
I am an expert computer user	31 (12.4)

AI Literacy

The mean scores on the AILS items are presented in Table 2. Items about adherence to ethical principles (E1, 3.64 ± 1.03) and being vigilant about privacy and information security issues when using AI applications or products (E2, 3.66 ± 1.05) had the highest literacy scores. The lowest mean scores were for items related to being familiar with some underlying principles of AI (A2, 3.01 ± 0.97) and being able to compare different concepts related to AI (A4, 3.15 ± 1.00).

Table 2. The Likert scale questionnaire using Artificial Intelligence Literacy Scale (AILS)

Sub-category	Items	Mean	Standard error	Standard deviation
A1	I understand the definition of artificial intelligence.	3.37	0.067	1.057
A2	I am familiar with some underlying principles of artificial intelligence (e.g. linear models, decision trees, machine learning).	3.01	0.062	0.974
A3	I understand how artificial intelligence perceives the world (e.g. seeing, hearing) to perform various tasks.	3.28	0.060	0.954
A4	I can compare different concepts related to artificial intelligence (e.g. the difference between deep learning and machine learning).	3.15	0.063	0.998
U1	I am proficient in using artificial intelligence applications or products.	3.27	0.058	0.913
U2	I can use artificial intelligence applications or products to help me solve problems in daily life.	3.35	0.069	1.088
U3	I can use artificial intelligence applications or products to assist my learning.	3.57	0.060	0.947
Eva1	I can select the appropriate solution from various options provided by artificial intelligence.	3.39	0.060	0.948
Eva2	I can evaluate the limitations of different artificial intelligence applications or products.	3.20	0.057	0.902
Eva3	I can identify biases in content generated by artificial intelligence.	3.16	0.059	0.938
Eva4	I remain skeptical or cautious about content generated by artificial intelligence.	3.41	0.065	1.035
E1	I always adhere to ethical principles when using artificial intelligence applications or products.	3.64	0.065	1.032
E2	I am always vigilant about privacy and information security issues when using artificial intelligence applications or products.	3.66	0.066	1.046
E3	I can critically reflect on the impact of artificial intelligence on individuals and society.	3.49	0.062	0.983
E4	I am always alert to the misuse of artificial intelligence technology.	3.59	0.059	0.937

Sub-categories within AILS score, A: Awareness, U: Usage, Eva: Evaluation and E: Ethics. Score of 1 was given to the answer "strongly disagree", while the highest score of 5 was given to the answer "strongly agree".

The literacy total score ranged from 15 to 75, with a mean score of 50.55 ± 9.03. According to the adjusted Bloom's cut-off standards mentioned above, more than a half (51%) had a low literacy level toward AI and its technologies, while only 9% had a high literacy level (Figure 1).

