



Investigating the Effect of Participatory Management Components on Healthcare Policy Implementation

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Abstract

Background: Healthcare policy implementation is of great importance due to its effect on society and is only possible via the intellectual and practical participation of various levels of employees. Participatory management leads to elevating productivity and respecting human values. The present study investigated the effect of participatory management components on healthcare policy implementation.

Methods: This cross-sectional study was conducted on 384 managers and employees at Kerman and Sistan and Baluchestan universities of medical sciences experienced in policy implementation. The samples were selected using a simple random sampling method. A researcher-made questionnaire (derived from the results of qualitative interviews with experts) was used to collect data. Data were analyzed using structural equation modeling (SEM) using Amos 22 software.

Results: The results indicated that the model had a reasonable fit and contained 12 main categories, including implementation facilitator (with a factor loading [FL] of 0.97), implementation inhibitor (FL=0.96), laying the groundwork for implementation (FL=0.65), designing implementation method (FL=0.88), systematic implementation (FL=0.80), evaluation and correction (FL=0.67), environmental facilities and conditions (FL=0.69), environmental culture (FL=0.94), compilation method (FL=0.99), implementation method (FL=0.74), positive consequences (FL=0.73), and negative consequences (FL=0.58) in five axes (causal conditions, background conditions, mediating conditions, strategies, and consequences), and 42 subcategories presented in the proposed model with latent relationships.

Conclusion: The mentioned variables well explain the participatory management style related to the extent of healthcare policy implementation, and the use of participatory management has considerable positive consequences in healthcare policy implementation for policy-makers, managers, and beneficiaries of the health sector.

Keywords: Participatory management, Policy implementation, Healthcare policy

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Introduction

Health care is a costly, intricate, and rapidly growing phenomenon affecting people's quality of life (1). Health costs are increasing so that with the 1% increase in gross domestic product (GDP) per capita, health costs increase by 4% (2). In 2015, the share of health costs globally was 3.6% of GDP on average. In Iran, these costs increased from 5.4% of GDP in 2000 to 6.7% in 2015, while at the same time, the mean amount of these costs was 9.9% worldwide (3). The implementation of health sector policies is of double importance because of the particular nature of this sector and its effect on society. The incomplete implementation of the health system policies has made the policy-making process vague for the general public, and the policy-makers has lowered the quality of service to the people and also the popularity of top managers in the health system (4).

Management science and different management

styles play a crucial role in the productivity of the health system. A management style is fulfilled over time and through science and experience. The outline of a leader's measures in a way that is perceived by the employees is called style (5). A participatory management style refers to a system of intellectual and practical cooperation between an organization's employees and its various management levels. In this dynamic system, all individuals in an organization actively attempt to solve problems and cooperate with the manager by offering proposals (6). In this way, the organization's productivity not only increases by 30-40% using participatory management but, more importantly, attention is paid to sublime human values, including freedom and self-governance (7).

Until the early 1970s, the policies were thought to be implemented as soon as they were compiled; however, this vision was questioned because the anticipated programs were not implemented (8) The studies conducted in



the United States and other countries have resulted in a branch related to the implementation topic (8), and implementation has received more attention over the last four decades. In our country, Iran, there are also many criticisms and dissatisfaction with public policy implementation (9).

However, according to research, policy implementation is one of the organizations' present concerns and among the most intricate stages of the policy-making process. A policy's effects and consequences are indeed realized through its implementation, and unsuccessful implementation annihilates all promises to achieve the anticipated effects (10). On the other hand, the successful implementation of policies requires participation (11). Policies are adjusted and amended, and in some cases, inevitably undergo changes or are destroyed by the implementers (12).

The studies conducted in Iran, including Monavvarian, and Haji Zamani, have reported factors such as the resistance of managers and employees in implementation and the non-alignment of individual and organizational goals as obstacles to implementation (13,14). Moreover, Aghamohammadi et al, Amin Mozaffari et al have also reported that despite the high costs of compiling and designing programs, some programs are not implemented (15,16). According to the results of some other studies, about 40% (17), 70% (18), and 90% (19) of the programs are not implemented properly.

