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Original Research

The Relationship Between User Ability Response (UAR) and Intentions and Attitudes Toward Vector Control Among Users of the Geplakkin Application

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ABSTRACT

Background: Geplakkin is a digital application that enables the general public to report, monitor, and obtain information on Aedes mosquito density as part of a monitoring system. The objective of this study was to analyze the relationship between the level of use of the Aedes mosquito app (UAR) and the intention to eliminate mosquito breeding sites, as well as the relationship between the level of use and attitudes toward eliminating mosquito breeding sites among Geplakkin app users in Pontianak. **Methods:** The study population consisted of households in Pontianak. A total of 240 Geplakkin app users were selected through targeted sampling. The inclusion criterion was owning a smartphone capable of installing and using the app. Data were analyzed using univariate and bivariate analyses. Bivariate analysis was performed using Pearson's product-moment correlation and Spearman's rank correlation. **Results:** The results showed a weak but statistically significant positive relationship between the level of Geplakkin app usage and the intention to eliminate mosquito breeding sites ($r = 0.310$, $p = 0.000$). The variable attitude toward mosquito breeding site elimination showed a very weak but statistically significant positive correlation with UAR ($r = 0.149$, $p = 0.021$). Both variables exhibited a positive association, indicating that higher UAR values are associated with stronger intentions and more positive attitudes toward eliminating mosquito breeding sites. **Conclusion:** Continued use of the Geplakkin monitoring app is recommended, as users' positive responses to the app have the potential to strengthen their intention to eliminate mosquito breeding sites and thereby foster a positive community attitude toward mosquito breeding site elimination (PSN) efforts as part of dengue vector control.

Keywords: Vector surveillance; mobile app; user ability response; intention; attitudes

1. INTRODUCTION

Dengue fever remains a major public health challenge worldwide. The dengue virus causes the disease, and infected mosquitoes transmit it.(1) The WHO notes that dengue fever cases worldwide have risen significantly in recent

years, placing an increasing burden on public health systems. In Indonesia, the Ministry of Health reported more than 160,000 cases of dengue fever and 673 deaths in 2025, with transmission occurring in nearly all districts and cities across the country. At the local level, Pontianak City recorded an incidence rate of 17,055 per 100,000 population in the same year, according to a BPS report. These figures underscore that dengue fever remains a significant public health issue in Indonesia.

Climate change has enhanced the survival, reproduction, and capacity of mosquito vectors, thereby facilitating dengue virus transmission and increasing the incidence of dengue fever.[2] In addition, uncontrolled urbanization and increased population mobility have accelerated the geographic spread of dengue vectors into new areas.[3,4] Together, these factors increase the risk of dengue outbreaks and impose a significant economic and health burden, particularly in low- and middle-income countries.

Dengue fever surveillance systems have gradually evolved from conventional approaches toward digital platforms that integrate epidemiological, entomological, and environmental data to support targeted vector control measures.[5,6] Compared to traditional paper-based methods, mobile health (mHealth) applications have demonstrated advantages in accelerating case reporting, improving data quality, and facilitating the spatial mapping of high-risk areas.[7,8] In addition to technological advancements, the success of the Mosquito Breeding Site Elimination Program (PSN) depends heavily on the community's willingness to implement preventive measures inside and around their homes actively[9]. Participatory digital platforms can strengthen community engagement in dengue prevention by enhancing vector surveillance, enabling timely monitoring, and encouraging participation in PSN initiatives.[10,11] However, the effectiveness of app-based monitoring systems depends heavily on user acceptance and perceived ease of use.

Geplakkin is a mobile-based dengue vector surveillance application designed to support community-based dengue prevention and control efforts. The application enables users to report mosquito presence and environmental conditions in real time, facilitating the collection of local vector surveillance data. In addition, Geplakkin provides personalized recommendations for dengue prevention and control within household settings. To promote public awareness, the application also includes educational resources, such as informational materials and videos on dengue prevention. These integrated features position Geplakkin not only as a surveillance and reporting tool but also as a digital platform for health education and community engagement, supporting the adoption of preventive behaviors and strengthening dengue control efforts.

