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The Effect of Perceived Usefulness, Trust, and Digital Literacy on Acceptance of Clinical Decision Support Systems Among Healthcare Workers

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ABSTRACK

Clinical Decision Support Systems (CDSS) are increasingly used to support clinical reasoning, patient management, and healthcare quality. However, their successful implementation depends not only on technical performance but also on acceptance among healthcare workers. This study aimed to analyze the effect of perceived usefulness, trust, and digital literacy on the acceptance of CDSS among healthcare workers. A quantitative analytical study with a cross-sectional design was conducted among healthcare workers involved in clinical services, including physicians, nurses, and midwives. Data were collected using a structured questionnaire measuring perceived usefulness, trust, digital literacy, and CDSS acceptance. The data were analyzed using univariate analysis and bivariate analysis with Fisher's Exact Test and odds ratio estimation. The findings showed that most respondents had good perceived usefulness, good digital literacy, and good acceptance of CDSS, while trust was also generally positive but had a larger moderate proportion compared with other variables. Perceived usefulness significantly influenced CDSS acceptance, with respondents who perceived CDSS as useful being more likely to show good acceptance. Trust was also significantly associated with acceptance, as all respondents with good trust demonstrated good acceptance of CDSS. Digital literacy significantly influenced acceptance as well, indicating that healthcare workers with stronger digital capability were more prepared to accept CDSS in clinical practice. These findings suggest that improving CDSS acceptance requires clear practical benefits, reliable and transparent system performance, and adequate digital readiness supported by training and technical assistance.

Keywords: Acceptance; Clinical Decision Support Systems; Digital Literacy; Perceived Usefulness; Trust

INTRODUCTION

Clinical decision-making in healthcare is increasingly supported by digital technologies. One of the most widely discussed tools in this area is the Clinical Decision Support System (CDSS), a computerized system that connects patient-specific information with a clinical knowledge base to provide recommendations, reminders, alerts, or other forms of decision support at the point of care (Wingfield et al., 2023; Withall et al., 2022; Zhang et al., 2023). CDSS has been used to support diagnosis, triage, disease surveillance, treatment planning, medication safety, allergy detection, drug interaction checks, and dosing guidance, particularly when integrated with electronic health records (Määttä et al., 2023; Shermock et al., 2023; Voigt & Trautwein, 2022). Although evidence suggests that CDSS can improve clinician performance and care processes, its effect on patient outcomes remains mixed, and its real-world uptake is often lower than expected (Abdellatif, Bouaud, Lafuente-Lafuente, et al., 2021; Jung et al., 2023; Moghadam et al., 2021).

The growing attention to CDSS is closely related to the broader digital transformation of healthcare (Marinescu et al., 2025). Recent digital health frameworks emphasize that digital technologies can strengthen health systems when supported by appropriate governance,

interoperable infrastructure, sustained investment, and workforce readiness (Asian Development Bank, 2021; Fava & Lapão, 2024; Karanikolos et al., 2023). However, the success of CDSS does not depend only on technical performance. In clinical environments, where decisions directly affect patient safety, acceptance by healthcare workers becomes a critical determinant of impact. A CDSS may be technically advanced, but it will have limited value if physicians, nurses, and midwives do not consider it useful, trustworthy, easy to integrate into their workflow, or relevant to their daily responsibilities (Abell et al., 2023; Nascimento et al., 2023; Peiffer-Smadja et al., 2024).

One important factor that may influence CDSS acceptance is perceived usefulness. In the context of healthcare technology, perceived usefulness refers to the extent to which healthcare workers believe that using CDSS can improve their clinical performance, support better decision-making, increase efficiency, and help them manage patients more effectively. Previous studies have shown that perceived usefulness is a key predictor of clinicians' intention to use CDSS and is closely related to the perceived benefits of the system in real clinical practice (Shermock et al., 2023; Withall et al., 2022; Zhang et al., 2023). When healthcare workers perceive CDSS as useful, they are more likely to view it as a practical clinical aid rather than as an additional burden. This is especially important in busy clinical settings, where new systems are often judged based on whether they reduce uncertainty, improve safety, save time, or instead add extra work to already demanding workflows (Abdellatif, Bouaud, Tholomier, et al., 2021; Abell et al., 2023; Moghadam et al., 2021).