The proper policy implementation gives rise to benefitting limited resources correctly and thus reducing redundancies. Participation in all stages, from formulation to approval and implementation, is necessary (20). Policy implementers are the principal and definite actors who can be influential in accepting and cooperating in the program implementation (21) Hence, successful policy implementation results from actors' participation, appropriate interaction, and mutual communication (22). Participation encompasses not only the use of employees' information but also the use of the knowledge and experience of employees as consultants in organizations (23,24). Overall, the studies available regarding policy implementation have not paid much attention to the issue of how government officials make policies operational (25). Considering the cases mentioned above and given that the nature of healthcare issues is a priority and different levels of human resources with diverse specializations are involved in solving them, the present study aimed to investigate the effect of participatory management components on healthcare policy implementation of policies.

Methods

The present research is a cross-sectional quantitative study conducted in 2022 on the statistical population of 50690 employees of Kerman and Sistan and Baluchestan

universities of medical sciences. This research tested the initial model provided after a qualitative study that was conducted by the research team. The required revisions were considered, and the final model was finally provided.

Sampling was carried out using a simple random method. The sample size was calculated to be 381 people based on Cochran's formula, in which sampling accuracy was assumed with a margin of error (d)=5% at a 95% confidence level.

In order to select the samples, the researchers first went to the recruitment department of centers, including hospitals, healthcare centers, and organizations. Then, after providing the security approval of Kerman and Sistan and Baluchestan universities of medical sciences and the research ethics code, a list of the personnel working in various units was presented to the researchers. The researchers selected the samples using a simple random sampling method based on the personnel code.

The measurement tool in the current research was a researcher-made questionnaire involving 273 questions derived from the components identified in a qualitative study. In order to design the questionnaire, the data obtained from the qualitative interviews with 40 experts were analyzed using Charmaz approach coding. This questionnaire involves 5 axes (causal conditions, background conditions, mediating conditions, strategies, and consequences of the participatory management style related to the extent of healthcare policy implementation), 12 main categories (implementation facilitator, implementation inhibitor, laying the groundwork for implementation, designing implementation method, systematic implementation, evaluation and correction, environmental facilities and conditions, environmental culture, compilation method, implementation method, positive consequences, and negative consequences) and 42 subcategories. The measurement tool in this research was a researcher-made questionnaire based on the Likert style presented in the form of five-choice items. The scores of 5-1 and 1-5 were assigned to these options according to whether the extent of agreement was from "completely agree" to "completely disagree" or vice versa.

The main criteria for selecting experts in the qualitative study were interest, theoretical mastery, practical experience, willingness, ability to participate in the research, and access. The opinions of 7 professors and experts on the questionnaire's accuracy were used to measure its validity, and the required revisions were made accordingly. The reliability of the designed questionnaire was also assessed, and Cronbach's alpha was calculated as 0.97.

For data collection, 400 questionnaires were sent to the selected samples manually or electronically via WhatsApp messenger, and 384 questionnaires were finally completed.

Structural equation modeling (SEM) was employed to evaluate the proposed model. Before assessing the

structural coefficients, the model fit was assessed. The SEM tests the theoretical relationships between definite and assumed structural conditions and makes it possible to estimate the causal relationships between latent variables and also the relationships between observed variables (26). The Kolmogorov-Smirnov test was used to assess the normality of the data, the confirmatory factor analysis (CFA) was used to measure the initial model designed, and the results were reported (root mean square error of approximation [RMSEA], comparative fit index [CFI], Tucker-Lewis index [TLI], goodness-of-fit index [GFI], incremental fit index [IFI], chi-square test/degree of freedom [χ^2/df], number of distinct parameters [NPAR] model, df, and χ^2) using Amos 22 software.

Results

According to Table 1, most participants were male (57.8%) and in the 51-year-old and older age group (40.1%). Moreover, 58.6% of the participants had a master's degree. In this study, 42 subcategories were identified, as provided in the Table 2.