Ease of use and perceived benefits are key determinants of the acceptance and sustained use of digital health applications. Previous quantitative studies have shown that ease of use and perceived benefits significantly influence the adoption of digital health technologies as well as user retention. Furthermore, the alignment of technology with performance expectations correlates with the intensity of mHealth app usage.[12,13] User-friendly apps enhance comfort, trust, and the overall user experience, thereby fostering positive attitudes toward digital health technologies.[14] Although evidence on technology acceptance in the health sector is growing, studies examining the relationship between perceived ease of use and behavioral intentions regarding vector-monitoring apps remain scarce, particularly in the context of dengue fever prevention and control in Indonesia.

Research on mosquito breeding site monitoring apps that actively involve the community remains limited in Indonesia, particularly in areas where dengue fever is endemic, such as Pontianak. Studies conducted to date have primarily focused on ease of use, technology acceptance, and user satisfaction. In contrast, the impact of effective use of these apps on users' attitudes and behavioral intentions toward eliminating mosquito breeding sites has been studied little. However, understanding this relationship is crucial to ensuring that monitoring apps serve not only as reporting tools but also as tools that encourage community participation and strengthen efforts to control dengue vectors. Therefore, the objective of this study is to investigate the relationship between users' responses to the Geplakkin monitoring app and their attitudes and behavioral intentions toward eliminating mosquito breeding sites.

The purpose of this study is to examine the relationship between users' response ability (User Ability Response, UAR) and their behavioral intentions regarding the elimination of mosquito breeding sites, as well as the relationship between UAR and attitudes toward such elimination among users of the Geplakkin app in Pontianak. The results of this study are expected to contribute to the development and optimization of user-centered digital monitoring applications by

demonstrating how users' ability to interact with monitoring technology influences their attitudes and intentions toward eliminating dengue fever vectors. These findings can support the implementation of effective digital monitoring systems and strengthen community participation in mosquito breeding site elimination programs.

2. METHODS

2.1 Research Design and Setting

This study employed a quantitative analytical observational design with a cross-sectional approach. This cross-sectional design allowed assessment of the relationship between User Ability Response (UAR) and attitudes and behavioral intentions toward eliminating mosquito breeding sites at a specific point in time. The study was conducted in Pontianak City in September 2025.

2.2 Study Population and Sample

The study population consisted of household members residing in the study area who owned a smartphone. The sample comprised 240 respondents selected through purposive sampling. Respondents were chosen based on criteria defined by the researcher and aligned with the study's objectives: individuals who could access and use the Geplakkin application and participate in all phases of the research.

Inclusion criteria for respondents included being at least 18 years of age, residing in Pontianak City, owning a smartphone capable of running the Geplakkin application, and being able to operate a smartphone and the Geplakkin application. Willingness to participate as a respondent and sign an informed consent form, and willingness to complete all stages of the study. Exclusion criteria included participants who withdrew during the study, failed to complete all stages of the study, did not fully complete the questionnaire, or experienced technical issues preventing the use of the Geplakkin application during the study period.

The sample size of 240 respondents was determined based on the number of respondents who met the study criteria and were available to participate in all stages of the study. Purposive sampling was chosen because the study did not aim to obtain a random sample from the entire household population, but instead required respondents who met the requirements to use the Geplakkin application.

2.3 Variables

This study examined User Ability Response (UAR) as the independent variable. The dependent variables were attitudes toward mosquito breeding site control and behavioral intentions related to it among users of the Geplakkin application.

2.4 Data Collection

Data were collected through a structured questionnaire that respondents completed themselves. The questionnaire was used to measure user competence (User Ability Response, UAR), behavioral intentions regarding mosquito breeding-site elimination, and attitudes toward such elimination efforts. The UAR instrument consisted of 13 items, while the instruments for measuring behavioral intention and attitudes consisted of 10 and 12 items, respectively. All items were rated using a five-point Likert scale ranging from 1 to 5.

