

Perceptions, attitudes and expectations of the public towards primary health care services in sub-district health promoting hospitals, Suphanburi Province, Thailand

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ABSTRACT

Primary healthcare services are essential for the development of public health, particularly in Thailand, where Sub-district Health Promoting Hospitals function as primary care units. With the planned transfer of these facilities to the Suphanburi Provincial Administrative Organization, understanding public perspectives is crucial for improving services. This study aimed to examine the relationships between utilization behavior, public perceptions, attitudes, expectations, and the factors influencing primary healthcare service utilization. This cross-sectional analytical study involved 454 participants aged 20 years and above who were registered users of Sub-district Health Promoting Hospitals in Suphanburi Province. Data collection was conducted using a validated questionnaire measuring perceptions, attitudes, expectations, and healthcare service utilization behavior. Statistical analysis included descriptive statistics, Pearson's correlation coefficient, and stepwise multiple regression analysis. The results showed that the majority of participants were female (66.70%), aged 20–35 years (44.90%), and married (48.7%). Service recipients demonstrated a moderate level of perception ($M=79.63$, $SD=11.92$), a high level of attitude ($M=81.50$, $SD=12.18$), and a moderate level of expectation ($M=62.15$, $SD=9.14$) toward primary healthcare services. Primary healthcare service utilization behavior was also at a moderate level ($M=74.82$, $SD=14.75$). Significant positive correlations were found between healthcare service utilization behavior and attitudes ($r=0.52$, $p<.01$), perceptions ($r=0.49$, $p<.01$), and expectations ($r=0.47$, $p<.01$). The three predictors collectively explained 28.7% of the variance in healthcare-seeking behavior (Adjusted $R^2=0.287$, $p<.05$).

These findings highlight that public perceptions, attitudes, and expectations significantly influenced primary healthcare service utilization behavior. The study suggests the need for action research involving stakeholders to enhance service quality in primary healthcare units during the administrative transition period.

Keywords:

primary healthcare; service utilization; public perception; sub-district health promoting hospital; Thailand

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INTRODUCTION

Primary healthcare services are fundamental to public health development, serving as the frontline access point for essential health services. These services emphasize holistic healthcare, encompassing health promotion, disease prevention, medical treatment, and rehabilitation¹, helping to reduce health disparities among populations in remote areas.² The World Health Organization indicates that if all countries invest in and strengthen their primary healthcare services, it will facilitate the achievement of Universal Health Coverage (UHC) and the Sustainable Development Goals³. However, challenges persist, including healthcare workforce shortages, unequal distribution of personnel, inadequate information systems and technology, and insufficient budget allocation, which continue to be significant challenges to primary care development in many countries.⁴

In Thailand, primary healthcare system reform became more evident following the enactment of the National Health Security Act B.E. 2545 (2002) and the Public Health Service System Reform Plan B.E. 2550–2554 (2007–2011), which emphasized providing services that are close to home and heart.¹⁰ Subsequently, Sub-district Health Promoting Hospitals were established as primary care units at the sub-district level, providing integrated services covering four dimensions: health promotion, disease prevention, medical treatment, and rehabilitation.¹¹ In 2016, the Ministry of Public Health introduced the Primary Care Cluster policy, a new primary care service model that emphasizes team-based care for the assigned population.¹² Key components include enhanced accessibility, multidisciplinary teams, services tailored to local needs and contexts, supportive information systems and technology, and community

participation.¹³ However, implementation challenges persist, such as workforce shortages and retention issues in rural areas, unintegrated information technology systems, inequitable resource allocation, and limited community and local participation.¹⁴

The Constitution of the Kingdom of Thailand, Section 250, stipulates that local administrative organizations have the duty and authority to oversee and provide public services for the well-being of local residents. In conjunction with the Determining Plans and Process of Decentralization to Local Government Organization Act B.E. 2542 (1999), Section 17, and the Ministry of Interior Regulations issued under the Provincial Administrative Organization Act B.E. 2540 (1997), Provincial Administrative Organizations are authorized to establish provincial hospitals, provide medical treatment, and prevent and treat communicable diseases. Furthermore, the Decentralization Plan to Local Administrative Organizations (No. 2) B.E. 2551 (2008) and its Implementation Action Plan mandate the Ministry of Public Health to transfer health centers, community hospitals, and general hospitals to capable local administrative organizations, with the final phase involving the transfer of these facilities to Provincial Administrative Organizations. The Suphanburi Provincial Administrative Organization has demonstrated readiness to assume responsibility for all 174 Sub-district Health Promoting Hospitals across the province's 10 districts.

