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Critical Factors Influencing Successful Implementation of Health System Policies

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A B S T R A C T

Background: Health system policy implementation (HSPI) plays a crucial role in determining the effectiveness of healthcare systems worldwide. Understanding the factors that influence the success of HSPI is essential for policymakers, healthcare professionals, and stakeholders. This research aims to investigate and analyze these influential factors using a combination of thematic analysis and Analytic Hierarchy Process (AHP) methodology.

Methods: The research utilizes a mixed-methods approach, combining thematic analysis and AHP to comprehensively explore the factors influencing the success of HSPI. The present study is a descriptive-survey with an applied nature and a cross-sectional design. Information was collected using the survey method, classifying it as field research. The statistical population consisted of 15 professors from the Faculty of Medicine at Najaf Abad Azad University, selected through purposive sampling. The data collection tool is a pairwise comparison questionnaire. Data analysis was performed using the AHP method and Expert Choice 11 software.

Results: The thematic analysis reveals a range of factors affecting the success of HSPI, including but not limited to stakeholder engagement, resource allocation, political commitment, organizational capacity, public awareness, and socio-cultural factors. These factors are further analyzed and prioritized using the AHP method to determine their relative importance and impact on policy implementation success. The main factors in order of priority are stakeholder engagement (weight = 0.145), resource availability (weight = 0.133) and policy design and planning (weight = 0.124).

Conclusion: The integration of thematic analysis and AHP provides a comprehensive framework for understanding and assessing the factors influencing the success of HSPI. By identifying and prioritizing these factors, policymakers and healthcare stakeholders can develop targeted strategies and interventions to enhance the effectiveness and efficiency of HSPI, ultimately leading to improved health outcomes and healthcare delivery systems.

Keywords: Health system, Thematic analysis, Analytic hierarchy process

Introduction

The necessity and importance of research on the factors influencing the success of Health system policy implementation (HSPI) cannot be overstated. Health policies are fundamental to shaping the structure and function of healthcare systems, affecting the well-being and quality of life of populations worldwide. However, the mere formulation of health policies does not guarantee their successful implementation. Numerous factors come into play, influencing the effectiveness and outcomes of policy implementation (1). Understanding these factors is crucial for several reasons. First, it allows policymakers and healthcare professionals to identify potential barriers and facilitators for successful policy implementation. By gaining insights into these factors, stakeholders can develop targeted interventions and strategies to overcome

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challenges and optimize the implementation process (1).

Second, research on the factors influencing policy implementation success contributes to evidence-based policymaking. Rather than relying solely on intuition or anecdotal evidence, policymakers can make informed decisions backed by empirical data and research findings. This enhances the likelihood of achieving desired policy outcomes and maximizing the impact of healthcare interventions (2). Moreover, investigating the determinants of successful policy implementation helps in fostering accountability and transparency within healthcare systems. By identifying key stakeholders, understanding their roles and responsibilities and assessing their contributions to policy implementation, researchers can promote accountability mechanisms and ensure that resources are allocated efficiently and effectively (2).

Additionally, research in this area contributes to the advancement of knowledge and theory in health policy and implementation science. By systematically analyzing and synthesizing empirical evidence, researchers can generate new insights, develop theoretical frameworks, and propose models for understanding the complexities of policy implementation processes (3). Furthermore, the findings of such research can have practical implications for healthcare practice and policy development. By disseminating research findings through academic publications, policy briefs, and other channels, researchers can inform decision-makers, healthcare professionals, and the public about effective strategies for enhancing policy implementation success (3).

In conclusion, research on the factors influencing the success of HSPI is essential for improving healthcare systems, promoting evidence-based policymaking, fostering accountability, advancing knowledge, and informing practice. By investing in such research endeavors, we can work towards achieving more equitable, efficient, and effective healthcare systems that ultimately benefit individuals and communities worldwide (4). Moreover, research in this field enables the identification of best practices and lessons learned from both successful and unsuccessful policy implementation experiences. By conducting comparative analyses and case studies, researchers can extract valuable insights into what works and what doesn't in different contexts and settings. These insights can inform future policy development and implementation efforts, guiding stakeholders towards more effective and sustainable solutions (4).

Furthermore, research on the factors influencing policy implementation success helps address equity and disparities in healthcare delivery. By examining how various factors such as socio-economic status, geographical location, and cultural background influence the implementation process and outcomes, researchers can advocate more inclusive and equitable policies. This can lead to the development of targeted interventions and strategies aimed at reducing disparities and ensuring that all individuals have access to quality healthcare services (5). Additionally, research in this area contributes to capacity building and professional development within the healthcare workforce. By engaging in research activities, healthcare professionals and policymakers can enhance their skills in data analysis, evidence synthesis, and program evaluation. This not only strengthens the evidence base on policy decision-making but also fosters a culture of continuous learning and improvement within healthcare organizations (5).

