International Journal Of Health, Engineering And Technology (IJHET) *E-ISSN 2829 - 8683*
Volume 5, Number 4, November 2026, *Page. 4098 - 4106*
Email : editorijhess@gmail.com

Factors Associated With The Utilization Of The Mobile JKN Application Among BPJS Health Participants At Paal Merah I Public Health Center, Jambi City

Zetty Refiana[1)], Andy Amir[2)], Arnild Augina Mekarisce[3)], Dwi Noerjoedianto[4)]
[1,2,3,4)] Public Health Study Program, Faculty of Medicine and Health Sciences, Jambi University, Indonesia

*Corresponding Author
Email: augina@unja.ac.id

Abstract

This study aimed to analyze the associations of knowledge, perceived ease of use, and perceived usefulness with the utilization of the Mobile JKN application among BPJS Kesehatan participants at Paal Merah I Public Health Center, Jambi City. This quantitative study used an analytical observational design with a cross-sectional approach. A total of 96 BPJS Kesehatan participants were selected using accidental sampling. Primary data were collected through questionnaires and analyzed using univariate and bivariate analyses with the Chi-Square test at a significance level of 0.05. The results showed that 76 respondents (79.2%) utilized the Mobile JKN application, while 20 (20.8%) had low utilization. Most respondents had high knowledge (63.5%), perceived the application as easy to use (76.0%), and considered it useful (84.4%). Bivariate analysis indicated significant associations between knowledge, perceived ease of use, and perceived usefulness and Mobile JKN utilization, with p-values of less than 0.001 for all three variables. In conclusion, knowledge, perceived ease of use, and perceived usefulness were significantly associated with the utilization of the Mobile JKN application.

Keywords: Mobile JKN, Application Utilization, Knowledge, Perceived Ease of Use, Perceived Usefulness

INTRODUCTION

Digital technology plays an important role in supporting healthcare systems through data management and improving healthcare accessibility, efficiency, and quality. In line with these developments, Indonesia continues to promote digital transformation in the healthcare sector, including through the use of technology in the implementation of the National Health Insurance (JKN) program.(Health Financing (HEF), 2024) The government implements the JKN program through BPJS Kesehatan to ensure public access to healthcare financing. In carrying out this program, BPJS Kesehatan is responsible for providing quality healthcare services and delivering relevant information to participants. As the number of JKN participants reached 225,482,991, representing 83.4% of Indonesia's population in 2021, the use of digital technology has become increasingly important in supporting healthcare services.(Sari et al., 2024)

Technological advancements have driven digitalization across various sectors, including healthcare services through the Mobile JKN application developed by BPJS Kesehatan.(Panjaitan et al., 2024) Mobile JKN is a digital innovation available on the Play Store and App Store, designed to simplify JKN services and improve the effectiveness and efficiency of healthcare service delivery.(Aghatsa et al., 2023) Through this application, participants can access various healthcare administration services, including online outpatient registration.(Azizah et al., 2025) The use of these features requires adequate knowledge and skills so that participants can utilize the application effectively.(Kinasih et al., 2026) Furthermore, Mobile JKN was developed to improve healthcare service quality and reduce queues at healthcare facilities.(Prasetiyo & Safuan, 2022)

Community Health Centers, as First-Level Health Facilities (FKTP), play an important role in providing equitable, accessible, high-quality, and satisfactory healthcare services to the community.(Agung Saputra et al., 2024) In this context, the utilization of digital services such as Mobile JKN can support access to healthcare services and administrative processes at the primary healthcare level.