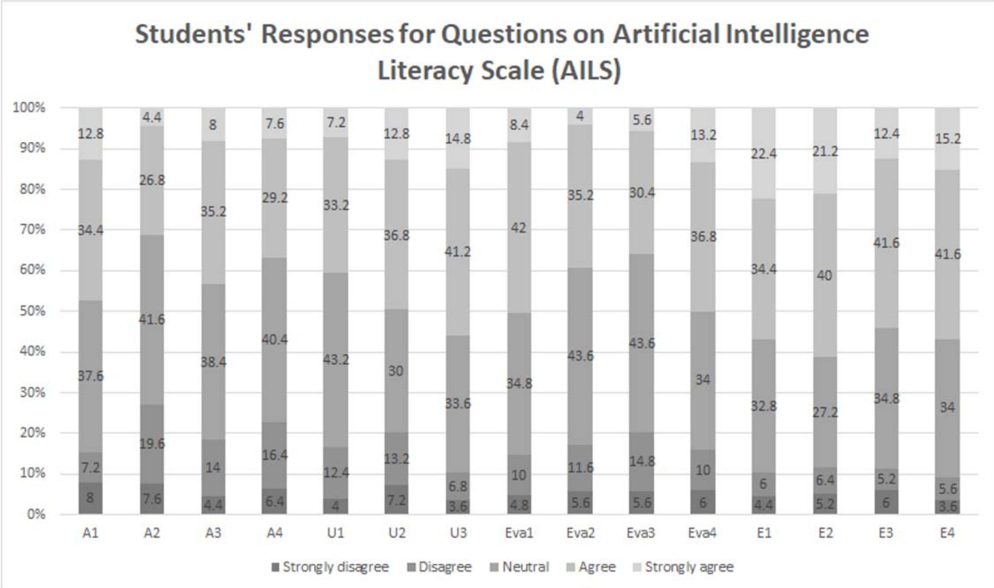

Figure 1. Students' responses to questions on artificial intelligence literacy scale (AILS)

Bivariate and Multi-variate Logistic regression Models for Predictors of AI Literacy

AI literacy was significantly associated with the academic year (X^2 = 9.064, *P* = 0.05), awareness about AI (X^2 = 9.064, *P* < 0.001), and computer use (X^2 = 9.320, *P* < 0.001) (Table 3). In the multi-variate logistic regression model, the weekly usage of AI was associated with high literacy levels, as those with a high AI literacy level are more likely to use AI compared to those with medium or low literacy levels (OR: 3.03, 95%CI 1.052-8.728). Furthermore, the students with a high frequency of computer use, 77%-82%, are more likely to have high literacy about AI and its technologies (Table 4).

Table 3. Relationship between level of AI Literacy Scale (AILS) total score and background characteristics

	AILS total score				
Characteristic	**High Literacy for AI n (%)**	**Moderate Literacy for AI n (%)**	**Low Literacy for AI n (%)**	***X*^{2} (*df*, N)^a**	***P*-value**
Age				X^2 (2, 250)= 2.322	0.313^a
< 20 years	10 (4.0)	22 (8.8)	43 (17.2)		
21-30 years	36 (14.4)	54 (21.6)	85 (34.0)		
Academic year				X^2 (4, 250)= 9.064	0.05*^{a}
1st year	4 (1.6)	19 (7.6)	33 (13.2)		
2nd year	0	0	0		
3rd year	24 (9.6)	23 (9.2)	46 (18.4)		
4th year	18 (7.2)	34 (13.6)	49 (19.6)		
Frequency of Artificial Intelligence (AI) Usage per Week					0.156a
Zero times	0	8 (3.2)	23 (9.2)		
1-2 times	21 (8.4)	24 (9.6)	99 (39.6)		
3-4 times	12 (4.8)	18 (7.2)	59 (23.6)		
5 or more times	13 (5.2)	26 (10.4)	69 (27.6)		
GPA					0.795b
No GPA (first semester)	$	$	$		
Less than 2	1 (0.5)	2 (1.0)	2 (1.0)		
2.00 – 2.49	11 (5.5)	18 (9.0)	25 (12.4)		
2.50 – 2.99	17 (8.5)	17 (8.5)	32 (15.9)		
3.00 – 3.64	12 (6.0)	24 (11.9)	40 (19.9)		
3.65 – 4.00	0	0	0		

Awareness about AI?				X^2 (6, 250)= 9.320	0.000*[b]
I am not aware	1 (0.4)	7 (2.8)	8 (3.2)		
I have some awareness	8 (3.2)	40 (16.0)	83 (33.2)		
I have enough awareness	29 (11.6)	27 (10.8)	34 (13.6)		
I am fully aware	8 (3.2)	2 (0.8)	3 (1.2)		
How often do you use the computer?				X^2 (6, 250)= 30.817	0.000*[a]
I can hardly use the computer	3 (1.2)	6 (2.4)	14 (5.6)		
I am a below average computer user	9 (3.6)	16 (6.4)	42 (16.8)		
I am an average computer user	18 (7.2)	46 (18.4)	65 (26.0)		
I am an expert computer user	16 (6.4)	8 (3.2)	7 (2.8)		

High literacy score 80-100%: total score $\geq$59, Moderate literacy score 50-79%: total score 52-58, Low literacy score <49%: total score $\leq$51.
[a] Person chi-square test, [b] Fisher's exact test, $: No GPA value for first semester students, #: count >5 in group, and * p<0.05 is statistically significant.