The aim of this research is to identify and analyze the key factors influencing the successful implementation of health system policies. By employing a combined approach of thematic analysis and the AHP, the study seeks to provide a comprehensive understanding of the barriers and facilitators that impact policy implementation. Thematic analysis will allow for the identification of common themes and patterns within qualitative data, while AHP will enable the prioritization and quantification of these factors. This dual approach aims to offer actionable insights for policymakers

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and healthcare professionals, ultimately contributing to more effective and sustainable health system policies. In summary, research on the factors influencing the success of HSPI is critical for improving healthcare systems, advancing knowledge, promoting equity, and building capacity within the healthcare workforce. By addressing the complex interplay of factors that influence policy implementation outcomes, researchers can help pave the way for more effective, sustainable, and equitable healthcare policies and practices.

Materials and methods

This section addresses the following points: the stages of executing the research, the participants involved in the study, the identification of the factors influencing the successful implementation of health system policies, and an overview of AHP along with its procedural steps.

The stages of executing the research

The research methodology encompassed two distinct phases aimed at identifying and prioritizing the factors, as depicted in Figure 1. Initially, a comprehensive literature review coupled with thematic analysis was undertaken to identify and categorize influencing factors from a global perspective. Subsequently, the AHP method was deployed to prioritize these factors through pair-wise comparisons facilitated by an expert group. The ensuing subsections delineate the procedural steps involved in each phase.

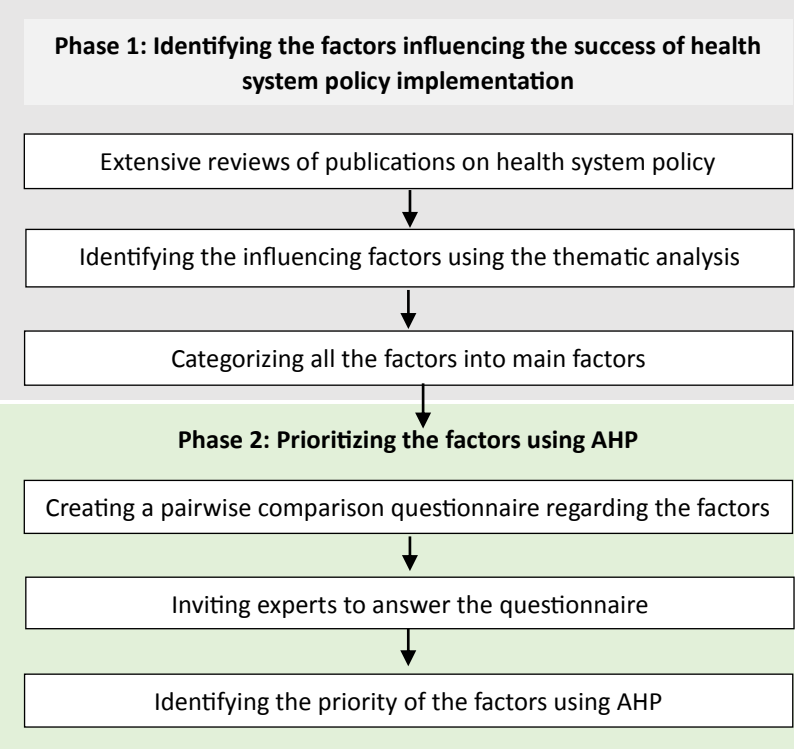

Figure 1. The proposed research approach

Research participants

The research participants consisted of 15 faculty members and experts from the faculty of medicine at Islamic Azad University of Najafabad. In the second phase, experts' opinions were incorporated. These individuals were selected based on their expertise and knowledge in healthcare policy and implementation, making them well-suited to provide valuable insights into the factors influencing the successful implementation of health system policies. Their diverse backgrounds and experiences enriched the research process,

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ensuring a comprehensive exploration of the topic. The questionnaire for pairwise comparisons was distributed among the university experts to gather their perceptions and preferences regarding various factors influencing the successful implementation of health system policies. Additionally, AHP was employed using Expert Choice 11 software to analyze the data collected through the pairwise comparisons. This software facilitated a rigorous and quantitative evaluation of the factors, enabling the researchers to prioritize them based on their impact on policy implementation success.

Identifying factors affecting HSPI success

In exploring the potential factors impacting the success of HSPI, an extensive review of relevant literature was conducted. The Scopus database was chosen for its comprehensive coverage of scholarly articles. The search strategy was centered on the keywords "HSPI," with a specific inclusion criterion for English-language journal articles. Over 40 articles were identified, serving as the foundation of the analysis. Thematic analysis was employed as the methodological approach, facilitating the identification and categorization of factors influencing HSPI success. Thematic analysis, a qualitative research method, was utilized to discern patterns, themes, and meanings within a dataset, typically sourced from interviews, focus groups, or textual materials.

Ethical considerations

In conducting the research, several ethical considerations were carefully observed to ensure the integrity and ethical standards of the study. These considerations included:

- All participants were fully informed about the purpose, methods, and potential impacts of the study.
- Consent was obtained from each participant before their involvement in the research.
- Participants were made aware of their right to withdraw from the study at any point without any consequences.
- Personal information and responses from participants were kept confidential.
- Participants were treated with respect and dignity throughout the study.
- Efforts were made to minimize any inconvenience or discomfort to the participants.
- Cultural and individual differences were acknowledged and respected.
- Data collection and analysis were conducted rigorously to ensure the accuracy and reliability of the findings.