Despite the various conveniences offered, the utilization of Mobile JKN still faces several challenges. These include limited user knowledge, digital literacy, and experience in operating the application.(Azizah et al., 2025) Adequate knowledge and skills are necessary for participants to use the available features effectively.(Kinasih et al., 2026) In addition, limited internet access and concerns about personal data security may also hinder application utilization.(Rahman & Chaniago, 2025) Limited understanding of the application's features can make it difficult for participants to manage administrative needs online without visiting a BPJS Kesehatan branch office.(Kusumawati et al., 2024) This situation is also reflected in queue registration, as some people still prefer to register manually with healthcare staff despite having the Mobile JKN application installed.(Panjaitan et al., 2024)

Other technical and administrative obstacles may also affect the utilization of Mobile JKN. For example, users may encounter data discrepancies during registration when the information they enter does not match the information stored in the BPJS Kesehatan database. Furthermore, not all administrative data updates can be completed through the application, requiring participants to visit a BPJS Kesehatan branch office to update certain information.(Utami et al., 2024) Application system quality, time-consuming registration procedures, limited public knowledge, and constraints in resources and digital services may also hinder its utilization.(Rahmatika et al., 2024)

One approach commonly used to explain technology acceptance is the Technology Acceptance Model (TAM). This theory explains that perceived ease of use and perceived usefulness are important factors influencing an individual's acceptance and use of technology. In addition, users' level of knowledge plays a role in supporting their ability to understand and utilize technology optimally.(D.Davis, 1989)

The utilization of the Mobile JKN application is associated with several factors, as demonstrated by previous studies. Pohan and Nasution (2025) found a significant association between knowledge and the utilization of the Mobile JKN application in Aek Haruaya Village, Portibi District, with a p-value of 0.002 (<0.05).(Pohan & Nasution, 2025) Perceived ease of use is also considered an important factor associated with Mobile JKN utilization. This is supported by a study conducted by Zulfa, Yuniarti, and Wahyuningsih (2024), which found a significant association between perceived ease of use and the utilization of the Mobile JKN application among BPJS Kesehatan participants in Pemalang Regency, with a p-value of 0.000 (<0.05).(Zulfa et al., 2024) Furthermore, Nikmah et al. (2024) reported significant associations between perceived usefulness and perceived ease of use and the intention to use the Mobile JKN application in the BPJS Kesehatan area of Nganjuk Regency, with a p-value of 0.000 (<0.05) (Nikmah et al., 2024).

Based on data from BPJS Kesehatan Jambi Branch for 2023–2025, the number of visits recorded through the Mobile JKN application at Paal Merah I Public Health Center showed a consistent increase. The number of visits increased from 10,558 in 2023 to 14,956 in 2024 and 23,108 in 2025, with an average of approximately 16,207 visits per year. However, the cumulative number of Mobile JKN visits at Paal Merah I Public Health Center during the 2023–2025 period was the lowest among the public health centers in Jambi City based on the available data. This condition indicates the need to further examine the utilization of the Mobile JKN application among BPJS Kesehatan participants at Paal Merah I Public Health Center. Factors such as knowledge, perceived ease of use, and perceived usefulness may be associated with the utilization of the application.

Although previous studies have examined factors related to Mobile JKN utilization in several regions, research examining the associations of knowledge, perceived ease of use, and perceived usefulness with Mobile JKN utilization among BPJS Kesehatan participants at Paal Merah I Public Health Center, Jambi City, remains limited. Therefore, this study aimed to analyze the factors associated with the utilization of the Mobile JKN application

among BPJS Kesehatan participants at Paal Merah I Public Health Center, Jambi City. Specifically, this study aimed to describe participants' knowledge, perceived ease of use, perceived usefulness, and utilization of the Mobile JKN application, as well as to analyze the associations of knowledge, perceived ease of use, and perceived usefulness with Mobile JKN application utilization.

RESEARCH METHODS

This study employed a quantitative approach with an analytical observational design using a cross-sectional method. The research was conducted at Paal Merah I Public Health Center, Jambi City, from May to October 2026. The study population consisted of BPJS Kesehatan participants visiting Paal Merah I Public Health Center. Based on the 2025 records, the total number of patient visits was 23,108. A total of 96 respondents were selected using accidental sampling, with the sample size determined using the Lemeshow formula. The inclusion criteria were active BPJS Kesehatan participants aged 17 years or older, who owned a smartphone, were able to read and communicate in Indonesian, and agreed to participate in the study. The exclusion criteria included participants experiencing emergency conditions or severe illness, communication or cognitive impairments, those who withdrew from the study, and those who submitted incomplete questionnaires.