2.5 Data Analysis

The data were analysed using univariate and bivariate statistical methods. Before the bivariate analysis, the normality of the data was tested using the z-test. The results showed that the variables User Ability Respons (UAR) and Behavioral Intention were not normally distributed therefore, the relationship between them was tested using Spearman's rank correlation test. In contrast, the Attitude variable was normally distributed and was analysed using Pearson's product-moment correlation test. Statistical significance was set at a p-value < 0.05. All analyses were performed using IBM SPSS (version 25).

2.6 Ethical Practices

This study was conducted in accordance with ethical principles for research involving human subjects. Ethical approval was granted by the Ethics Committee of the Faculty of Medicine, Public Health, and Nursing at Universitas Gadjah Mada in Yogyakarta, Indonesia (reference number KE/FK/0797/EC/2022). Before data collection, all participants were informed about the study's objectives, procedures, potential risks, and benefits. Written informed consent was obtained before participation. Participation was voluntary, and participants retained the right to withdraw at any time without consequence. Confidentiality was ensured by anonymizing the data by removing personally identifiable information. The research team stored the data securely, accessible only to the research team, and used it exclusively for research purposes.

3. RESULTS

The study included 240 users of the Geplakkin application in Pontianak City. Descriptive (univariate) analyses were used to summarize respondent characteristics, whereas inferential (bivariate) analyses were conducted to assess the associations between User Ability Response (UAR), attitudes toward mosquito breeding site control, and behavioral intentions related to mosquito breeding site control. The results are presented in Table 1.

Table 1. Frequency distribution of respondent characteristics

Characteristics	N=240	%
Education level		
Elementary school graduate	33	13.8
Junior high school graduate	59	24.6
High school graduate	83	34.6
College/university graduate	65	27.1
Employment		
Unemployed/housewife	85	35.4
Civil servant	15	6.3
Private sector employees	18	7.5
Self-employed	72	30.0
Other	50	20.8

According to Table 1, the largest proportion of respondents had completed senior high school education (34.6%), whereas respondents with only elementary school education represented the smallest proportion (13.8%). Regarding employment status, unemployed individuals and homemakers constituted the largest group of respondents (35.4%), while civil servants accounted for the smallest proportion (6.3%).

As shown in Table 2, the mean User Ability Response (UAR) score was 56.32 (SD = 6.91), with observed scores ranging from 15 to 65. The mean behavioral intention score toward mosquito breeding site control was 45.43 (SD = 4.67), with a range of 25 to 50. The mean attitude score toward mosquito breeding site control was 39.97 (SD = 5.28), with observed scores ranging from 24 to 56. Overall, the relatively high mean scores across all variables suggest favorable levels of user ability, behavioral intentions, and attitudes among Geplakkin application users.

As shown in Figure 1, positive responses predominated across all User Ability Response (UAR) items. The highest proportion of positive responses was observed for the perceived usefulness dimension (96%), followed by behavioural intention (89%) and attitude toward use (88%). In contrast, perceived ease of use received the lowest proportion of positive responses (82%) and the highest proportion of negative responses (18%). Regarding the outcome variables, behavioural intention toward mosquito breeding site elimination was very high, with 97% of respondents reporting positive responses. In contrast, attitudes toward mosquito breeding site control were more varied, although positive responses remained predominant, accounting for 55% of respondents.

Table 2. Descriptive statistical analysis

Variable	Mean	SD	Min - Max
UAR	56.32	6.91	15 – 65
Intention	45.43	4.67	25 – 50
Attitude	39.97	5.28	24 – 56

As shown in Table 3, a bivariate analysis was conducted after verifying the normality of the data using the z-skewness test. The results of the Spearman rank correlation analysis showed a weak but statistically significant positive relationship between User Ability Response (UAR) and behavioural intention to eliminate mosquito breeding sites ($p < 0.001$). This indicates that higher UAR scores are associated with a stronger intention to eliminate mosquito breeding sites. In addition, Pearson's product-moment correlation analysis revealed a very weak but statistically significant positive relationship between UAR and attitudes toward eliminating mosquito breeding sites ($p = 0.021$). This indicates that respondents with higher UAR scores tend to exhibit more positive attitudes toward eliminating mosquito breeding sites