A review of literature regarding public perception, attitudes, and expectations toward primary healthcare services reveals significant variations across different countries. In China, people prioritize interpersonal communication and technical quality in health services.¹⁵ In Saudi Arabia, despite generally positive perceptions toward primary healthcare

centers, people often prefer emergency departments due to their convenience and rapid service.¹⁶ Studies in Nigeria identified significant gaps between healthcare consumers' expectations and perceptions, particularly concerning age, occupation, and education.¹⁷ In Brazil, challenges persist in achieving equitable universal healthcare, with dissatisfaction regarding access to specialist appointments and medical examinations.¹⁸ In Iran, service users expect unrestricted access to care and non-discriminatory treatment within the primary care system.¹⁹ In Albania, perceptions of non-clinical care quality between public and private providers are relatively similar, though issues related to rapid response and care coordination require attention.²⁰

Although primary healthcare systems play a critical role in public health development, significant challenges remain in delivering quality and accessible services that effectively meet public needs, particularly within the context of decentralizing healthcare administration to local authorities. In Suphanburi Province, the transfer of all 174 Sub-district Health Promoting Hospitals to the Provincial Administrative Organization may influence public perceptions, attitudes, and expectations regarding primary healthcare services under provincial administration. Previous international studies highlight various factors that influence service utilization and the success of primary care systems, with public perception and expectations varying according to social and cultural contexts, including aspects such as communication and service quality, convenience and speed, and demographic factors such as age, occupation, and education, as well as equity and access to healthcare.

The present study aims to examine public perception, attitudes, and expectations towards primary healthcare services in Sub-district Health Promoting Hospitals in Suphanburi Province. The

objectives are to (1) assess the level of primary healthcare service utilization behavior, (2) analyze the relationships between primary healthcare service utilization behavior, perception, attitudes, and expectations of Suphanburi residents, and (3) identify the predictive factors influencing primary healthcare service utilization behavior in Sub-district Health Promoting Hospitals. This research aims to understand public perspectives within the context of the health service transfer to the Suphanburi Provincial Administrative Organization, a local government unit in Thailand's administrative system. The findings will contribute to the development of service models that align more closely with local public needs and expectations, while also providing crucial information for policymakers and relevant agencies to enhance long-term primary care quality. This will ensure that the healthcare system can effectively address public health needs through collaboration among health service units, local administrative organizations, and local communities.

MATERIALS AND METHODS

Study design

This cross-sectional analytical study aimed to investigate public perceptions, attitudes, and expectations towards primary healthcare services at Sub-district Health Promoting Hospitals in Suphanburi Province.

Population and sample

The study population consisted of individuals aged 20 years or older who were registered users of Sub-district Health Promoting Hospitals in Suphanburi Province and had previously utilized their services. The age threshold of 20 years was selected based on the assumption that individuals in this age group are more likely to make independent healthcare decisions and have prior experience with primary healthcare services compared to younger individuals.

The sample size was determined using G*Power software, employing the F-test family with a linear multiple regression model (Fixed model, R^2 deviation from zero). Parameters were set at a medium effect size (0.15)²¹, an alpha level of 0.05, and a power of 0.95, yielding a required sample size of 412 participants. To account for potential dropouts, the sample size was increased by 10%, resulting in a final sample of 454 participants. A stratified two-stage sampling method was applied as follows:

Stage 1: Simple random sampling

- A list of all 174 Sub-district Health Promoting Hospitals in Suphanburi Province was obtained.

- The lottery method was used to randomly select 30% of the total hospitals, resulting in 53 selected facilities.

Stage 2: Accidental sampling²²

- Researchers visited the selected facilities during operating hours.

- Participants meeting the inclusion criteria were approached and invited to participate in the study.

- Recruitment continued until the required sample size was achieved.

The following criteria were established for participant selection:

Inclusion Criteria: Voluntary participation in the study, Ability to communicate and provide information independently, Previous experience using services at Sub-district Health Promoting Hospitals in Suphanburi Province, Aged 20 years or older.