Another essential factor is trust. Trust is highly relevant because CDSS may provide recommendations that influence clinical judgement and patient management. Healthcare workers need to believe that the system is reliable, accurate, evidence-based, transparent, and appropriate for use in patient care. Previous studies have identified trust as one of the strongest predictors of clinicians' willingness to use CDSS, particularly when the system uses complex or AI-enabled recommendations (Wingfield et al., 2023; Withall et al., 2022; Zhang et al., 2023). Clinicians may be reluctant to rely on CDSS when recommendations are unclear, poorly explained, difficult to validate, or perceived as inconsistent with professional judgement. At the same time, trust is not only a psychological factor, but also a professional requirement, because clinicians remain accountable for the decisions they make even when supported by digital systems (Abell et al., 2023; Shermock et al., 2023; Voigt & Trautwein, 2022).

In addition to perceived usefulness and trust, digital literacy also plays an important role in the acceptance of CDSS. Digital literacy reflects the ability, confidence, and familiarity of healthcare workers in using digital systems and applying digital information in clinical work. As healthcare becomes increasingly digitalized, health professionals are expected to interact with electronic records, mobile health applications, automated alerts, data dashboards, and decision-support tools. Limited digital literacy, low confidence, and insufficient training may reduce actual CDSS use, even when the system is available and potentially beneficial (Määttä et al., 2023; Wingfield et al., 2023; Zhang et al., 2023). Conversely, effective training, technical support, and user-friendly design can improve clinicians' willingness to adopt CDSS and help ensure that digital tools are understood as part of clinical practice rather than as external technological demands (Shermock et al., 2023; Voigt & Trautwein, 2022).

Although CDSS has been widely promoted as a tool to improve healthcare quality, its implementation remains strongly dependent on human acceptance. The perspectives of

healthcare workers are especially important because they are the direct users of CDSS in clinical settings. Previous implementation studies have shown that adoption is shaped by several socio-technical factors, including workflow fit, perceived clinical value, trust in system outputs, availability of patient data, technical infrastructure, training, and organizational support (Abell et al., 2023; Kouri et al., 2022; Olakotan & Yusof, 2021). In some settings, poorly targeted alerts, workflow misfit, or lack of transparency may lead to alert fatigue, system overrides, or resistance to use. Therefore, understanding whether perceived usefulness, trust, and digital literacy influence acceptance can provide valuable insight for healthcare institutions planning to implement or strengthen CDSS.

The novelty of this study lies in several aspects. First, it focuses specifically on CDSS acceptance in an Indonesian healthcare context, which has not been extensively studied. Second, it includes a mixed sample of physicians, nurses, and midwives, reflecting the interdisciplinary nature of clinical care. Third, it examines digital literacy as a predictor alongside the more commonly studied perceived usefulness and trust. Fourth, it uses Fisher's Exact Test and odds ratio estimation appropriate for the sample size and categorical data structure.

Based on this background, this study aims to analyze the effect of perceived usefulness, trust, and digital literacy on the acceptance of Clinical Decision Support Systems among healthcare workers. The findings are expected to contribute to a better understanding of the behavioral and professional factors that shape CDSS acceptance, particularly among physicians, nurses, and midwives in clinical settings.

METHOD

Study Design and Participants

This study used a quantitative analytical design with a cross-sectional approach to examine the influence of perceived usefulness, trust, and digital literacy on healthcare workers' acceptance of Clinical Decision Support Systems (CDSS). The participants were healthcare workers directly involved in clinical services, including physicians, nurses, and midwives. A total of 84 respondents were included in this study. The inclusion criteria were healthcare workers aged over 25 years, had worked for more than three years, and were willing to participate. Specifically for physicians, the age criterion was set above 30 years to ensure sufficient professional and clinical experience.

Variables and Instrument

The independent variables in this study were perceived usefulness, trust, and digital literacy, while the dependent variable was acceptance of CDSS. Perceived usefulness refers to the extent to which healthcare workers believe that CDSS can support clinical performance and decision-making. Trust reflects confidence in the reliability, safety, and accuracy of CDSS. Digital literacy refers to the ability and confidence to use digital technology in clinical practice. Acceptance of CDSS refers to healthcare workers' willingness, intention, and support for using CDSS in healthcare settings.

Data were collected using a structured questionnaire consisting of respondent characteristics and 16 statement items. Perceived usefulness was measured using four items, trust using three items, digital literacy using five items, and acceptance of CDSS using four items. Each item was assessed using a five-point Likert scale, ranging from 1 = strongly

disagree to 5 = strongly agree. Higher scores indicated a more positive perception of each variable. The total scores were then categorized into poor, moderate, and good according to the study scoring criteria.