The independent variables were knowledge, perceived ease of use, and perceived usefulness, while the dependent variable was Mobile JKN application utilization. Primary data were collected directly from respondents using structured questionnaires, while secondary data were obtained from the public health center, BPJS Kesehatan, and relevant literature. Knowledge was measured using true-or-false questions, with correct answers scored as 1 and incorrect answers as 0. Perceived ease of use, perceived usefulness, and Mobile JKN application utilization were measured using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Total scores were categorized based on the median value. Positive categories were coded as 1, while negative categories were coded as 2.

Data processing involved editing, coding, data entry, and cleaning. Data were analyzed using univariate and bivariate analyses. Univariate analysis was performed to describe respondent characteristics and the distribution of each research variable using frequencies and percentages. Bivariate analysis was conducted using the Chi-Square test to examine the associations between knowledge, perceived ease of use, perceived usefulness, and Mobile JKN application utilization, with a significance level of 0.05.

RESULTS AND DISCUSSION

Characteristics of Respondents

The study involved 96 BPJS Kesehatan participants at Paal Merah I Public Health Center, Jambi City. Respondent characteristics included age, sex, occupation, education level, and duration of BPJS Kesehatan membership. The distribution of respondent characteristics is presented in Table 1.

Tabel 1 Characteristics of Respondents

Characteristics	N	%
Age		
17-25 years	**21**	**21.9**
26-35 years	**30**	**31.3**
36-45 years	**15**	**15.6**
Over 45 years	**30**	**31.3**
Sex		
Male	**32**	**33.3**
Femele	**64**	**66.7**
Occupation		
Student	**11**	**11.5**
Civil servant/military/police	**2**	**1.0**
Private employee	**13**	**13.5**
Entrepreneur	**15**	**15.6**
Housewife	**43**	**44.8**
Salesperson	**1**	**1.0**
Laborer	**2**	**2.1**
Farmer	**2**	**2.1**
Trader	**5**	**5.2**
Retired	**2**	**2.1**
Education		
Elementary school	**6**	**6.3**
Junior high school	**12**	**12.5**
Senior high/vocational school	**60**	**62.5**
University	**18**	**18.8**
Duration of BPJS membership		
Less than 1 year*	**5**	**5.2**
1–5 years	**25**	**26.0**
More than 5 years	**66**	**68.8**

Source: Processed primary data, 2026.

Table 1 shows that respondents were predominantly female, and the largest occupational group consisted of housewives. Most respondents had completed senior high school or vocational school and had been BPJS Kesehatan participants for more than five years. These characteristics describe the respondents involved in the study and provide context for interpreting their use of the Mobile JKN application.

Distribution of Research Variables

The research variables consisted of knowledge, perceived ease of use, perceived usefulness, and Mobile JKN application utilization. Their frequency distributions are presented in Table 2.

Table 2 Distribution of Research Variables

Research variables	N	%
Mobile JKN utilization	**76**	**79.2**
Utilized	**20**	**20.8**
Low utilization		
Knowledge	**61**	**63.5**
High	**35**	**36.5**
Low		
Perceived ease of use	**73**	**76.0**
Easy	**23**	**24.0**
Less easy		
Perceived usefulness	**81**	**84.4**
Useful	**15**	**15.6**
Less useful		

Source: Processed primary data, 2026.

As shown in Table 2, most respondents utilized the Mobile JKN application. Most respondents also had high knowledge, perceived the application as easy to use, and considered it useful. However, some respondents still had limited knowledge, experienced difficulties using the application, or had not fully perceived its benefits.

At the item level, knowledge of online healthcare registration was the most widely recognized feature, whereas knowledge of checking contribution bills and payments was comparatively lower. Regarding ease of use, learning how to operate the application was perceived as relatively easy, but using it independently without assistance remained a challenge for some respondents. In terms of usefulness, respondents most frequently recognized its benefits in helping them obtain BPJS Kesehatan services more quickly and conveniently. These findings indicate that participants generally viewed Mobile JKN positively, although understanding and independent use of certain features could still be improved.