Table 4. Bivariate and Multi-variate linear regression models for predictors of students' literacy toward artificial intelligence

AILS	Covariate	N	OR	95% CI	*P*-value
High AI Literacy Score	**Academic year**				
	1st year	4	0.462	0.117 – 1.827	0.271
	2nd year (no data)	0			
	3rd year	24	2.135	0.885 – 5.147	0.910
	4th year (ref)	18			
	Frequency of Artificial Intelligence (AI) Usage per Week				
	Zero times	0			
	1-2 times	21	3.030	1.052 – 8.728	0.040*
	3-4 times	12	1.776	0.566 – 5.576	0.325
	5 or more times (ref)	13			
	How much do you know about AI?				
	I have no knowledge at all	1	0.116	0.008 – 1.718	0.117
	I have some knowledge	8	0.041	0.007 – 0.229	0.000**
	I have enough knowledge	29	0.349	0.075 – 1.631	0.181
	I have detailed knowledge	8			
	How often do you use the computer?				
	I can hardly use the computer	3	0.253	0.046 – 1.384	0.113
	I am a below average computer user	9	0.181	0.049 – 0.672	0.011*
	I am an average computer user	18	0.231	0.072 – 0.747	0.014*
	I am an expert computer user	16			
Medium AI Literacy Score	**Academic year**				
	1st year	19	0.974	0.456 – 2.082	0.946
	2nd year (no data)	0			
	3rd year	23	0.772	0.385 – 1.551	0.468
	4th year (ref)	34			
	Frequency of Artificial Intelligence (AI) Usage per Week				
	Zero times	8	0.506	0.160 – 1.596	0.245
	1-2 times	24	0.508	0.237 – 1.086	0.081
	3-4 times	18	0.752	0.330 – 1.715	0.498
	5 or more times	26			
	Awareness about AI?				
	I am not aware	7	3.053	0.328 – 28.423	0.327
	I have some awareness	40	1.230	0.176 – 8.584	0.834
	I have enough awareness	27	1.624	0.235 – 11.202	0.623
	I am fully aware	2			

How often do you use the computer?				
I can hardly use the computer	6	0.400	0.091 – 1.758	0.225
I am a below average computer user	16	0.376	0.108 – 1.315	0.126
I am an average computer user	46	0.760	0.237 – 2.438	0.644
I am an expert computer user	8			

* $p<0.05$ is statistically significant, ** $p<0.001$ is statistically significant.

Discussion

This study aims to determine the literacy level and its associated factors among midwifery students regarding AI. The results showed that 51% of the participants had a low literacy level towards AI and its technologies, while only 9% had a high literacy level. The same result was reported by Laupichler et al. (2024), who found a low level of technical understanding of AI among medical students, particularly females. Similarly, studies by Brown et al. (2024) and Toker Gokce et al. (2025) indicated that females use AI less and are less self-perceived about it compared to males; this might be related to a lack of confidence among females regarding using new technologies, as revealed by Møgelvang et al. (2024), or they might trust their own way of thinking rather than AI.

While our findings align with these results regarding gender differences in AI use and literacy, our research differs in that our sample comprised midwives, which is an exclusive profession for females in Arab countries. This homogenous sample was intentional and directly serves our research questions and objectives. Furthermore, Toker Gokce et al. (2025) revealed that students demonstrated a moderate level of general AI literacy, including their ability to critically evaluate AI and apply it practically. However, their understanding of the technical aspects of AI was limited. A systematic review by Kimiafar et al. (2023) on AI literacy in healthcare professionals and students indicated that 40% of the ten reviewed studies reported low levels of preparedness, knowledge, and awareness regarding AI. In contrast, another systematic review assessing nursing students' knowledge and attitudes towards AI found a good average knowledge score of 66.62 out of 100. This latter study, where the majority of the participants (80.87%) were females, also showed a significant positive correlation between students' understanding of digital transformation, their digital skills, and their digital health literacy (Sandanasamy et al., 2025).