Data Collection and Ethical Considerations

Before completing the questionnaire, respondents received a brief explanation about the study purpose and the definition of CDSS. In this study, CDSS refers to digital systems that assist healthcare workers in clinical decision-making, including rule-based systems integrated into electronic medical records and artificial intelligence-based tools.

Participation was voluntary, and respondents were allowed to refuse participation. All responses were kept confidential, and respondent identities were coded to maintain anonymity. The data were used only for research purposes.

Data Analysis

Data were analyzed using univariate and bivariate analysis. Univariate analysis was used to describe respondent characteristics and variable distributions. Categorical data were presented as frequency and percentage, while numerical data such as age and length of employment were presented as mean, median, standard deviation, minimum, and maximum.

Bivariate analysis was performed using binary logistic regression to examine the influence of perceived usefulness, trust, and digital literacy on acceptance of CDSS. The results were presented as odds ratio (OR), 95% confidence interval, and p-value. A p-value of less than 0.05 was considered statistically significant.

RESULTS AND DISCUSSION

The characteristics of the respondents in this study are presented in Table 1, including age, gender, occupation, length of employment, and experience using clinical digital systems. Based on Table 1, most respondents were aged 25–34 years (52.94%), followed by those aged 35–44 years (29.41%) and ≥45 years (17.65%). This indicates that the respondents were mostly in the younger productive age group.

Female respondents were more dominant (70.59%) than male respondents (29.41%), showing that the sample was largely represented by female healthcare workers. In terms of occupation, most respondents were physicians (50.00%) and nurses (41.28%), while midwives, pharmacists, and IT staff each accounted for 2.94%. This suggests that the majority of respondents were clinical professionals directly involved in patient care.

For length of employment, most respondents had worked for 10 years (44.12%) or 1–5 years (38.24%). This shows that most participants had sufficient work experience to provide relevant views on Clinical Decision Support Systems. Regarding experience using clinical digital systems, most respondents reported using them often (52.94%), followed by sometimes (26.47%). This indicates that many respondents were already familiar with clinical digital systems, which may support their readiness to assess and accept Clinical Decision Support Systems.

Table 1 Respondent Characteristics (n = 34)

Variables	Frequency (n)	Percentage (%)
Age		
25–34 years	18	52.94
35–44 years	10	29.41
≥45 years	6	17.65
Gender		
Male	10	29.41
Female	24	70.59
Occupation		
Physician	17	50.00
Nurse	14	41.28
Midwife	1	2.94
Pharmacist	1	2.94
IT Staff	1	2.94
Length of Employment		
<1 year	2	5.88
1–5 years	13	38.24
6–10 years	4	11.76
10 years	15	44.12
Experience Using Clinical Digital Systems		
Never	1	2.94
Rarely	6	17.65
Sometimes	9	26.47
Often	18	52.94

The univariate analysis of variable scores and categories is presented in Tables 2 and 3. Overall, the findings show that respondents tended to have positive perceptions toward Clinical Decision Support Systems across all measured variables. Based on Table 2, Digital Literacy had the highest mean score (20.29 ± 2.74), with a median of 20.00 and scores ranging from 15 to 25. This indicates that most respondents had relatively good ability, confidence, and familiarity in using digital technology in clinical practice. Perceived Usefulness had a mean score of 16.15 ± 2.61, with a median of 16.00, suggesting that respondents generally perceived Clinical Decision Support Systems as useful for supporting clinical work.

The mean score of Acceptance of CDSS was 16.06 ± 2.62, with a median of 16.00 and scores ranging from 9 to 20. This shows that most respondents had a favorable level of acceptance toward the use of Clinical Decision Support Systems. Meanwhile, Trust had the lowest mean score compared with the other variables (11.56 ± 2.19), although the median remained relatively high at 12.00. This suggests that trust in Clinical Decision Support Systems was generally positive, but not as strong as digital literacy, perceived usefulness, or acceptance.

Table 1 Univariate Analysis of Variable Scores

Variable	Mean	Median	SD	Min	Max
Perceived Usefulness	16.15	16.00	2.61	8	20
Trust	11.56	12.00	2.19	6	15
Digital Literacy	20.29	20.00	2.74	15	25

Acceptance of CDSS	16.06	16.00	2.62	9	20

Based on Table 3, most respondents were categorized as good in all variables.