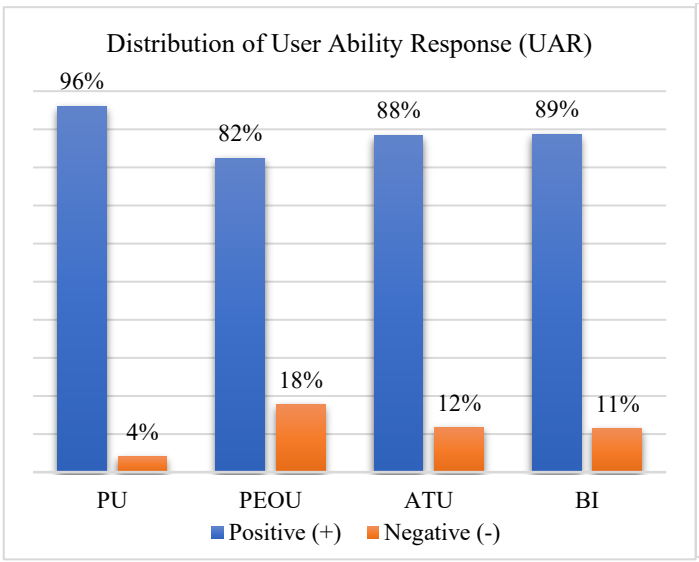
Table 3. Correlation test results

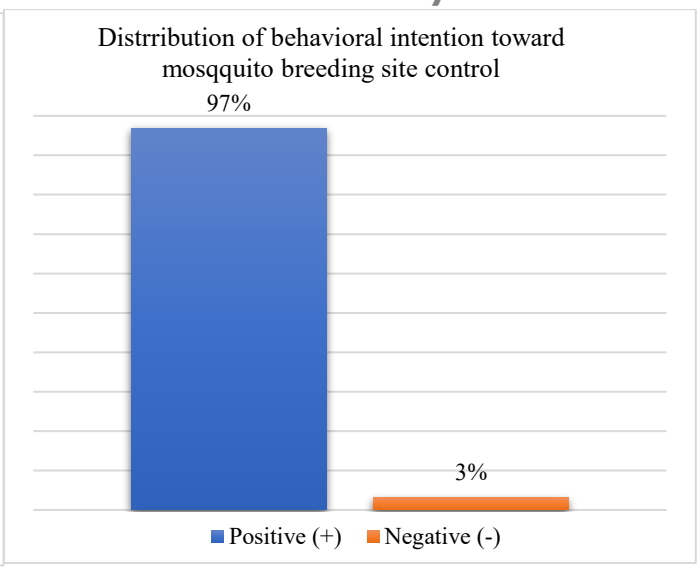
Variable	Intention (*Spearman Rank*)		Attitude (*Pearson*)	
	r_{rho}	*p*-value	r	*p*-value
UAR	0.310	0.000	0.149	0.021

4. DISCUSSION

Relationship Between User Ability Response and Behavioral Intentions Toward Mosquito Breeding Site Control

The results of this study show a positive and statistically significant relationship between User Ability





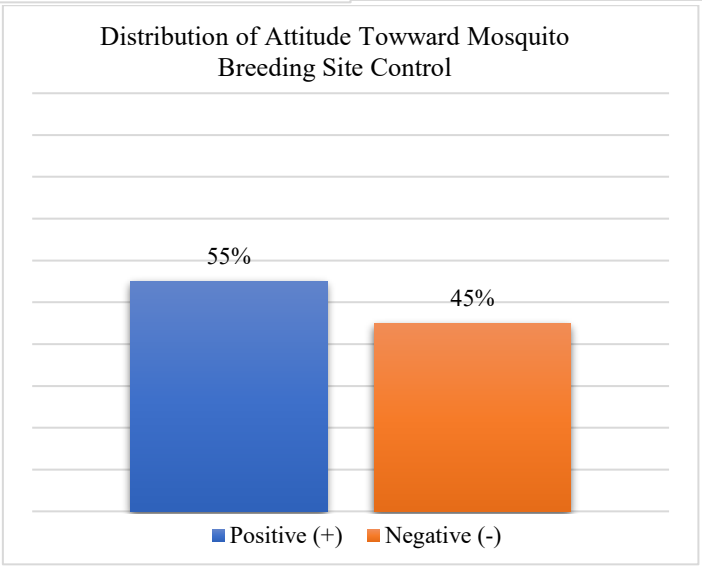


Figure 1. Distribution of respondents' responses to the questionnaire items on Geplakkin application use