Figure 1 displays the relationships among 12 categories and 42 subcategories. The values of some of the initial model fit indices indicated that the proposed model needed to be modified and improved. To do this, in the next step, considering the modification indices (MI) in the output of Amos 22, the covariance pathways of the

research variables (Figure 1 first model) were added to the model. After applying these changes, another analysis was carried out on the data whose results of the fit indices are presented in the second row (the final model) in Figure 2. According to the contents of Table 3, by adding the proposed MI pathways, the model improves, and the final model fit indices are accepted.

According to the statistics obtained from the results of the model undergoing structural coefficients, a logical and acceptable fit was obtained (NPAR: 115, relative chi-square (CMIN/DF): 3.09, TLI: 0.926, CFI: 0.913, GFI: 0.903, and IFI: 0.915).

Table 1. Description of demographic indices (general features)

Demographic Index	Group	Frequency	Frequency Percentage
Gender	Male	222	57.8
	Female	162	42.2
Respondent's age	30 years old and less	20	5.2
	31-40 years old	101	26.3
	41-50 years old	109	28.4
	51 years old and above	154	40.1
Respondent's education	Associate	14	3.6
	Bachelor	80	20.8
	Master	225	58.6
	Doctorate	65	16.9

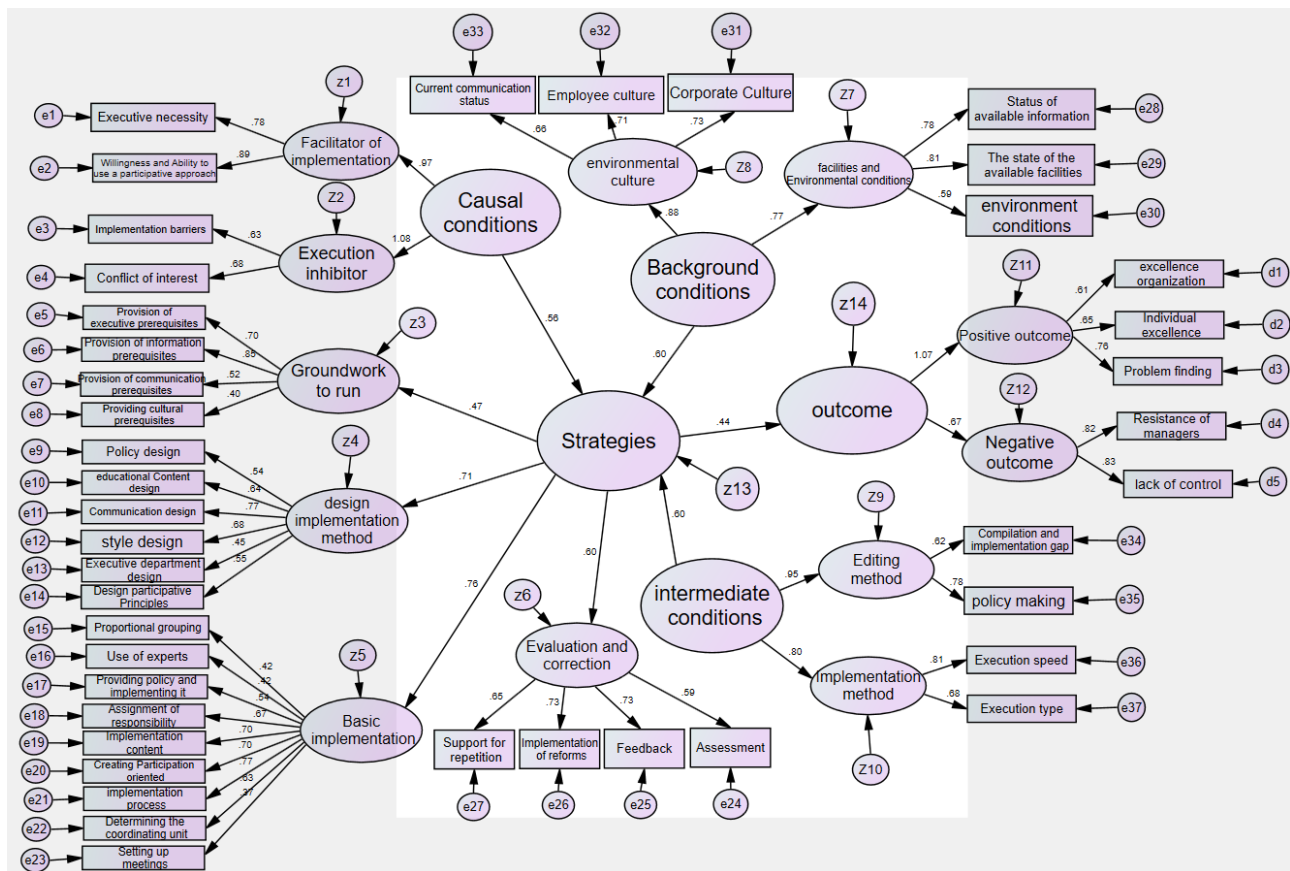


Figure 1. The initial model designed for the participatory management style related to the extent of healthcare policy implementation

Table 2. Descriptive indices of research variables (42 identified subcategories)

	Subcategory	Category	Mean	Standard deviation
Causal conditions	Implementation facilitator	Implementation requirements	2.978	0.910
		Willingness and ability to use a participatory approach	3.035	0.873
	Implementation inhibitor	Implementation obstacles	3.163	1.004
		Conflict of interests	2.928	0.994
Strategies	Laying the groundwork for implementation	Providing implementation prerequisites	2.980	0.777
		Providing information prerequisites	3.104	0.784
		Providing communication prerequisites	3.126	0.805
		Providing cultural prerequisites	3.177	0.843
	Designing implementation method	Designing policy and rules	3.234	0.774