Table 3 Univariate Analysis of Variable Categories

Variable	Category	Frequency (n)	Percentage (%)
Perceived Usefulness	Poor	1	2.94
	Moderate	5	14.71
	Good	28	82.35
Trust	Poor	1	2.94
	Moderate	12	35.29
	Good	21	61.76
Digital Literacy	Poor	0	0.00
	Moderate	7	20.59
	Good	27	79.41
Acceptance of CDSS	Poor	1	2.94
	Moderate	5	14.71
	Good	28	82.35

Perceived Usefulness and Acceptance of CDSS each had 28 respondents (82.35%) in the good category, indicating that most respondents considered Clinical Decision Support Systems useful and were willing to accept their use in clinical practice. Digital Literacy also showed a high proportion of good responses, with 27 respondents (79.41%), while 7 respondents (20.59%) were in the moderate category and none were in the poor category. For Trust, 21 respondents (61.76%) were in the good category, 12 respondents (35.29%) were in the moderate category, and 1 respondent (2.94%) was in the poor category. This shows that although most respondents trusted Clinical Decision Support Systems, trust had a larger moderate proportion compared with the other variables. Therefore, confidence in the reliability, safety, and accuracy of Clinical Decision Support Systems may still need to be strengthened to support wider acceptance.

The bivariate analysis was performed using odds ratio (OR) analysis with Fisher's Exact Test, because the data were categorical and several cells had small frequencies. For this analysis, Acceptance of CDSS was grouped into two categories: good acceptance and poor/moderate acceptance.

Table 4 Bivariate Analysis of Factors Influencing Acceptance of CDSS

Independent Variable	Category	Poor/ Moderate Acceptance n (%)	Good Acceptance n (%)	OR	95% CI	p-value	Interpretation
Perceived Usefulness	Poor/ Moderate	5 (83.33)	1 (16.67)	Reference	8.72–2090.74	0.000126	Significant
	Good	1 (3.57)	27 (96.43)	135.00			
Trust	Poor/ Moderate	6 (46.15)	7 (53.85)	Reference	-	0.001276	Significant
	Good	0 (0.00)	21 (100.00)	Infinite*			

Digital Literacy	Poor/ Moderate	5 (71.43)	2 (28.57)	Reference	5.20–812.23	0.000427	Significant
	Good	1 (3.70)	26 (96.30)	65.00			

Based on Table 4, Perceived Usefulness significantly influenced Acceptance of CDSS. Respondents with good perceived usefulness had 135.00 times higher odds of having good acceptance compared with those with poor or moderate perceived usefulness (OR = 135.00; 95% CI = 8.72–2090.74; p = 0.000126). This indicates that healthcare workers who perceived CDSS as useful were much more likely to accept its use in clinical practice. Trust also showed a significant influence on Acceptance of CDSS (p = 0.001276). All respondents with good trust had good acceptance of CDSS (21 respondents; 100.00%), while only 7 respondents (53.85%) in the poor/moderate trust group had good acceptance. The OR was reported as infinite because no respondent with good trust had poor/moderate acceptance. This suggests a very strong relationship between trust and CDSS acceptance, although the OR should be interpreted carefully due to the zero-frequency cell.

Digital Literacy significantly influenced Acceptance of CDSS as well. Respondents with good digital literacy had 65.00 times higher odds of having good acceptance compared with those with poor or moderate digital literacy (OR = 65.00; 95% CI = 5.20–812.23; p = 0.000427). This means that healthcare workers with better digital literacy were more likely to accept CDSS. Overall, the results show that Perceived Usefulness, Trust, and Digital Literacy were all significantly associated with Acceptance of CDSS. Among the variables with calculable OR values, Perceived Usefulness showed the strongest influence, followed by Digital Literacy, while Trust also demonstrated a strong significant effect, although its OR could not be estimated normally because of a zero-frequency cell.

Perceived Usefulness and Acceptance of CDSS

Perceived usefulness emerged as the strongest calculable factor influencing the acceptance of Clinical Decision Support Systems. In this study, healthcare workers with good perceived usefulness had 135.00 times higher odds of having good acceptance compared with those with poor or moderate perceived usefulness (OR = 135.00; 95% CI = 8.72–2090.74; p = 0.000126). The distribution of responses also supports this finding: among respondents with good perceived usefulness, 27 respondents (96.43%) had good acceptance, while only 1 respondent (16.67%) with poor or moderate perceived usefulness had good acceptance. In contrast, 5 respondents (83.33%) with poor or moderate perceived usefulness had poor/moderate acceptance. This indicates that healthcare workers who perceive Clinical Decision Support Systems as useful are much more likely to accept their use in clinical practice.