Response (UAR) and behavioural intention to eliminate mosquito breeding sites among users of the Geplakkin app ($r = 0.310$, $p < 0.001$). This indicates that users who respond more positively to the app tend to have a stronger intention to eliminate mosquito breeding sites. Although the observed relationship is relatively weak, the results of this study confirm previous findings that the acceptance and effective use of digital health apps are aligned with the development of intentions to take preventive health measures.

The Technology Acceptance Model (TAM) assumes that perceived usefulness and perceived ease of use are determining factors in technology acceptance and users' behavioural intentions.[15] In line with this model, users who perceive the Geplakkin app as useful and easy to use are more likely to express a desire to use it to obtain information on dengue fever prevention and the elimination of mosquito breeding sites. Access to up-to-date, relevant health information through digital platforms can increase users' knowledge and awareness of disease risks, which, in turn, can encourage their willingness to engage in preventive health behaviours.

Item-level analysis revealed that perceived usefulness had the highest proportion of positive responses (96%), while perceived ease of use also demonstrated a high level of positive responses (82%). These findings indicate that most respondents perceived the Geplakkin application as both useful and easy to operate. Positive perceptions of usefulness and ease of use may enhance users' confidence in the application's information and support its continued use. These results are consistent with previous studies identifying perceived usefulness and perceived ease of use as important determinants of digital health technology acceptance and sustained user engagement.[16–18]

The Attitude Toward Using and Behavioral Intention dimensions also demonstrated predominantly positive responses. Most respondents perceived the Geplakkin application as a valuable source of information on dengue prevention, expressed willingness to use it following its implementation, and intended to continue using it as a source of health information. Positive attitudes toward the application may enhance users' receptiveness to the health messages delivered through the platform, while continued intention to use the application may increase repeated exposure to health information.[19] Together, these factors may strengthen users' behavioral intentions toward controlling mosquito breeding sites and other dengue prevention practices.

Digital health literacy and user participation may explain the relationship between User Ability Response (UAR) and behavioural intent to eliminate mosquito breeding sites. Users who can effectively access, understand, and utilise digital health information tend to make sound health decisions and implement preventive health measures.[20–22] Although the relationship observed in this study is relatively weak, digital applications remain a promising approach to increasing community participation in vector control by providing easily accessible, relevant, and tailored health information to users.[23] These results indicate that further development of the Geplakkin app should prioritise ease of use, perceived benefits, and user experience to encourage community engagement in dengue prevention and the elimination of mosquito breeding sites.

Relationship Between User Ability Response (UAR) and Attitudes Toward Mosquito Breeding Site Control

The results of this study indicate a positive and statistically significant relationship between user competence (User Ability Response, UAR) and attitudes toward eliminating mosquito breeding sites among users of the Geplakkin app ($r = 0.149$, $p = 0.021$). Respondents who rated the app more positively tended to exhibit more favourable attitudes toward eliminating mosquito breeding sites. Although this relationship is statistically significant, its strength is very low, indicating that UAR explains only a small portion of the variance in attitudes. These results suggest that attitudes toward eliminating mosquito breeding sites are likely influenced by factors beyond users' ability to understand and operate the app.

The Technology Acceptance Model (TAM) assumes that perceived usefulness and perceived ease of use are key determinants of users' attitudes toward technology. Users who find an app useful and easy to use tend to have positive experiences with the technology and are more receptive to the information it provides.[24,25] In the context of this study, positive perceptions of the Geplakkin app can increase acceptance of health information on dengue fever prevention and the elimination of mosquito breeding sites. Increased engagement with this information, in turn, can contribute to a more positive attitude toward eliminating mosquito breeding sites as a strategy for preventing dengue fever.