		Designing implementation educational content	3.193	0.860
		Designing organizational communication	3.072	0.815
		Designing participation style	3.053	0.867
		Designing the executive department	3.069	0.964
		Principles of participatory design	2.968	0.805
	Systematic implementation	Appropriate grouping	3.014	0.903
		Using experts in implementation	2.936	0.963
		Providing and implementing policies	3.156	0.907
		Assignment of responsibility	2.978	1.108
Implementation content		3.143	1.018	
Establishing participation-oriented communication		3.007	1.088	
Evaluation and correction	Implementation process	3.152	0.904	
	Determining cooperating departments	3.137	0.857	
	Holding meetings	3.216	0.975	
	Evaluation	3.151	0.939	
	Getting and providing feedback	3.157	0.920	
Background conditions	Environmental facilities and conditions	Correction implementation	3.046	0.981
		Support for repetition and re-action	3.057	1.043
		Current status of information	3.142	1.012
	Environmental culture	Current status of facilities	2.996	0.980
		Employees' culture	3.017	0.919
		Current communication status	3.056	0.860
Mediating conditions	Compilation method	Organization's culture	3.123	0.885
		Compilation and implementation gap	3.132	1.021
	Implementation method	Policy-making	3.067	0.857
		Implementation speed	3.038	0.954
Consequences	Positive consequences	Implementation type	2.963	0.970
		Organizational excellence	2.951	0.709
	Negative consequences	Individual excellence	3.093	0.986
		Finding and solving problems	3.243	0.839
		Manager resistance	3.262	0.972
		Lack of control	3.289	0.960

The lowest mean score belongs to the category of using experts in policy implementation (2.936), and the highest to the category of lack of control (3.289).

According to the indices in Table 3, the measurement model of the latent variable of causal conditions in different dimensions has good fit and construct validity so that the factor loadings (FLs) of the first-order components of

the causal conditions of the participatory management style related to healthcare policy implementation, namely implementation facilitator and implementation inhibitor, are 0.97 and 0.96, respectively, which are higher than 0.40,