This research found that AI literacy was strongly linked to students' academic year, their awareness of AI and how often they used AI weekly, and their level of computer proficiency. Similarly, Abou Hashish and Alnajjar (2024) demonstrated significant positive correlations between familiarity with AI-powered digital transformation services and digital expertise. Likewise, Singh et al. (2025) reported a positive connection between AI literacy and AI usage. Furthermore, Hornberger et al. (2023), consistent with our results, highlighted the significance of individual learning experiences in developing AI literacy and emphasized the need to integrate AI education into the curriculum. These results highlight how important it is to teach students about AI and how to use it properly. It makes sense given the idea that talent is developed by practice.

On the other hand, and unlike our results, Singh et al. (2025), Vieriu and Petrea (2025) and Xiao et al. (2024) reported a positive connection of AI learning outcomes with academic performance, suggesting that greater AI literacy leads to more engagement with AI tools for learning, ultimately resulting in improved learning outcomes and academic performance.

Furthermore, O'Dea et al. (2024) demonstrated that age and education level influence AI literacy, with the study's geographical context and prior AI learning experiences significantly impacting generative AI literacy. This aligns with the work of Brown et al. (2024), who also reported an inverse relationship between age and AI literacy, mirroring a trend observed in our results. The variations observed in the factors correlating to and predicting AI literacy likely stem from the diverse samples used in the cited research and the differing demographic characteristics of the participants.

Implications for Nursing

The findings of this study have the potential to provide policymakers and educational institutions with information, so that they may develop more effective, fair, and strong AI governance that can maximize learning results while reducing risks of using. First, the researchers highly recommend providing educational sessions and updating the curriculum to include AI-related knowledge and uses. Focusing on the basic ethical principles and privacy issues related to its use, it is important to enhance students' training and usage of AI, and to enforce a positive climate towards its adoption within ethical principles. Second, it is crucial to establish policies that guide the ethical and effective implementation of AI among students through establishing guidelines for the integration of AI in education. Finally, the authors recommend conducting future research that may integrate many methodological techniques, including experimental, quasi-experimental, and qualitative approaches, that are used to determine the degree of AI literacy, and to be applied to large and varied samples of respondents.

Strengths and Limitations

This study begins to fill an identified gap in the evidence about the literacy level and its associated factors regarding AI among midwifery students. However, there are some limitations in this study. First, because of the cross-sectional design, it could be challenging to determine the cause-and-effect relationship between the independent and dependent variables. Second, the sampling technique was convenience sampling, and all the participants are midwifery students at one public university in Jordan; therefore, the results of this study are limited by the composition of this sample, and it is difficult to conclude the general degree of AI literacy among all midwifery students in Jordan, either males *versus* females, or midwifery students *versus* students from other specialties. Third, since the questionnaire was self-administered, recall and social desirability biases could affect the validity of the responses. Moreover, the assessment of how much the students know about AI and their frequency of computer use was also limited.

Conclusion

This study revealed a low literacy level toward AI and its technologies. Furthermore, it identified that AI literacy was significantly predicted by the academic year, how much the students are aware about AI, their weekly AI usage, and the level of computer expertise. Through literature review and with the current results, it seems that female students in general lack the appropriate level of AI literacy that goes along with the fast advancement of AI, and its revolutionary usage in learning, education, and working, especially in the medical field, which is a cause of concern.

Acknowledgements

The authors would like to express their gratitude to the Faculty of Nursing at Al-Balqa Applied University for their valuable time and effort.

Conflict of Interests

The authors have no potential or actual conflict of interests to declare concerning the research, authorship, and/or publication of this article.

Funding or Sources of Financial Support

The authors received no financial support for the research, authorship, and/or publication of this article.

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