Positive responses predominated across all dimensions of the User Ability Response (UAR) variable, particularly within the perceived usefulness dimension, which exhibited the highest proportion of positive responses. These findings suggest that most respondents perceived the Geplakkin application as beneficial in improving their understanding of dengue prevention and mosquito breeding-site control. In contrast, attitudes toward mosquito breeding site control were less uniformly positive, with 55% of respondents reporting positive attitudes and 45% reporting negative attitudes. This distribution suggests that favorable perceptions of the application do not necessarily translate into equally positive attitudes toward mosquito breeding site control. The relatively balanced distribution of attitudes may help explain the very weak association observed between UAR and attitudes. These findings are consistent with previous studies indicating that acceptance of digital health applications is influenced by perceived usefulness and users' experiences with digital health technologies.[26] At the same time, attitudes toward health-related behaviors are often shaped by a broader range of individual and contextual factors.

Understanding health information from digital applications can play a crucial role in shaping health-related attitudes. Users who receive information that is relevant, easily accessible, and easy to understand tend to develop more comprehensive health knowledge and awareness. Previous studies have shown that health awareness, attitudes, and the use of health apps are closely interrelated factors that drive the effective utilisation of digital health information. Furthermore, higher digital health literacy enables users to acquire, understand, evaluate, and apply health information more effectively, which has the potential to increase acceptance of preventive health measures.[27] These findings are consistent with previous studies showing a positive relationship between digital health literacy and

preventive health practices as well as more informed health decision-making.[22,28]

The weak strength of the association observed in this study suggests that attitudes toward mosquito breeding site control are influenced by a range of factors beyond User Ability Response (UAR). These factors may include previous experiences with dengue fever, perceived susceptibility and severity of the disease, social norms, and environmental or community support. Although the findings indicate that the Geplakkin application has the potential to promote positive attitudes by improving access to health information, UAR's contribution to attitudes toward mosquito breeding-site control appears relatively limited. This finding highlights the multifactorial nature of health attitude formation. It suggests that technological factors should be considered alongside individual, social, and environmental determinants when designing interventions to support dengue prevention behaviors.

5. CONCLUSION

This study demonstrated that User Ability Response (UAR) was positively and significantly associated with both behavioral intentions toward mosquito breeding site control ($r = 0.310$, $p < 0.001$) and attitudes toward mosquito breeding site control ($r = 0.149$, $p = 0.021$) among Geplakkin application users. The association between UAR and behavioral intentions was weak, whereas the association between UAR and attitudes was very weak. These findings suggest that users who are better able to understand and operate the application tend to exhibit stronger intentions to participate in Mosquito Breeding Site Eradication (MBSE) activities and more favorable attitudes toward dengue prevention. The results highlight the potential value of digital surveillance applications not only as reporting tools but also as platforms for health education and community engagement in dengue vector control efforts. Future development of the Geplakkin application should continue to prioritize user-friendly features and engaging educational content. Further research involving broader populations and incorporating social, behavioral, and psychological factors is needed to understand better the determinants of attitudes and behavioral intentions related to mosquito breeding-site control.

Ethical Approval

Ethical approval for this study was granted by the Ethics Committee of the Faculty of Medicine, Public Health, and Nursing at Universitas Gadjah Mada, Yogyakarta, Indonesia (reference number: KE/FK/0797/EC/2022).

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Competing Interests

All the authors declare that there are no conflicts of interest.

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Underlying Data

Derived data supporting the findings of this study are available from the corresponding author on request.

REFERENCES

1. Paz-Bailey G, Adams LE, Deen J, Anderson KB, Katzelnick LC. Dengue. The Lancet. 2024;403(10427):667–682. http://dx.doi.org/10.1016/s0140-6736(23)02576-x
2. Wang Y, Zhao S, Wei Y, Li K, Jiang X, Li C, Ren C, Yin S, Ho J, Ran J, Han L, Zee BC-y, Chong KC. Impact of climate change on dengue fever epidemics in South and Southeast Asian settings: A modelling study. Infectious Disease Modelling. 2023;8(3):645–655. http://dx.doi.org/10.1016/j.idm.2023.05.008
3. Kolimenakis A, Heinz S, Wilson ML, Winkler V, Yakob L, Michaelakis A, Papachristos D, Richardson C, Horstick O. The role of urbanisation in the spread of Aedes mosquitoes and the diseases they transmit—A systematic review. PLOS Neglected Tropical Diseases. 2021;15(9):e0009631. http://dx.doi.org/10.1371/journal.pntd.0009631
4. Yang X, Quam MBM, Zhang T, Sang S. Global burden for