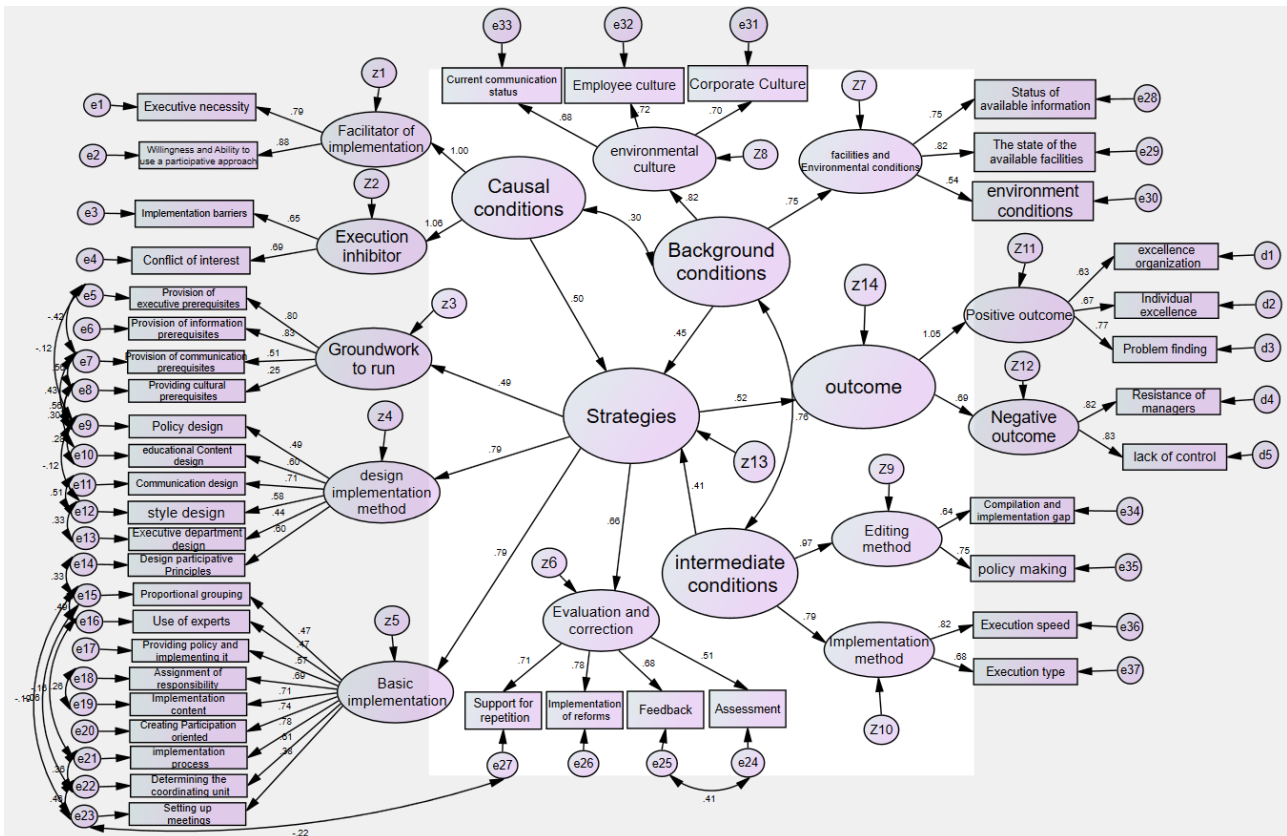


Figure 2. The corrective research model of the participatory management style related to the extent of healthcare policy implementation

Table 3. The fit indices for the compiled models and the final model

Model fit index	RMSEA	CFI	TLI	IFI	GFI	NPAR	χ^2/df	df	χ^2
Compiled model	0.111	0.607	0.583	0.609	0.616	93	5.76	810	4665.09
Final model	0.077	0.913	0.926	0.915	0.903	115	3.09	788	2434.49
Independence model	0.173	0.001	0.001	0.001	0.203	42	12.40	861	10680.84

RMSEA: Root mean square error of approximation; CFI: Comparative fit index; TLI: Tucker-Lewis index; GFI: Goodness-of-fit index; IFI: Incremental fit index; χ^2/df : Chi-square test/degree of freedom; NPAR: Number of distinct parameters

indicating the acceptability of the FLs of causal conditions. Hence, the causal conditions of the participatory management style related to the extent of healthcare policy implementation include implementation facilitator (implementation requirements and willingness and ability to use a participatory approach) and implementation inhibitor (implementation obstacles and conflict of interests).