By adhering to these ethical principles, the research ensured that it respected the rights and well-being of participants, upheld the integrity of the research process, and contributed valuable insights to the field of health policy implementation.

This article was extracted from the thesis titled "Factors Influencing the Successful Implementation of Health System Policies: A Combined Approach of Thematic Analysis and AHP" with code 1784800485667991622961 7 in Islamic Azad University, Najaf Abad branch.

Result

Through thematic analysis, 40 factors about critical factors influencing successful implementation of health system policies were identified and classified into 10 distinct groups, as outlined in Table 1. These categories offered a comprehensive framework for understanding the multifaceted influences on HSPI success. The 10 categories included:

- **Political will:** The determination and commitment of government authorities to prioritize and address specific issues or policies, often demonstrated through the allocation of resources, enactment of legislation, and implementation of initiatives to achieve desired goals.
- **Stakeholder engagement:** The active involvement and participation of various individuals, organizations, and groups that had an interest or stake in a particular issue or policy, including government agencies, community representatives, non-profit organizations, businesses, and the general public.
- **Resource availability:** The presence and

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accessibility of necessary resources, including financial, human, and infrastructural resources, required to support the implementation of policies or programs effectively and efficiently.

- **Policy design and planning:** The systematic process of formulating and developing policies or strategies to address specific challenges or achieve desired objectives, often involving the identification of goals, assessment of available evidence, consideration of alternative options, and establishment of implementation plans.

- **Monitoring and evaluation:** The ongoing process of collecting, analyzing, and assessing data to track the progress, effectiveness, and outcomes of policies or programs, typically aimed at identifying areas of success, improvement, or adjustment.

- **Health system strengthening:** The comprehensive efforts aimed at improving the overall capacity, efficiency, and effectiveness of healthcare systems, including enhancing infrastructure, workforce development, service delivery, and quality assurance mechanisms.

- **Community participation:** The active involvement and engagement of individuals, families, and communities in decision-making processes, program development, and implementation efforts, often emphasizing empowerment, collaboration, and grassroots involvement.

- **Political and socioeconomic context:** The broader political, economic, and social conditions and factors that influence the development, implementation, and impact of policies, including governance structures, economic stability, social inequalities, cultural norms, and public opinion.

- **Communication and advocacy:** The strategic dissemination of information, messaging, and advocacy efforts aimed at raising awareness, promoting understanding, mobilizing support, and influencing decision-making processes related to specific policies or issues.

- **Adaptability and flexibility:** The ability of policies, programs, and systems to adjust, evolve, and respond effectively to changing circumstances, emerging challenges, and new information, often requiring agility, innovation, and responsiveness.

Table 1. A summary of factors influencing the success of HSPI

Political Will (Z_1)	Government commitment to health priorities (B_{11})	This referred to the willingness of government officials to prioritize health issues and allocate resources accordingly.
	Supportive legislative environment (B_{12})	It involved the presence of laws and regulations that support health initiatives and facilitate their implementation.
	Allocation of adequate funding for health programs (B_{13})	This entailed the provision of sufficient financial resources to support healthcare initiatives and interventions.
	Political stability and continuity of policies (B_{14})	It related to the presence of stable political conditions and the consistency of policies over time, which were essential for sustained progress in health outcomes.
Stakeholder Engagement (Z_2)	Involvement of diverse stakeholders (e.g., government, healthcare providers, communities) (B_{21})	This involved engaging in a wide range of actors, including government agencies, healthcare providers, communities, and advocacy groups, in the decision-making process.
	Collaboration between public and private sectors (B_{22})	It entailed partnerships between government entities and private organizations to leverage resources and expertise for health initiatives.
	Consultation with affected populations (B_{23})	This referred to seeking input and feedback from the communities and individuals impacted by health policies and programs.