dengue and the evolving pattern in the past 30 years. Journal of Travel Medicine. 2021;28(8):1-11. http://dx.doi.org/10.1093/jtm/taab146
5. Tsheten T, Gray DJ, Clements ACA, Wangdi K. Epidemiology and challenges of dengue surveillance in the WHO South-East Asia Region. Transactions of The Royal Society of Tropical Medicine and Hygiene. 2021;115(6):583–599. http://dx.doi.org/10.1093/trstmh/traa158
6. Leandro AS, de Castro WAC, Lopes RD, Delai RM, Villela DAM, de-Freitas RM. Citywide Integrated *Aedes aegypti* Mosquito Surveillance as Early Warning System for Arbovirus Transmission, Brazil. Emerging Infectious Diseases. 2022;28(4):701–706. http://dx.doi.org/10.3201/eid2804.211547
7. Leandro A, Maciel-de-Freitas R. Development of an Integrated Surveillance System to Improve Preparedness for Arbovirus Outbreaks in a Dengue Endemic Setting: Descriptive Study. JMIR Public Health and Surveillance. 2024;10:e62759–e62759. http://dx.doi.org/10.2196/62759
8. Herbuela VRDM, Karita T, Carvajal TM, Ho HT, Lorena JMO, Regalado RA, Sobrepeña GD, Watanabe K. Early Detection of Dengue Fever Outbreaks Using a Surveillance App (Mozzify): Cross-sectional Mixed Methods Usability Study. JMIR Public Health and Surveillance. 2021;7(3):e19034. http://dx.doi.org/10.2196/19034
9. Mahmud MAF, Abdul Mutalip MH, Lodz NA, Muhammad EN, Yoep N, Hasim MH, Abdul Rahim FA, Aik J, Rajarethinam J, Muhamad NA. The application of environmental management methods in combating dengue: a systematic review. International Journal of Environmental Health Research. 2022;33(11):1148–1167. http://dx.doi.org/10.1080/09603123.2022.2076815
10. Mahotra A, Pokhrel Y, Thapa TR, Arguni E, Andono RA. Feasibility of NepaDengue mobile application for dengue prevention and control: user and stakeholder perspectives in Nepal. BMJ Public Health. 2024;2(1):e000599. http://dx.doi.org/10.1136/bmjph-2023-000599
11. Holston J, Suazo-Laguna H, Harris E, Coloma J. DengueChat: A Social and Software Platform for Community-based Arbovirus Vector Control. The American Journal of Tropical Medicine and Hygiene. 2021;105(6):1521–1535. http://dx.doi.org/10.4269/ajtmh.20-0808
12. van de Werken HA, Rohrbach PJ, Bolman CAW. Explaining intention and use of Mhealth with the unified theory of acceptance and use of technology. Acta Psychologica. 2025;254:104819. http://dx.doi.org/10.1016/j.actpsy.2025.104819
13. Park JH, Lee CW, Do C. Examining Users' Acceptance Intention of Health Applications Based on the Technology Acceptance Model. Healthcare. 2025;13(6):596. http://dx.doi.org/10.3390/healthcare13060596
14. Wang C, Qi H. Influencing Factors of Acceptance and Use Behavior of Mobile Health Application Users: Systematic Review. Healthcare. 9(3):357. http://dx.doi.org/10.3390/healthcare9030357
15. Park Y-E, Tak YW, Kim I, Lee HJ, Lee JB, Lee JW, Lee Y. User Experience and Extended Technology Acceptance Model in Commercial Health Care App Usage Among Patients With Cancer: Mixed Methods Study. Journal of Medical Internet Research. 2024;26:e55176 http://dx.doi.org/10.2196/55176
16. Jacob C, Sezgin E, Sanchez-Vazquez A, Ivory C. Sociotechnical Factors Affecting Patients' Adoption of Mobile Health Tools: Systematic Literature Review and Narrative Synthesis. JMIR mHealth and uHealth. 2022;10(5):e36284. http://dx.doi.org/10.2196/36284