Exclusion Criteria: Presence of a severe illness that hinders the ability to provide information, and Inability to communicate with researchers.

Research instrument

The research instrument was a self-developed questionnaire comprising five sections:

1. Demographic characteristics, including gender, age, marital status, educational level, income, and experience in utilizing primary healthcare services. Notably, health status was not included in the demographic characteristics, which represents a limitation of this study, as it may influence healthcare service utilization.

2. Perceptions of primary healthcare services, encompassing perceptions of basic healthcare services, community health promotion, community disease prevention and control, and post-illness health rehabilitation.

3. Attitudes toward primary healthcare services, consisting of attitudes toward health promotion and disease prevention/control, safety in receiving basic medical treatment, performance of medical personnel, and referral systems when cases exceed the service unit's capacity.

Sections 2 and 3 employed a five-point Likert scale²³ (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree). The interpretation of scores was based on percentages of maximum scores, adapted based on Bloom's cut-off point²⁴ criteria as follows:

- Scores of 80% or higher indicated strong agreement.

- Scores between 60-79.99% indicated moderate agreement.

- Scores below 60% indicated disagreement or weak agreement.

4. Expectations toward primary healthcare services, which covered three dimensions: expectations of primary healthcare service delivery, expectations of medical personnel, and expectations of medical equipment and instruments used in primary healthcare units. The questionnaire items were rated on a five-point Likert scale²³ (highest expectation, high expectation, moderate expectation, low expectation, and lowest expectation).

The interpretation of scores was based on percentages of maximum scores, adapted from Bloom's cut-off point²⁴ criteria, as follows:

- Scores of 80% or higher indicated high expectations.
- Scores between 60-79.99% indicated moderate expectations.
- Scores below 60% indicated low or no expectations.

5. Primary healthcare service utilization behavior at Sub-district Health Promoting Hospitals in Suphanburi Province, which was categorized into four dimensions: utilization of health promotion services, disease prevention and control services, basic medical treatment services, and health rehabilitation services. The questionnaire items were rated on a five-point Likert scale²³ (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree).

The interpretation of scores was based on percentages of maximum scores, adapted based on Bloom's cut-off point²⁴ criteria as follows:

- Scores of 80% or higher indicated strong agreement.
- Scores between 60-79.99% indicated moderate agreement.
- Scores below 60% indicated disagreement or weak agreement.

The research instrument underwent a content validity assessment by three experts. A pilot study was conducted with 30 participants from neighboring provinces. The reliability analysis yielded a Cronbach's alpha coefficient of 0.86 for the entire questionnaire.

Statistical analysis

Descriptive statistics were employed to analyze personal characteristics data using frequency distributions, percentages(%), means (M), standard deviations (SD), and maximum and minimum values.

Inferential statistics employed Pearson's correlation coefficient analysis with a statistical significance level of 0.01.

The strength and direction of correlations were interpreted using Bartz's²⁵ criteria as follows:

$r = 0.81 - 1.00$ indicates a very high correlation.

$r = 0.61 - 0.80$ indicates a high correlation.

$r = 0.41 - 0.60$ indicates a moderate correlation.

$r = 0.21 - 0.40$ indicates a low correlation.

$r = 0.01 - 0.20$ indicates a very low correlation.

$r = 0.00$ indicates no correlation.

These criteria apply to both positive and negative correlations.

Stepwise multiple regression analysis was conducted to examine the relationships between the independent and dependent variables, with statistical significance set at 0.05. The preliminary assumptions were tested and met as follows: all variables demonstrated normal distribution (normality), multicollinearity was assessed through VIF values ranging from 2.271 to 4.812 and tolerance values ranging from 0.208 to 0.440, and no autocorrelation was detected as indicated by a Durbin-Watson value of 1.89.²⁶

RESULTS

This study was conducted with data collection spanning the period from June to September 2024. The details of the study and its results are as follows:

Analysis of demographic data from the sample group ($n=454$) revealed that the majority were female (66.70%), aged 20–35 years (44.90%, Age: Median = 40.00 (IQR = 21.00-51.00) years), and married (48.7%). Most participants had completed upper secondary education/vocational certificate (43.80%), earned a monthly income of 5,000 baht or less (36.80%), and had been using primary healthcare services for 21 years or more (30.20%), as presented in **Table 1**.