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	Participation of civil society organizations and advocacy groups (B_{24})	It involved the engagement of non-governmental organizations and advocacy groups in advocating for health-related issues and holding decision-makers accountable.
Resource Availability (Z_3)	Sufficient financial resources for program implementation (B_{31})	This included adequate funding to support the implementation of health programs and initiatives.
	Adequate healthcare infrastructure and facilities (B_{32})	It involved having the necessary physical infrastructure, such as hospitals, clinics, and medical equipment to deliver healthcare services effectively.
	Availability of trained healthcare professionals (B_{33})	This referred to having a skilled workforce of healthcare providers, including doctors, nurses, and other professionals to meet the needs of the population.
	Access to essential medical supplies and technologies (B_{34})	It entailed ensuring the availability of essential medicines, vaccines, and medical equipment to deliver quality healthcare services.
Policy Design and Planning (Z_4)	Clear objectives and targets (B_{41})	This involved defining specific goals and measurable targets for health policies and programs.
	Evidence-based decision-making (B_{42})	It entailed using scientific evidence and research findings to inform policy design and implementation.
	Feasible and realistic implementation strategies (B_{43})	This included developing practical and achievable plans for implementing health policies within the available resources and constraints.
	Flexibility to adapt to changing circumstances (B_{44})	It involved building flexibility into policies to accommodate unforeseen changes or challenges that may arise during implementation.
Monitoring and Evaluation (Z_5)	Robust data collection systems (B_{51})	This involved establishing reliable systems for collecting data on health outcomes, program implementation, and other relevant indicators.
	Regular monitoring of program progress and outcomes (B_{52})	It entailed ongoing monitoring of the implementation of health policies and programs to assess progress towards achieving objectives and targets.
	Evaluation of policy effectiveness and impact (B_{53})	This involved conducting systematic evaluations to assess the effectiveness and impact of health policies on population health outcomes.
	Using feedback mechanisms for continuous improvement (B_{54})	It included establishing mechanisms for collecting feedback from stakeholders and using this information to improve policy design and implementation.
Health System Strengthening (Z_6)	Integration of health policies into existing systems (B_{61})	This involved aligning health policies with existing healthcare delivery systems and structures to ensure efficient implementation.
	Capacity building for healthcare providers (B_{62})	It entailed providing training and support to healthcare providers to enhance their skills and competencies in delivering quality healthcare services.
	Quality assurance mechanisms (B_{63})	This included implementing measures to monitor and improve the quality of healthcare services and outcomes.
	Measures to address health disparities and inequities (B_{64})	It involved implementing policies and interventions to address inequalities in access to healthcare and health outcomes among different population groups.
Community Participation (Z_7)	Empowerment of local communities in decision-making (B_{71})	This was involving local communities in decision-making process regarding health policies and programs that affect them.
	Tailoring policies to meet community needs and preferences	It included designing health policies and programs that are responsive to the unique needs and preferences of

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	(B_{72})	local communities.
	Mobilization of community resources and support (B_{73})	This involved mobilizing community resources and support to complement government efforts in implementing health initiatives.
	Promoting health literacy and awareness (B_{74})	It entailed implementing initiatives to educate and empower communities to make informed decisions about their health and well-being.
Political and Socioeconomic Context (Z_8)	Consideration of broader economic and social factors (B_{81})	This involved taking into account the wider socioeconomic context in which health policies were implemented, including factors such as poverty, inequality, and economic development.
	Alignment with national development goals (B_{82})	It entailed ensuring that health policies were aligned with broader national development priorities and objectives.
	Addressing social determinants of health (B_{83})	This was addressing social, economic, and environmental factors that influenced health outcomes, such as education, housing, and employment.
	Anticipation of potential challenges and barriers (B_{84})	It involved identifying and anticipating potential challenges and barriers to the successful implementation of health policies, and developing strategies to mitigate them.
Communication and Advocacy (Z_9)	Effective communication strategies to promote policy objectives (B_{91})	This involved developing and implementing communication strategies to raise awareness about health issues, promote policy objectives, and mobilize support.
	Public awareness campaigns (B_{92})	It included organizing campaigns to educate the public about key health issues, promote healthy behaviors, and raise awareness about available services.
	Engagement with media and opinion leaders (B_{93})	This referred to engaging with media outlets and influential opinion leaders to disseminate information, shape public opinion, and garner support for health policies.
	Advocacy for policy support and implementation (B_{94})	It entailed advocating for policy support and implementation by engaging with policymakers, stakeholders, and the public to build consensus and mobilize political will.
Adaptability and Flexibility (Z_{10})	Ability to adjust policies in response to emerging issues (B_{101})	This involved being responsive to changing circumstances, emerging health threats, and new evidence by adapting policies accordingly.
	Learning from past experiences and best practices (B_{102})	It included evaluating past experiences and best practices to identify lessons learned and inform future policy decisions.
	Piloting and scaling-up successful interventions (B_{103})	This involved piloting innovative interventions on a small scale to test their effectiveness before scaling them up for broader implementation.
	Continuous innovation and improvement (B_{104})	It entailed fostering a culture of innovation and continuous improvement in policy design and implementation to address evolving health challenges and achieve better outcomes

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AHP

AHP is a decision-making tool developed by Thomas L. Saaty in the 1970s and is widely used across various fields for prioritizing and selecting alternatives. AHP is based on the principle that complex decisions can be broken down into a hierarchical structure of criteria, sub-criteria, and alternatives, making it easier to evaluate and compare different options (6). AHP, or Analytical Hierarchy Process, is a multi-criteria decision-making method utilized across various domains (7). Following the identification of factors influencing the success of HSPI through thematic analysis, AHP method was utilized to rank them. In this process, the influencing factors were considered as alternatives within the standard AHP method framework. The steps outlined by Dweiri, Kumar (8) for AHP were followed in the present study.

Step 1: Collecting data via an AHP questionnaire regarding influential factors.

Initially, a questionnaire was developed using pair-wise comparison matrices for 10 categories of factors and their sub-factors. For n factors, an $n \times n$ matrix (A) was formed, where each element a_{ij} represents the relative importance of factor i to factor j. When j equals i, a_{ij} is always one. The pair-wise comparison is as follows:

$$A = \begin{pmatrix} a_{11} & \cdots & a_{1n} \\ \vdots & \ddots & \vdots \\ a_{n1} & \cdots & a_{nn} \end{pmatrix} \quad (1)$$

Following this, a group of experts was asked to fill out all pair-wise comparison matrices using a Saaty scale, as depicted in Table 2. Afterwards, an aggregated matrix was generated from all the expert assessments using the geometric mean method. These aggregated matrices provide a comprehensive viewpoint by amalgamating all expert opinions, thereby enhancing the generalizability of the results.