This finding is consistent with technology-acceptance perspectives in healthcare, where perceived usefulness or performance expectancy is often considered a central driver of intention to use decision-support technologies. Previous studies have also shown that perceived usefulness plays an important role in clinicians' acceptance of Clinical Decision Support Systems, particularly when the system is perceived to improve clinical performance, support decision-making, and provide practical benefits in real clinical settings (Abell et al., 2023; Berge et al., 2023; J. Wang et al., 2025). Similar findings were reported (Morton et al., 2025), where performance expectancy had the strongest effect on behavioral intention in the

acceptance of an artificial intelligence-based Clinical Decision Support System for venous thromboembolism prevention.

The strong effect of perceived usefulness in this study suggests that healthcare workers are more likely to accept Clinical Decision Support Systems when they see clear value in their daily work. Usefulness is not only related to whether the system is technologically advanced, but also whether it helps clinicians make better decisions, improves work efficiency, reduces uncertainty, and supports patient care. This is in line with previous evidence showing that the usefulness of Clinical Decision Support System outputs in practice is one of the most important determinants of adoption, and that systems perceived as not useful or not beneficial are unlikely to be accepted (Ahlan & Ahmad, 2022; Ayorinde et al., 2023).

In practical terms, these findings imply that Clinical Decision Support Systems should be designed and implemented with visible, task-level benefits for healthcare workers. A system that provides accurate recommendations but disrupts workflow, increases documentation burden, or does not match clinical needs may still be perceived as less useful. Therefore, implementation should focus on ensuring that Clinical Decision Support Systems are integrated into daily clinical routines, provide relevant recommendations, save time, and contribute to safer and better patient care. In this study, the high odds ratio for perceived usefulness confirms that practical usefulness is the most influential pathway for improving acceptance of Clinical Decision Support Systems among healthcare workers.

Trust and Acceptance of CDSS

The findings of this study indicate that trust significantly influenced the acceptance of Clinical Decision Support Systems among healthcare workers. Respondents with good trust showed a significantly higher likelihood of having good acceptance compared with those with poor or moderate trust ($p = 0.001276$). In this analysis, the odds ratio was reported as infinite because all respondents with good trust had good acceptance of Clinical Decision Support Systems. The cross-tabulation showed that 21 respondents (100.00%) with good trust had good acceptance, while among respondents with poor or moderate trust, only 7 respondents (53.85%) had good acceptance and 6 respondents (46.15%) had poor/moderate acceptance. This finding suggests that healthcare workers are more likely to accept Clinical Decision Support Systems when they believe that the system is reliable, safe, and accurate.

Trust is a crucial issue in the implementation of Clinical Decision Support Systems because these systems may influence clinical reasoning, treatment decisions, and patient safety. The result of this study is consistent with (Dingel et al., 2024), who found that trust was the most influential predictor of practitioners' intention to use artificial intelligence-enabled Clinical Decision Support Systems, with a corrected correlation of $r^c = 0.73$. Similarly, other study reported that users' trust in Clinical Decision Support System input data and evidence base was among the most commonly reported influences on implementation and adoption, appearing across 15 included studies (Abell et al., 2023). These findings strengthen the interpretation that trust is not a secondary factor, but a central condition for healthcare workers' acceptance of Clinical Decision Support Systems.

The significant effect of trust in this study may be explained by the high-stakes nature of clinical decision-making. Healthcare workers need confidence that Clinical Decision Support System recommendations are clinically valid and consistent with professional judgment. (Schwartz et al., 2022) showed that clinicians' trust in predictive Clinical Decision Support

Systems was shaped by perceived understandability, technical competence, perceived accuracy, and concordance between system predictions and clinicians' own clinical impressions. Other study (Biesen et al., 2022) also reported that physicians perceived Clinical Decision Support Systems as more trustworthy when their accuracy was supported by clinical trial validation. This means that trust is built not merely through system availability, but through evidence that the system performs safely and accurately in clinical settings.

These findings highlight the need for transparent, clinically valid, and secure implementation of Clinical Decision Support Systems. Study (Tun et al., 2025) emphasized that trust in artificial intelligence-based Clinical Decision Support Systems is shaped by transparency, clinical reliability, credibility, validation, usability, workflow integration, and user familiarity. Other study (Jones et al., 2021) also argued that empirical evaluation in real clinical settings is important for generating clinician trust, particularly when systems are perceived as difficult to interpret. In addition, another study (Zhao et al., 2023)) noted that confidentiality and security of patient information are essential for building trust among clinicians and patients, while others (Thiruchelvam et al., 2022) found that intended use was linked to confidence in reliable data and privacy protection.