Association Between Research Variables and Mobile JKN Utilization

Bivariate analysis was conducted using the Chi-Square test to examine the associations between knowledge, perceived ease of use, perceived usefulness, and Mobile JKN application utilization. The results are presented in Table 3.

Table 3. Association Between Research Variables and Mobile JKN Utilization

Independent variables	Category	Utilized n (%)	Low utilization n (%)	Total n (%	p-value	OR (95% CI
Knowledge	**High**	**56 (91,8)**	**5 (8,2)**	**61 (100.0)**	**<0,001**	**0.119 (0.38-0.370**

	Low	**20 (57,1)**	**15 (42,9)**	**35 (100.0)**		
Perceived ease of use	**Easy**	**68 (93,2)**	**5 (6,8)**	**73 (100.0)**	**<0,001**	**25.500 (7.310-88.953)**
	Less easy	**8 (34,8)**	**15 (65,2)**	**23 (100.0)**		
Perceived usefulness	**Useful**	**75 (92,6)**	**6 (7,4)**	**81 (100.0)**	**<0,001**	**175 (19.535 - 1.567.668)**
	Less useful	**1 (6,7)**	**14 (93,3)**	**15 (100.0)**		

Source: Processed primary data, 2026.

Association Between Knowledge and Mobile JKN Utilization

Knowledge refers to an individual's understanding of an object acquired through the process of sensing. In the context of Mobile JKN, knowledge includes understanding the application's functions, features, and benefits, as well as how to use it to access BPJS Kesehatan services. Knowledge of available features can help participants identify and use services such as online healthcare registration, queue registration, membership status checking, participant data changes, and information about contributions and payments.

The findings indicate a significant association between knowledge and Mobile JKN application utilization ($p<0.001$). Respondents with high knowledge showed a greater proportion of application utilization than those with low knowledge. The OR of 0.119 (95% CI: 0.038–0.370), based on the comparison of low knowledge with high knowledge, indicates lower odds of utilization among respondents with low knowledge. This suggests that understanding the application's functions and features is an important aspect associated with its utilization.

These findings are consistent with (Pohan & Nasution, 2025), who reported an association between knowledge and Mobile JKN use ($p=0.002$). Similar findings were reported by (Kusumawati et al., 2024) and (Kur'aini et al., 2025), who also found associations between knowledge and Mobile JKN utilization. These studies support the importance of participants' understanding of the application in encouraging its use.

Therefore, education and information about Mobile JKN features may help participants understand the services available and use them according to their needs. Socialization activities at health centers could focus particularly on features that are less widely understood, including contribution bills and payment information.

Association Between Perceived Ease of Use and Mobile JKN Utilization

Perceived ease of use refers to an individual's assessment of how easily a technology can be learned, understood, and operated without requiring considerable effort. In Mobile JKN utilization, this perception relates to participants' ability to learn how to use the application, understand its menus and features, and access the available BPJS Kesehatan services.

The findings showed a significant association between perceived ease of use and Mobile JKN application utilization ($p<0.001$). Respondents who perceived the application as easy to use had a greater proportion of utilization than those who perceived it as less easy. The OR of 25.500 (95% CI: 7.310–88.953) indicates that the odds of utilization were higher among respondents who perceived the application as easy to use compared with those who perceived it as less easy.

Although most respondents considered the application easy to use, the ability to operate it without assistance was the aspect with the lowest positive response. This suggests that some participants may still require support when accessing application features independently. Assistance from health center staff or family members may therefore be useful, particularly for participants who are less familiar with digital applications.

These findings are consistent with (Nikmah et al., 2024), who reported an association between perceived ease of use and intention to use Mobile JKN. Similar findings were reported by (Zulfa et al., 2024) among BPJS Kesehatan participants in Pemalang Regency.(Noeraini et al., 2025) also found an association between perceived ease of use and intention to use the application in Bengkulu. Together, these findings indicate that the ease of learning and operating Mobile JKN is an important consideration in its utilization.