Table 2. The Saaty scale.

Degree of importance	Definitions
1	Factor i and j are equally important.
3	Factor i has low importance compared to factor j.
5	Factor i has high importance compared to factor j.
7	Factor i has very high importance compared to factor j.
9	Factor i has extreme importance compared to factor j.

* Note: 2, 4, 6, and 8 represent intermediate scores.

Step 2: Calculation of the priority weight for each factor

Initially, a normalized matrix, N, is calculated for each aggregated matrix formed by the three experts. Each element n_{ij} of N was computed as follows:

$$n_{ij} = \frac{a_{ij}}{\sum_{i=1}^{h} a_{ij}} \; \forall \; i, j \in \{1,2,\dots,n\} \quad (2)$$

where $\sum_{i=1}^{h} a_{ij}$ represents the sum of the column j.

Next, the relative weight of each factor is found by averaging the values of its row in the normalized matrix. The weight of factor i, w_i, is calculated as follows:

$$w_i = \frac{\sum_{j=1}^{h} n_{ij}}{h} \quad \forall \; i \in \{1,2,\dots,n\} \quad (3)$$

Note that the sum of (w_i) from $(i = 1)$ to (n) equals one. This process was repeated for all the aggregated matrices until the weights of main factor categories and their sub-factors were computed.

Step 3: Consistency check for each pair-wise **comparison matrix**

In order to maintain uniformity in responses to the questionnaire, a consistency test was carried out for every pair-wise comparison matrix (A)

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submitted by the experts. Saaty (1990) incorporated three elements for this consistency assessment: the Consistency Index (CI), random consistency index (RCI), and consistency ratio (CR). Initially, CI was calculated for each matrix as follows:

$$CI = \frac{\lambda_{max} - n}{n} \quad (4)$$

Where λ_{max} represents the maximum eigenvalue calculated from the matrix A, and the weight vector of the factors was determined following the procedures outlined in the study by Saaty (1990).

Second, RCI is calculated as:

$$CR = \frac{CI}{RCI} \quad (5)$$

Where, RCI could be obtained from Table 3 depending on the number of factors in the pair-wise comparison matrix.

Table 3. The Saaty scale

Number of factors, h	1	2	3	4	5	6	7	8	9	10
RCI	0	0	0.52	0.89	1.11	1.25	1.35	1.40	1.45	1.49

Finally, if $CR \leq 0.10$, the degree of inconsistency was considered acceptable. Otherwise, the ratings a_{ij} in the pair-wise comparison matrix should be adjusted to eliminate the inconsistency.

Step 4: Calculation of the global weight for each factor

The global weight or overall ranking of each selected factor was determined by multiplying its weight by the weight of its category (9). For conducting the AHP method, Expert Choice software was utilized.

To prioritize factors influencing the success of HSPI, a pairwise comparison questionnaire was developed. This questionnaire allowed experts to assess the relative importance of different factors by comparing them directly. Each factor was assigned a numerical value on the Saaty scale, ranging from 1 to 9, indicating its preference over another factor. The questionnaires were distributed to 15 experts affiliated with the Faculty of Medicine at Islamic Azad University of Najafabad, accompanied by clear instructions on how to complete them.

Upon collecting and analyzing the completed questionnaires, research data was extracted. Using Excel software, the geometric mean of the questionnaires was calculated to create a matrix of pairwise comparisons among the factors. Subsequently, Expert Choice version 11 software was utilized to process the data. It is worth noting that the consistency of the pairwise comparison matrix should be verified, with an inconsistency rate of less than 0.1 to ensure validity. Fortunately, all comparisons yielded an inconsistency rate below 0.1, validating the questionnaire output. The weights assigned to each influential factor were determined using AHP method, as depicted in Table 4.

Figure 2 illustrates the relative importance (weights) of the primary factors influencing the successful implementation of health system policies.

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Table 4. The weights of all factor categories and specific factors (aggregated results).