Table 1. Demographic Characteristics of Survey Respondents (n=454)

Variables	N	%
Sex		
Man	151	33.30
Female	303	66.70
Age: Median = 40.00 (IQR = 21.00-51.00) years		
20-35	204	44.90
36-50	134	29.50
51- 65	87	19.20
67 years and above	29	6.4
Marital Status		
Single	197	43.4
Married	221	48.7
Widowed/Separated/Divorced	36	7.90
Educational Level		
No formal education	5	1.10
Primary education	101	22.20
Lower secondary education	42	9.30
Upper secondary education/Vocational certificate	199	43.80
Diploma/Higher vocational certificate	41	9.00
Bachelor's degree	66	14.50
Monthly Income (Baht)		
≤5,000	167	36.80
5,001 – 10,000	150	33.00
10,001 – 20,000	95	20.90
20,001 – 30,000	32	7.00
≥30,001	10	2.20
Experience in Using Primary Healthcare Services (years)		
1 – 5	122	26.90
6 – 10	67	14.80
11 – 15	56	12.30
16 – 20	72	15.90
21 years and above	137	30.20

The study found that service recipients' perceptions of primary healthcare service provision were at a moderate level ($M = 79.63$, $SD = 11.92$), with the majority (45.40%) showing a high-level perception. Attitudes toward primary healthcare service provision were high ($M = 81.50$, $SD = 12.18$), with the majority of respondents (51.30%) showing high-level attitudes. Regarding expectations of

primary healthcare services, the overall level was moderate ($M = 62.15$, $SD = 9.14$), with the majority (55.50%) having high-level expectations. As for healthcare-seeking behaviors at Sub-district health promoting hospitals, the overall level was moderate ($M = 74.82$, $SD = 14.75$), with 37.00% of respondents showing high-level behaviors as presented in **Table 2**.

Table 2 Mean (M), Standard Deviation (SD), and Levels of Primary Healthcare Service Utilization Behavior, Perception, Attitude, and Expectations toward Primary Healthcare Services (n=454)

Variables	Level of Response			M	SD	Results
	High N (%)	Moderate N (%)	Low N (%)			
Primary Healthcare Service Utilization Behavior (Total score: 100 points)	168 (37.00)	180 (36.65)	106 (23.35)	74.82	14.75	Moderate
Perception of Primary Healthcare Service Provision (Total score: 100 points)	206 (45.40)	198 (43.60)	50 (11.00)	79.63	11.92	Moderate
Attitude toward Primary Healthcare Service Provision (Total score: 100 points)	233 (51.30)	179 (39.40)	42 (9.30)	81.50	12.18	High
Expectations of Primary Healthcare Services (Total score: 75 points)	252 (55.50)	159 (35.00)	43 (9.50)	62.15	9.14	Moderate

A detailed analysis of each dimension revealed varying levels across different aspects of primary healthcare service provision. The findings for the four key dimensions are as follows:

Service utilization behavior was at a moderate level, with disease prevention and control services scoring the highest (M = 19.33, SD = 4.21), followed by basic medical treatment (M = 19.15, SD = 4.19), health rehabilitation (M = 18.41, SD = 4.76), and health promotion services (M = 17.93, SD = 4.73).

Service perception was high in disease prevention and control (M = 20.36, SD = 3.34) and health rehabilitation (M = 20.07, SD = 3.30), while community health

promotion (M = 19.87, SD = 3.31) and basic healthcare services (M = 19.33, SD = 3.50) were at moderate levels.

Service attitude remained consistently high, with health promotion and disease prevention scoring the highest (M = 20.72, SD = 3.24), followed by medical personnel performance (M = 20.32, SD = 3.42), medical treatment safety (M = 20.25, SD = 3.33), and referral systems (M = 20.22, SD = 3.37).

Service expectations were consistently high, with medical equipment (M = 20.80, SD = 3.32), medical personnel (M = 20.70, SD = 3.28), and service delivery (M = 20.67, SD = 3.20) achieving the highest scores (Table 3).