Association Between Perceived Usefulness and Mobile JKN Utilization

Perceived usefulness refers to an individual's belief that using a technology can improve the effectiveness of task completion. According to Davis (1989), perceived usefulness is one of the main components of the Technology Acceptance Model (TAM), which explains technology acceptance. In the context of Mobile JKN, perceived usefulness relates to participants' beliefs that the application can help them access administrative services and obtain membership information more effectively and efficiently.

The findings showed a significant association between perceived usefulness and Mobile JKN application utilization ($p<0.001$). Respondents who considered the application useful had a greater proportion of utilization than those who considered it less useful. The OR of 175.000 (95% CI: 19.535–1,567.668) indicates higher odds of utilization among respondents who perceived the application as useful. However, the wide confidence interval suggests considerable uncertainty around the magnitude of this estimate, so it should be interpreted cautiously.

Respondents most frequently recognized the benefits of the application in helping them obtain services more quickly and making BPJS Kesehatan services easier to access. However, the perceived benefit of reducing the need to visit a BPJS Kesehatan office was comparatively lower. This suggests that although participants recognized the practical benefits of Mobile JKN, not all administrative needs may be perceived as fully manageable through the application.

These findings are consistent with (Nikmah et al., 2024), who reported an association between perceived usefulness and intention to use Mobile JKN. (Noeraini et al., 2025) also found an association between perceived usefulness and intention to use the JKN Mobile application. These findings support the view that the benefits perceived by participants are associated with their willingness to use digital health services.

Efforts to improve Mobile JKN utilization may therefore include providing information about the benefits and functions of its features, as well as assistance for participants who have difficulty accessing services independently. Such efforts may help participants recognize the practical value of the application and use it according to their healthcare administrative needs.

CONCLUSION

Based on the findings of this study involving 96 BPJS Kesehatan participants at Paal Merah I Public Health Center, Jambi City, 76 respondents (79.2%) utilized the Mobile JKN application. The results showed that knowledge, perceived ease of use, and perceived usefulness were significantly associated with Mobile JKN application utilization, with p-values of less than 0.001 for all three variables. Most respondents had a high level of knowledge (63.5%), perceived the application as easy to use (76.0%), and considered the

application useful (84.4%). These findings indicate that participants' understanding of the application's features, ease of operation, and perceived benefits in accessing BPJS Kesehatan services are important aspects associated with Mobile JKN utilization. Therefore, continuous education and socialization regarding application use, as well as assistance for participants who experience difficulties accessing its features, are needed. These efforts are expected to improve participants' understanding and encourage the optimal utilization of the Mobile JKN application to support access to healthcare services.

REFERENCES

Aghatsa, A. A., Dewiyani, A. A. I. C., & Ningrum, H. D. (2023). *Hubungan Tingkat Pengetahuan Terhadap Penggunaan Aplikasi Mobile JKN di Desa Slorok Kecamatan Kromenang Kabupaten Malang*. *6*, 64–77.

Agung Saputra, Siti Hajar, & Mila Trisna Sari. (2024). Analisis Kebijakan Kesehatan Dalam Meningkatkan Mutu Pelayanan Kesehatan Puskesmas Di Kota Medan. *Kebijakan : Jurnal Ilmu Administrasi*, *15*(02), 210–227. https://doi.org/10.23969/kebijakan.v15i02.10182

Azizah, A. N., Kalsum, U., Mentaruk, I., & Suardi, S. (2025). *Hubungan Pengetahuan dengan Pemanfaatan Mobile JKN di Era Transformasi Digital pada Mahasiswa Prodi Administrasi Kesehatan Institut Batari Toja Bone Tahun 2025*. 1934–1947.

D.Davis, F. (1989). *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. *13*(3), 319–340.