Overall, this study confirms that trust is a significant determinant of acceptance of Clinical Decision Support Systems. Although perceived usefulness showed the strongest influence, trust remained an important factor that shaped whether healthcare workers were willing to accept the system. Therefore, implementation should not only focus on technical performance, but also on building trust through reliable recommendations, transparent processes, clinical validation, data security, and privacy protection.

Digital Literacy and Acceptance of Clinical Decision Support Systems (CDSS)

Digital literacy was found to be a significant factor influencing the acceptance of Clinical Decision Support Systems. In this study, healthcare workers with good digital literacy had 65.00 times higher odds of having good acceptance compared with those with poor or moderate digital literacy (OR = 65.00; 95% CI = 5.20–812.23; p = 0.000427). The cross-tabulation also showed that among respondents with good digital literacy, 26 respondents (96.30%) had good acceptance, while only 1 respondent (3.70%) had poor/moderate acceptance. In contrast, among respondents with poor or moderate digital literacy, only 2 respondents (28.57%) had good acceptance, while 5 respondents (71.43%) had poor/moderate acceptance. This finding indicates that healthcare workers with stronger digital capability are more likely to accept the use of Clinical Decision Support Systems in clinical practice.

This result is consistent with previous evidence showing that digital competence-related factors, such as computer skills, eHealth knowledge, and computer self-efficacy, are associated with acceptance of Clinical Decision Support Systems. Study (Sultan et al., 2024) found that computer self-efficacy had a significant positive effect on physicians' intention to adopt Clinical Decision Support Systems (p = 0.015; r = 0.218). Similarly, previous studies have noted that poor computer skills, unequal computer proficiency, and limited digital competence can hinder the use and implementation of Clinical Decision Support Systems and other digital health tools (Mlakar et al., 2022; Silva et al., 2025; Tai et al., 2024; Tromp et al., 2022). These findings support the interpretation that digital literacy is not only a technical skill, but also an important readiness factor for accepting Clinical Decision Support Systems.

Healthcare workers with better digital literacy may be more confident and prepared to use Clinical Decision Support Systems because they are more familiar with navigating digital systems, interpreting system outputs, and integrating digital recommendations into clinical work. Study (Murali et al., 2024) identified confidence in using Clinical Decision Support Systems as a clinician-level facilitator of implementation. In addition, (D. Wang et al., 2021) showed that limited training opportunities may restrict clinicians' ability to adopt artificial intelligence-based Clinical Decision Support Systems, even when attitudes toward the technology are generally positive. This suggests that acceptance depends not only on whether healthcare workers agree with the value of the system, but also on whether they feel capable of using it effectively in real clinical situations.

The findings also highlight the importance of training, technical support, and user-friendly system design. Training can improve users' confidence and ability to understand Clinical Decision Support System recommendations, while technical support can help reduce difficulties during actual use. Study (Zhao et al., 2023) emphasized that healthcare organizations should provide training and educational resources so clinicians can interpret recommendations and integrate them into decision-making. Other study (Catho et al., 2021) also recommended training plans that match end-users' skills and time constraints, while (Albahar et al., 2023) highlighted the need for technical support at the ward level to prevent user difficulties and improve effective use.

In addition to training and support, Clinical Decision Support Systems should be designed to be easy to use and aligned with clinical workflow. A system that is difficult to navigate, interrupts routine work, or creates additional burden may reduce acceptance, especially among users with lower digital confidence. Study (Ghorayeb et al., 2023) emphasized that usability, workflow integration, decision effectiveness, and ease of system use are important for safe and effective operation of Clinical Decision Support Systems. Similarly, (Biesen et al., 2022; Westerbeek et al., 2022) noted that Clinical Decision Support Systems should fit existing workflows and avoid disruptive or obstructive design. Therefore, improving digital literacy should be accompanied by practical implementation strategies that make the system easier to learn, easier to use, and more relevant to daily clinical practice.

CONCLUSION

Perceived usefulness, trust, and digital literacy influence the acceptance of Clinical Decision Support Systems among healthcare workers. Healthcare workers are more likely to accept Clinical Decision Support Systems when they perceive them as useful for clinical work, believe that the systems are reliable and safe, and have sufficient confidence in using digital technology. Therefore, successful implementation should focus on providing clear practical benefits, strengthening system trustworthiness, and improving users' digital readiness through training and technical support.

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