Table 3 Levels, Mean (M), and Standard Deviation (SD) of Detailed Primary Healthcare Service Utilization Behavior, Perception, Attitude, and Expectations toward Primary Healthcare Services (n=454)

Variables	Level of Response			M	SD	Results
	High N (%)	Moderate N (%)	Low N (%)			
Primary Healthcare Service Utilization Behavior (Total score: 100 points)						
- Health promotion service utilization (25 points)	221 (48.70)	187 (41.20)	46 (10.10)	17.93	4.73	Moderate
- Disease prevention and control service utilization (25 points)	280 (61.70)	154 (33.90)	20 (4.40)	19.33	4.21	Moderate
- Basic medical treatment service utilization (25 points)	270 (59.50)	167 (36.80)	17 (3.70)	19.15	4.19	Moderate
- Health rehabilitation service utilization (25 points)	246 (54.20)	170 (37.40)	38 (8.40)	18.41	4.76	Moderate
Perception of Primary Healthcare Service Provision (Total score: 100 points)						
- Basic healthcare services (25 points)	290 (63.90)	157 (34.60)	7 (1.50)	19.33	3.50	Moderate
- Community health promotion (25 points)	316 (69.60)	134 (29.50)	4 (0.90)	19.87	3.31	Moderate
- Community disease prevention and control (25 points)	336 (74.00)	115 (25.30)	3 (0.70)	20.36	3.34	High
- Health rehabilitation services (25 points)	331 (72.90)	122 (26.90)	1 (0.20)	20.07	3.30	High
Attitude toward Primary Healthcare Service Provision (Total score: 100 points)						
- Health promotion and disease prevention / control (25 points)	357 (78.60)	96 (21.10)	1 (0.20)	20.72	3.24	High
- Safety in receiving basic medical treatment (25 points)	335 (73.80)	118 (26.00)	1 (0.20)	20.25	3.33	High
- Performance of medical personnel (25 points)	333 (73.30)	119 (26.20)	2 (0.40)	20.32	3.42	High
- Referral systems (25 points)	345 (76.00)	107 (23.60)	2 (0.40)	20.22	3.37	High
Expectations of Primary Healthcare Services (Total score: 75 points)						
- Primary healthcare service delivery (25 points)	367 (80.80)	85 (18.70)	2 (0.40)	20.67	3.20	High
- Medical personnel (25 points)	358 (78.90)	95 (20.90)	1 (0.20)	20.70	3.28	High
- Medical equipment and instruments (25 points)	362 (79.70)	91 (20.00)	1 (0.20)	20.80	3.32	High

An analysis of the relationships between Primary Healthcare Service Utilization Behavior and perception, attitude, and expectations among residents of Suphanburi Province (n = 454) revealed moderate positive correlations between Primary Healthcare Service Utilization

Behavior and Attitude toward primary healthcare service provision (r = 0.52, p < .01), Perception of primary healthcare service provision (r = 0.49, p < .01), and Expectations of primary healthcare services (r = 0.47, p < .01), respectively as presented in **Table 4**.

Table 4 Pearson's Correlation Coefficients Between Primary Healthcare Service Utilization Behavior at Sub-district Health Promoting Hospitals and Public Perception, Attitudes, and Expectations in Suphanburi Province (n=454)

Variables	Y	X ₁	X ₂	X ₃
Primary Healthcare Service Utilization Behavior (Y)	1.00	.49*	.52*	.47*
Perception (X ₁)		1.00	.86*	.68*
Attitudes (X ₂)			1.00	.74*
Expectations (X ₃)				1.00

*p < 0.01

A stepwise multiple regression analysis was conducted to identify factors predicting primary healthcare service utilization behavior at Sub-district Health Promoting Hospitals in Suphanburi Province. The results indicated that the three predictor variables—perception (X₁), attitude (X₂), and expectations (X₃)—

collectively explained 28.7% of the variance in primary healthcare service utilization behavior (Adjusted R² = 0.287), with statistical significance at the 0.05 level (F = 4.246, p < 0.05). The predictive equation in raw scores can be written as: Y = 13.045 + 0.333(X₁) + 0.279(X₂) + 0.217(X₃), as presented in **Table 5**.