Health Financing (HEF), H. S. G. & F. (2024). Does Indonesia's National Health Insurance Scheme mobile phone application, Mobile JKN, support health financing? In *Www.Who.Int*. https://www.who.int/publications/i/item/9789240100893

Kinasih, D. P. R., Kusdwiadji, A., & Widianto, H. (2026). *Tingkat Kepuasan Pasien Terhadap Pendaftaran Online Rawat Jalan Melalui Aplikasi Mobile JKN Detya*. *7*(1), 65–79.

Kur'aini, S. N., Anggraini, A. N., & Surya, N. T. (2025). *Pengaruh Pengetahuan Pasien BPJS Kesehatan dengan Optimalisasi Pemanfaatan Penggunaan Aplikasi Mobile JKN Di RSU Kabupaten Sragen*. *026*, 143–151.

Kusumawati, R. M., Wulandari, K., Masyarakat, K., Masyarakat, F. K., Widya, U., Mahakam, G., Wahid, J., & No, H. (2024). *Pemanfaatan Penggunaan Aplikasi Mobile JKN*. *13*(01), 52–55.

Nikmah, N., Adi, S., Mwarni, D., & Ulfah, N. H. (2024). Hubungan Persepsi Kebermanfaatan dan Persepsi Kemudahan terhadap Minat Penggunaan Aplikasi Mobile JKN di Wilayah BPJS Kesehatan Kabupaten Nganjuk. *Sport Science and Health*, *6*(3), 293–303. https://doi.org/10.17977/um062v6i32024p293-303

Noeraini, N., Yunani, E., Ardiansyah, F., Fuspita, H., Jaya, N., Asrizal, Asli, & Nurhasanah. (2025). *Hubungan Persepsi Kebermanfaatan dan Kemudahan Dengan Minat Pengguna Aplikasi JKN Mobile di Wilayah Kerja UPTD Puskesmas Sukamerindu Kota Bengkulu*. *13*(2), 244–249.

Panjaitan, N. W., Rizki, A., Siregar, R., Zahra, A., & Purba, P. (2024). *Effectiveness of the National Health Insurance (JKN) Mobile Application in Improving Health BPJS Services at Puskesmas Medan Tuntungan*. *7*(6), 763–767. https://doi.org/10.32832/pro

Pohan, T., & Nasution, M. F. (2025). *Hubungan Tingkat Pengetahuan Terhadap Penggunaan Aplikasi Mobilke JKN di Desa Aek Haruaya Kecamatan Portibi*. *7*(3).

Prasetiyo, ryan aldi, & Safuan. (2022). *Efektivitas Penggunaan Aplikasi Mobile JKN Dalam Mengurangi Antrian*. *7*(2).

Rahman, T., & Chaniago, T. A. (2025). Analisa Penerimaan Pengguna terhadap Aplikasi

Mobile JKN dengan Metode TAM untuk Pendaftaran Online. *Techno*, *26*(1), 01–10.

Rahmatika, D. N., Desty, R. T., & Anggorowati, L. (2024). *Analisis Kepuasan Pengguna Mobile JKN Di Kantor Cabang BPJS Kesehatan Kabupaten Grobogan*. *5*(2), 45–53.

Sari, E. N., Digital, P. B., & Indonesia, U. I. (2024). *Pemanfaatan Mobile JKN Untuk Meningkatkan Efektifitas Pelayanan : Studi Kasus BPJS Kesehatan Wonogiri*. *21*(2), 641–656.

Utami, P., Asnawi, M., & Firah, A. (2024). Analisis Pemanfaatan Aplikasi Mobile Jaminan Kesehatan Nasional (JKN) Untuk Meningkatkan Pelayanan BPJS Kesehatan di Klinik Pratama Bertha Kota Medan. *Jurnal Bisnis Corporate*, *8*(2), 30–37. https://doi.org/10.46576/jbc.v8i2.4219

Zulfa, N. M., Yuniarti, & Wahyuningsih. (2024). Hubungan Persepsi Kemudahan Terhadap Penggunaan Aplikasi Mobile JKN Peserta BPJS Di Kabupaten Pemalang. *Jurnal Kesmas Prima Indonesia*, *8*(1), 1–5.