Main factor category	Relative weight using AHP	Factors per category	Relative weight using AHP	Global weight using AHP	Rank
Political will (Z_1)	8.3%	B_{11}	21.22%	1.74%	34
		B_{12}	32.13%	2.63%	15
		B_{13}	27.32%	2.24%	25
		B_{14}	19.33%	1.59%	37
Stakeholder engagement (Z_2)	14.5%	B_{21}	29.35%	4.26%	1
		B_{22}	28.79%	4.17%	2
		B_{23}	20.61%	2.99%	9
		B_{24}	21.25%	3.08%	7
Resource availability (Z_3)	13.3%	B_{31}	28.11%	3.74%	4
		B_{32}	20.32%	2.70%	14
		B_{33}	29.22%	3.89%	3
		B_{34}	22.35%	2.97%	10
Policy design and planning (Z_4)	12.4%	B_{41}	28.13%	3.49%	6
		B_{42}	20.67%	2.56%	19
		B_{43}	21.15%	2.62%	17
		B_{44}	30.05%	3.73%	5
Monitoring and evaluation (Z_5)	9.6%	B_{51}	25.15%	2.41%	21
		B_{52}	29.59%	2.84%	12
		B_{53}	27.11%	2.60%	18
		B_{54}	18.15%	1.74%	33
Health system strengthening (Z_6)	10.8%	B_{61}	28.20%	3.05%	8
		B_{62}	24.34%	2.63%	16
		B_{63}	22.41%	2.42%	20
		B_{64}	25.05%	2.71%	13
Community participation (Z_7)	7.4%	B_{71}	24.51%	1.81%	31
		B_{72}	21.12%	1.56%	38
		B_{73}	32.22%	2.38%	22
		B_{74}	22.15%	1.64%	36
Political and socioeconomic context (Z_8)	6.4%	B_{81}	26.21%	1.68%	35
		B_{82}	23.32%	1.49%	39
		B_{83}	21.37%	1.37%	40
		B_{84}	29.10%	1.86%	29
Communication and advocacy (Z_9)	8.1%	B_{91}	22.25%	1.82%	30
		B_{92}	26.32%	2.16%	27
		B_{93}	23.26%	1.91%	28
		B_{94}	28.17%	2.31%	24
Adaptability and flexibility (Z_{10})	9.2%	B_{101}	24.11%	2.22%	26
		B_{102}	25.41%	2.34%	23
		B_{103}	31.17%	2.87%	11
		B_{104}	19.31%	1.78%	32

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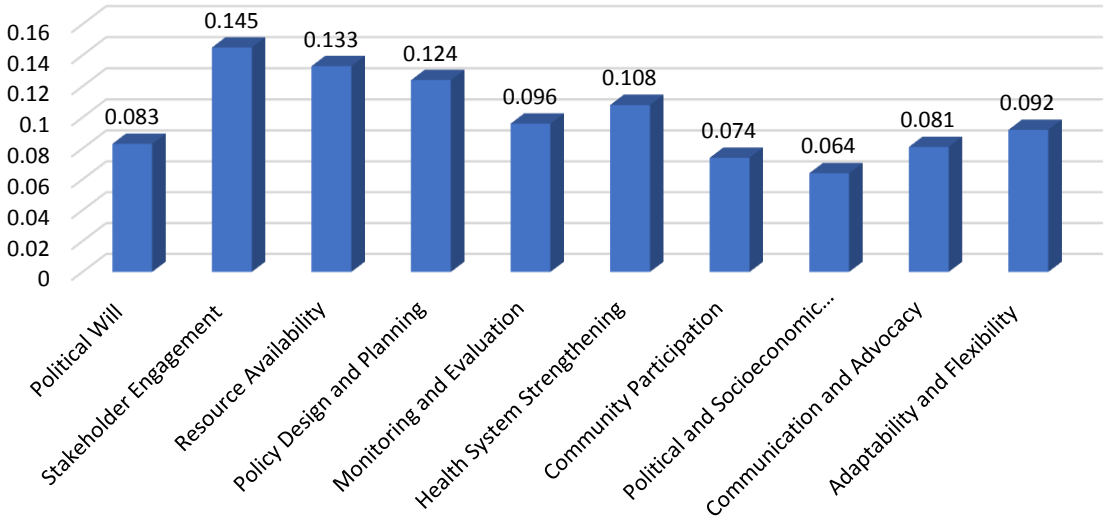

Figure 2. The relative importance of main factors influencing the success of HSPI

According to Table 4 and Figure 2, the main factors in order of priority were stakeholder engagement (relative importance = 0.145), resource availability (relative importance = 0.133), policy design and planning (relative importance = 0.124) , health system strengthening (relative importance = 0.108), monitoring and evaluation (relative importance = 0.096), adaptability and flexibility (relative importance = 0.092), political will (relative importance = 0.083), communication and advocacy (relative importance = 0.081), community participation (relative importance = 0.074) and political and socioeconomic context (relative importance = 0.064).

Figure 3 depicts the relative importance (weights) of the secondary factors influencing the successful implementation of health system policies.