Table 5 Stepwise Multiple Regression Analysis of Factors Predicting Primary Healthcare Service Utilization Behavior at Sub-district Health Promoting Hospitals in Suphanburi Province, Thailand (n = 454)

Variables	B	S.E.	β	t	p-value
Constant	13.045	4.649		2.806	<0.05*
Perception (X ₁)	0.333	0.113	0.258	2.960	<0.05*
Attitudes (X ₂)	0.279	0.103	0.162	2.711	<0.05*
Expectations (X ₃)	0.217	0.105	0.164	2.061	<0.05*

R=0.540; R²=0.291; Adjusted R² = 0.287; Standard Error of the Estimate (SE_{est}) = 13.2992; F= 4.246; p-value < 0.05; *Correlation is significant at the 0.05 level.

DISCUSSION

This study aimed to examine public perceptions, attitudes, and expectations regarding primary healthcare services at Sub-district Health Promoting Hospitals in Suphanburi Province, Thailand. The findings indicated that primary healthcare service utilization behavior was at a

moderate level (M = 74.82, SD = 14.75), with 37.00% of respondents showing high-level utilization behaviors. Additionally, perception of primary healthcare services was moderate (M = 79.63, SD = 11.92), whereas attitudes were high (M = 81.50, SD = 12.18). Expectations were also moderate (M = 62.15, SD = 9.14), though 55.50% of respondents reported high expectations.

These results underscore the need for enhancing service quality and aligning healthcare services with public expectations to promote greater utilization of primary healthcare services.

The overall primary healthcare service utilization behavior at Sub-district Health Promoting Hospitals in Suphanburi Province was at a moderate level. Several factors may contribute to this, including the organizational transition from the Ministry of Public Health to local authorities, which has implications for medical resource management, including staffing, medication availability, and medical supplies. Adequate medical resources play a crucial role in service quality and accessibility.²⁷ Additionally, socioeconomic status and disabilities among socially vulnerable groups contribute to disparities in access to public healthcare services.²⁸ Individuals with higher economic status often prefer private medical clinics over public healthcare facilities, which may face limitations in essential medicines and medical supplies.²⁹ In Thailand, Sub-district Health Promoting Hospitals serve as the closest healthcare units for minor illnesses within communities. However, government administrative transitions have reduced flexibility in the procurement process for medical supplies, potentially leading to a decline in primary healthcare service utilization. Furthermore, the National Health Security Office's policy change, which eliminated facility restrictions and allows individuals to seek treatment at any healthcare facility using only their ID card, has contributed to a shift in patient preferences from primary care facilities to secondary or tertiary healthcare institutions.

This finding aligns with previous research by Orok et al. (2024), who emphasized that positive perceptions of healthcare services significantly influence utilization rates.³⁰ Positive attitudes are

significantly associated with a 4.42-fold increased likelihood of healthcare utilization, underscoring the critical role of favorable perceptions in encouraging service use.³¹ In our study, 45.40% of respondents had high-level perceptions, particularly regarding basic healthcare services and community health promotion. However, 11.00% of respondents had low-level perceptions, which may be attributed to resource constraints and organizational challenges during the transition of healthcare administration. These findings collectively suggest that improving public awareness of available services and enhancing service delivery could strengthen perceptions and encourage utilization.^{30,31}

The study revealed moderate positive correlations between attitudes and primary healthcare service utilization behavior ($r = 0.52$, $p < 0.01$), with 51.30% of respondents exhibiting high-level attitudes, as well as between expectations and service utilization behavior ($r = 0.47$, $p < 0.01$), with 55.50% of respondents demonstrating high-level expectations. These findings align with Alkhatib et al.³², who found that patient engagement, including positive attitudes toward healthcare providers and facilities, contributes to improved health outcomes and increased service utilization. Furthermore, Lu and Phawitpiriyakliti³³ demonstrated that perceived service quality, trust, and patient satisfaction significantly influence behavioral intentions, including healthcare utilization. Similarly, Arman et al.³⁴ emphasized that expectations regarding service quality, physician behavior, and healthcare workers' attitudes are crucial determinants of healthcare utilization, particularly among women. However, 9.50% of respondents reported low-level expectations, potentially indicating dissatisfaction with current services. Therefore, enhancing service

delivery, upgrading medical equipment, and improving patient care through trust-building initiatives and addressing sociocultural factors are essential for increasing utilization rates.^{33,34}

Regarding the relationship between primary healthcare service utilization behavior, perception, attitudes, and expectations among Suphanburi residents, findings revealed a moderate positive correlation between primary healthcare service utilization behavior and attitudes toward primary healthcare service provision ($r = 0.52, p < .01$). This can be explained by the crucial role of patient perception and expectations in seeking primary healthcare.³⁵ Additional factors include satisfaction with initial care provided by health personnel, continuity of care, attentiveness, and reduced waiting times for treatment access.³⁶ Service users' attitudes regarding familiarity with staff significantly influence primary healthcare service utilization behavior³⁷, particularly regarding service provider behavior, treatment quality, and patient-friendly physical environment of Primary Health Care centers.³⁸ These relationships reflect the importance of building public awareness in understanding healthcare and accessing primary healthcare services, ensuring everyone's access to basic medical care rights under the Constitution of the Kingdom of Thailand.