17. Adnan A, Irvine RE, Williams A, Harris M, Antonacci G. Improving Acceptability of mHealth Apps—The Use of the Technology Acceptance Model to Assess the Acceptability of mHealth Apps: Systematic Review. Journal of Medical Internet Research. 2025;27:e66432. http://dx.doi.org/10.2196/66432
18. Akritidi D, Gallos P, Koufi V, Malamateniou F. Using an Extended Technology Acceptance Model to Evaluate Digital Health Services. Advances in Informatics, Management and Technology in Healthcare. 2022:530-533. http://dx.doi.org/10.3233/shti220782
19. Wang T, Wang W, Liang J, Nuo M, Wen Q, Wei W, Han H, Lei J. Identifying major impact factors affecting the continuance intention of mHealth: a systematic review and multi-subgroup meta-analysis. npj Digital Medicine. 2022;5(1):145. http://dx.doi.org/10.1038/s41746-022-00692-9
20. Szinay D, Jone, A, Chadborn T, Brown J, Naughton F. Influences on the Uptake of and Engagement With Health and Well-Being Smartphone Apps: Systematic Review. Journal of Medical Internet Research. 2020;22(5):e17572. http://dx.doi.org/10.2196/17572
21. Iribarren SJ, Akande TO, Kamp KJ, Barry D, Kader YG, Suelzer E. Effectiveness of Mobile Apps to Promote Health and Manage Disease: Systematic Review and Meta-analysis of Randomized Controlled Trials. JMIR mHealth and uHealth. 2021;9(1):e21563. http://dx.doi.org/10.2196/21563
22. Kim K, Shin, S, Kim S, Lee E. The Relation Between eHealth Literacy and Health-Related Behaviors: Systematic Review and Meta-analysis. Journal of Medical Internet Research. 2023;25:e40778. http://dx.doi.org/10.2196/40778
23. Schroeer C, Voss S, Jung-Sievers C, Coenen M. Digital Formats for Community Participation in Health Promotion and Prevention Activities: A Scoping Review. Frontiers in Public Health. 2021;9:713159. http://dx.doi.org/10.3389/fpubh.2021.713159
24. Park Y-E, Tak YW, Kim I, Lee HJ, Lee JB, Lee JW, Lee Y. User Experience and Extended Technology Acceptance Model in Commercial Health Care App Usage Among Patients With Cancer: Mixed Methods Study. Journal of Medical Internet Research. 2024;26:e55176. http://dx.doi.org/10.2196/55176
25. Binyamin SS, Zafar BA. Proposing a mobile apps acceptance model for users in the health area: A systematic literature review and meta-analysis. Health Informatics Journal. 2021;27(1):1-27. http://dx.doi.org/10.1177/1460458220976737
26. Schomakers E-M, Lidynia C, Vervier LS, Calero Valdez A,

Ziefle M. Applying an Extended UTAUT2 Model to Explain User Acceptance of Lifestyle and Therapy Mobile Health Apps: Survey Study. JMIR mHealth and uHealth. 2022;10(1):e27095. http://dx.doi.org/10.2196/27095

27. Jembai JVJ, Wong YLC, Bakhtiar NAMA, Lazim SNM, Ling HS, Kuan PX, Chua PF. Mobile health applications: awareness, attitudes, and practices among medical students in Malaysia. BMC Medical Education. 2022;22(1):544. http://dx.doi.org/10.1186/s12909-022-03603-4
28. König L, Suhr R. The Effectiveness of Publicly Available Web-Based Interventions in Promoting Health App Use, Digital Health Literacy, and Media Literacy: Pre-Post Evaluation Study. Journal of Medical Internet Research. 2023;25:e46336. http://dx.doi.org/10.2196/46336