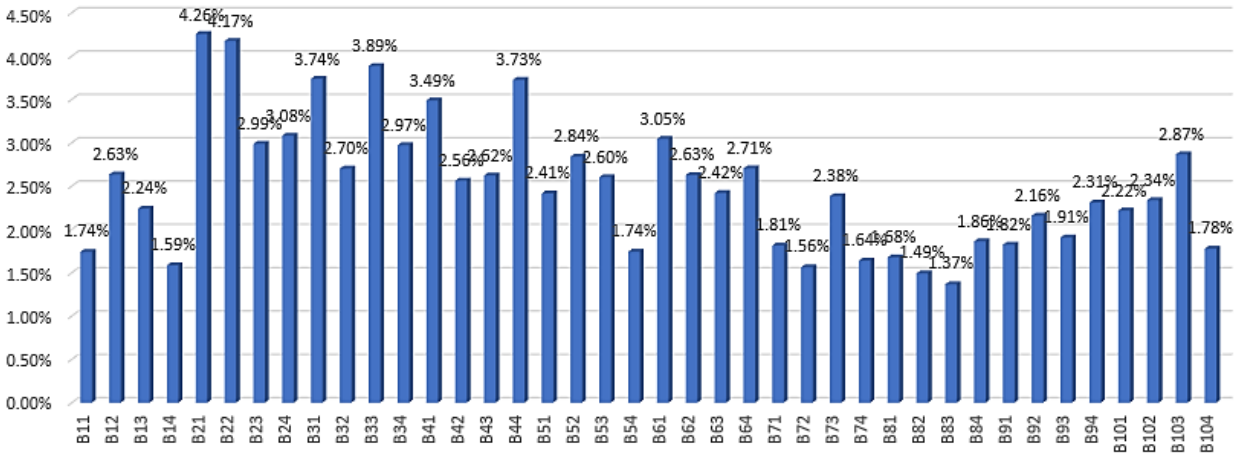

Figure 3. The relative importance of factors influencing the success of HSPI

According to Table 4 and Figure 3, the factors were ranked. The factors' involvement of diverse stakeholders (e.g., government, healthcare providers, communities) (relative importance = 0.0426), collaboration between public and private sectors (relative importance = 0.0417), availability of trained healthcare professionals (relative importance = 0.0389), sufficient financial resources

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for program implementation (relative importance = 0.0374) and flexibility to adapt to changing circumstances (relative importance = 0.0373) were ranked first to fifth in order.

Discussion

In this study, the authors investigated the factors influencing the success of HSPI using a combination of thematic analysis and AHP. The objective was to identify key determinants that play a crucial role in shaping the effective implementation of health policies. Through thematic analysis, the authors identified ten primary factors, including political will, stakeholder engagement, resource availability, policy design and planning, monitoring and evaluation, health system strengthening, community participation, political and socioeconomic context, communication and advocacy, and adaptability and flexibility. The findings of this study highlighted the significance of each factor in contributing to the success of HSPI. Political will emerged as a critical driver, emphasizing the importance of strong leadership and commitment from policymakers to drive policy initiatives forward. Stakeholders' engagement was identified as essential for fostering collaboration and ownership among diverse stakeholders, while resource availability underscored the need for adequate funding and resource allocation. Furthermore, effective policy design and planning, coupled with robust monitoring and evaluation mechanisms, were identified as essential components for ensuring the relevance, effectiveness, and sustainability of health policies. Strengthening health system, promoting community participation, and addressing the broader political and socioeconomic context were also identified as pivotal factors in achieving successful policy implementation. This study highlighted the importance of communication and advocacy in raising awareness, mobilizing support, and fostering dialogue around health issues. Moreover, the need for adaptability and flexibility within policy frameworks was emphasized to respond to changing circumstances and emerging challenges effectively. In conclusion, the integrated approach combining thematic analysis and AHP provided valuable insights into the multifaceted nature of factors influencing HSPI. By addressing these key determinants, policymakers and stakeholders can enhance the likelihood of successful policy outcomes and ultimately contribute to improving population's health and well-being.

The thematic analysis in this study identified several key factors impacting the success of HSPI, including stakeholder engagement, resource allocation, political commitment, organizational capacity, public awareness, and socio-cultural factors. These findings aligned with numerous studies in the field, demonstrating a consistent understanding of the critical elements necessary for effective policy implementation. Agrawal, Sharma (10) emphasized the importance of involving a diverse range of stakeholders, such as government officials, healthcare professionals, academics, and civil society representatives in shaping health policy. This finding corroborated with the conclusion of this study that stakeholder engagement was crucial for successful HSPI. Similarly, Friebel, Potter (11) highlight the importance of stakeholder engagement in the context of occupational health and safety policy, reinforcing the need for involving various actors to achieve policy success.

The significance of adequate resource allocation is echoed in the study by Díaz, Fuentes-López (12), which shows that public health policies targeting alcohol consumption can lead to significant improvements in health outcomes when properly resourced. This supports our finding that resource allocation is a pivotal factor in the successful implementation of health system policies. The role of political commitment is further supported by the work of Beresford, Hunt (13), who highlight the need for evidence-based interventions and political will to improve health outcomes within the NHS.

Comparative studies, such as those by Jindal, Barnert (14) and Torres, Villalba (15), provide further evidence supporting our conclusions. Jindal et al. highlight the importance of addressing social determinants and systemic inequities to eliminate

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racial and ethnic disparities in child health outcomes, which aligns with our findings on socio-cultural factors. Torres et al. discuss the pervasive influence of corporate interests on national nutrition policy, underscoring the complexity of stakeholder dynamics and the need for strong governance, resonating with our emphasis on stakeholder engagement and political commitment.