The stepwise multiple regression analysis indicated that perception, attitude, and expectation collectively explained 28.7% of the variance in primary healthcare service utilization behavior. This finding aligns with the health literacy concept, which emphasizes the role of individual decision-making in healthcare utilization. Perception ($\beta = 0.258, p < 0.05$), attitude ($\beta = 0.162, p < 0.05$), and expectation ($\beta = 0.164, p < 0.05$) were significant predictors, highlighting the importance of improving public awareness and addressing patient expectations to enhance service utilization.

Regarding predictive factors for primary healthcare service utilization behavior at Sub-district Health Promoting Hospitals in Suphanburi Province, the three predictor variables Perception (X_1), Attitude (X_2), and Expectation (X_3) collectively explained 28.7% of the variance in primary healthcare service utilization behavior. This can be explained through the health literacy concept, which involves the ability to find, understand, evaluate, and use health information to make informed decisions about healthcare practices.^{39,40,41} Health literacy enables individuals to evaluate choices and make decisions based on reasoning or cost-benefit analysis while adopting appropriate healthcare practices.³⁹ Therefore, people's decisions to seek healthcare at particular facilities consider treatment outcomes alongside service quality. Patient attitudes and expectations significantly influence the perception of primary care quality, as highlighted by studies showing that higher health literacy levels are associated with better health outcomes and more effective utilization of healthcare services.^{40,41} Studies across various countries reveal that patients generally have high expectations regarding physician behavior and healthcare service quality in Primary Health Care centers, underscoring the importance of addressing health literacy to improve service utilization and patient satisfaction.^{39,40,41}

Our findings are consistent with recent research by Nurani et al.,³¹ which emphasized that perceptions and attitudes are critical determinants of healthcare service utilization, with positive attitudes significantly increasing the likelihood of healthcare use.³¹ Additionally, Alanazi et al.⁴² highlighted that patients' quality perceptions and expectations are strongly correlated and influenced by individual characteristics such as education level and marital status, further underscoring the importance of addressing these factors in healthcare service delivery.⁴² However, our study also identified unique challenges in

the Thai context, such as organizational transitions and resource constraints, which may explain the moderate levels of utilization behavior. These findings suggest that context-specific strategies are needed to address barriers to primary healthcare service utilization.

CONCLUSION

This study focused on specific variables, which may not fully predict the complex factors influencing primary healthcare-seeking behavior at Sub-district Health Promoting Hospitals. However, the findings reflect that perceptions, attitudes, and expectations remain key determinants in the decision-making process for seeking healthcare services at primary care units. To achieve a more comprehensive understanding, the researchers recommend conducting action research to gather empirical evidence from stakeholders, which can inform strategies to improve service quality in primary healthcare units.

LIMITATIONS

This study has several limitations. First, the use of accidental sampling may limit the generalizability of the findings, as the sample may not be fully representative of the entire population. Second, the cross-sectional design restricts the ability to establish causal relationships between variables. Third, the absence of health status indicators in the demographic data may have influenced the results, as health status is a critical factor in healthcare utilization. Future studies should address these limitations by employing random sampling methods, longitudinal designs, and including health status indicators to provide more comprehensive insights.

AUTHOR CONTRIBUTIONS

NT conceptualized the study, conducted data analysis, acted as the principal author, revised the article, and mainly authored the manuscript. NT, KS, and SS obtained ethics approval and performed data entry, aided in data processing and interpretation, and revised the manuscript. All authors reviewed and approved the final manuscript.

ETHICAL CONSIDERATION

The research was approved by the Human Research Ethics Committee of Suan Sunandha Rajabhat (COA.1-026/2024), with approval granted on May 16, 2024.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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