In summary, the results of our thematic analysis are well-supported by existing research across various contexts and health policy domains. The alignment of our findings with those of Agrawal, Sharma (10), Bonnet and Coinon (16), Beresford, Hunt (13), Díaz, Fuentes-López (12), Dourgnon, Pourat (17), Friebel, Potter (11), Jindal, Barnert (14), and Torres, Villalba (15) underscored the robustness and relevance of the factors the researchers identified as influencing the successful implementation of health system policies. These comparisons validated the critical role of stakeholder engagement, resource allocation, political commitment, organizational capacity, public awareness, and socio-cultural factors in achieving effective health policy outcomes.

Conclusion

This study aims to identify and analyze the factors influencing successful HSPI using a combined approach of thematic analysis and AHP. The thematic analysis revealed a diverse range of factors critical to the success of HSPI. Active involvement of stakeholders, such as government officials, healthcare professionals, and the community, is essential for the effective implementation of health policies. Engagement ensures that policies are responsive to the needs and contexts of those they affect. Adequate allocation of financial, human, and material resources is crucial. Without sufficient resources, even well-designed policies are likely to fail in their implementation. Strong political will and support from leadership at various levels of government play a pivotal role in driving policy initiatives and ensuring their sustained implementation. The ability of healthcare organizations to adapt and respond to new policies through effective management, training, and infrastructure significantly influences implementation success. Raising public awareness about health policies and their benefits helps garner support and compliance, which is essential for successful implementation. Understanding and addressing cultural beliefs and practices that may impact policy acceptance and implementation is vital for the success of health initiatives.

Based on the findings, the following recommendations are proposed for policymakers and stakeholders to enhance the success of health system policy implementation: developing inclusive platforms for continuous dialogue among all stakeholders, including marginalized and vulnerable groups; fostering partnerships between government agencies, non-governmental organizations, and the private sector to leverage diverse expertise and resources; prioritizing funding and resource distribution to critical areas identified in policy assessments; implementing efficient resource management strategies to optimize the use of available resources and minimize wastage; advocating for strong political leadership and commitment to health policy goals at all levels of government; establishing accountability mechanisms to ensure that political leaders remain committed to policy implementation and outcomes; investing in capacity-building programs for healthcare workers and administrators to improve their ability to implement new policies; upgrade healthcare infrastructure to support the effective delivery of policy initiatives; launching comprehensive public education campaigns to inform citizens about the benefits and requirements of new health policies; using various media channels to reach a broad audience and ensuring that information is accessible to all segments of the population; conducting cultural sensitivity training for policymakers and implementers to better understand and navigate cultural dynamics; and tailoring policy implementation strategies to respect and incorporate local cultural practices and beliefs.

By addressing these key factors, policymakers and stakeholders can improve the implementation and

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impact of health system policies. These efforts will contribute to more effective and equitable healthcare systems, ultimately enhancing the health and well-being of populations worldwide. Future research should continue to explore these factors in different contexts to further refine strategies for successful health policy implementation.

While this study provides valuable insights into the factors influencing the success of HSPI, there are several limitations to consider. First, the research scope may not cover all the possible factors or contexts relevant to policy implementation success, as the study focuses on specific thematic areas identified through thematic analysis and AHP. Additionally, the data collected for this study may be subject to biases or limitations inherent in qualitative research methods, such as the potential for researcher subjectivity in data interpretation or sampling biases. Furthermore, the generalizability of the findings may be limited to the specific context or population under study, and caution should be exercised when applying the results to other settings or populations.

Despite these limitations, this study offers valuable insights and practical suggestions for policymakers, practitioners, and researchers involved in HSPI. First, policymakers should prioritize building political will and stakeholder engagement to garner support for policy initiatives and ensure their successful implementation. Second, efforts should be made to enhance resource availability by allocating adequate funding and investing in healthcare infrastructure and human resources. Third, policymakers should focus on designing evidence-based policies with clear objectives and feasible implementation strategies, while also prioritizing monitoring and evaluation to assess policy effectiveness and make necessary adjustments. Moreover, strengthening health system, promoting community participation, and considering the political and socioeconomic context are essential for achieving policy success. Additionally, effective communication and advocacy strategies should be employed to raise awareness and garner support for policy initiatives, while maintaining adaptability and flexibility to respond to changing circumstances and emerging challenges. Overall, by addressing these research findings and practical suggestions, stakeholders can enhance the likelihood of successful HSPI and improve population health outcomes.

For future researchers delving into the realm of health system policy implementation, several avenues for exploration and enhancement present themselves. First, considering the combined approach of thematic analysis and AHP utilized in this study, researchers could delve deeper into the specific nuances of each method and their synergistic effects. Exploring variations in the application of thematic analysis across different healthcare contexts or refining the AHP methodology for assessing policy implementation success could yield valuable insights. Second, expanding the scope of research to encompass a broader range of stakeholders beyond university faculty members could enrich understanding. Involving policymakers, healthcare administrators, and frontline healthcare workers in the research process could provide diverse perspectives and enhance the generalizability of findings. By examining factors influencing policy success at various stages of implementation and identifying critical points for intervention, future researchers can contribute to the development of more effective and sustainable healthcare policies.

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Conflict of interests

The authors declared no conflict of interests.

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Authors' contributions

N.M designed andconducted research; S.AN analyzed data, performed statistical analysis and wrote the paper. All the authors read and approved the final manuscript.

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