According to the indices in Table 3, the measurement model of the latent variable of strategies in different dimensions has a good fit and construct validity so that the FLs of the components of the strategies of the participatory management style related to the extent of healthcare policy implementation, namely laying the groundwork for implementation, designing implementation method, systematic implementation, and evaluation and correction, are 0.65, 0.88, 0.80, and 0.67, respectively. Therefore, the strategies of the participatory management style related to the extent of healthcare policy implementation include laying the groundwork for implementation

(providing implementation prerequisites, providing information prerequisites, providing communication prerequisites, providing cultural prerequisites), designing implementation method (designing policy and rules, designing implementation educational content, designing organizational communication, designing participation style, designing the executive department, and principles of participatory design), systematic implementation (appropriate grouping, using experts in implementation, providing and implementing policies, assignment of responsibility, implementation content, establishing participation-oriented communication, implementation process, determining cooperating departments, holding meetings), and evaluation and correction (evaluation, getting and providing feedback, correction implementation, and support for repetition and re-action).

Regarding background conditions, the indices in Table 3 indicate that the measurement model of the latent variable of background conditions in different dimensions has a good fit and construct validity so that the FLs of the

components of background conditions of the participatory management style related to the extent of healthcare policy implementation, namely environmental facilities and conditions and environmental culture, are 0.69 and 0.94, respectively. Therefore, background conditions of the participatory management style related to the extent of healthcare policy implementation include environmental facilities and conditions (current status of information, current status of facilities, and environmental conditions) and environmental culture (organization's culture, employees' culture, and current communication status).

The indices in Table 3 demonstrate that the measurement model of the latent variable of mediating conditions in different dimensions has a good fit and construct validity so that the FLs of the components of mediating conditions of the participatory management style related to the extent of healthcare policy implementation, namely the compilation method and implementation method, are 0.99 and 0.74, respectively. Therefore, mediating conditions of the participatory management style related to the extent of healthcare policy implementation include compilation method (compilation and implementation gap and policy-making) and implementation method (implementation speed and implementation type).

Finally, according to the indices in Table 3, the measurement model of the latent variable of consequences in different dimensions has a good fit and construct validity so that the FLs of the components of positive consequences and negative consequences are 0.73 and 0.58, respectively, indicating the acceptable FLs of consequences. Therefore, the consequences of a participatory management style include positive consequences (organizational excellence, individual excellence, and finding and solving problems) and negative consequences (manager resistance and lack of control). The model regression coefficients show that the mentioned variables explain the participatory management style related to healthcare policy implementation well.

Discussion

Participatory management encompasses factors and approaches that are effective in healthcare policy implementation. These components contain causal conditions (including implementation facilitators and implementation inhibitors), strategies (including laying the groundwork for implementation, designing implementation method, and evaluation and correction), background conditions (including environmental facilities and conditions and environmental culture), and mediating conditions (including implementation method and compilation method).

In this article, we sought to investigate the components of participatory management carefully and analyze their effects on healthcare policy implementation. For this purpose, we compared the present study results with

similar studies investigating the effect of each of these components on healthcare policy implementation. According to the calculated FLs, it can be said that causal conditions include implementation facilitators and implementation inhibitors, strategies include laying the groundwork for implementation, designing implementation methods, systematic implementation, and evaluation and correction, background conditions include environmental facilities and conditions and environmental culture, mediating conditions include implementation method and compilation method, and consequences include positive and negative consequences. Based on the obtained results, it can be concluded that the model provided in this research is acceptable. Moreover, the regression coefficients indicate that the variables of participatory management are well associated with healthcare policy implementation. The values of the fit indices show that the model provided in this research also well matches the data (GFI=0.903 and IFI=0.915, both of which show acceptable values). The values of the total fit indices reveal the completely acceptable status of the measurement model of this research.

The results of the current study regarding the culture category are in line with previous studies, such as studies conducted by Saut et al (17,18) and Masoumi et al (4). In addition, the results of the present study regarding the interfering (mediating) factors, i.e., implementation method and compilation method, are consistent with the results of studies by Xiu et al (19), Khanifar et al (27), and Zabetpor Kordi et al (28). In this regard, some of the issues that should be taken into consideration include the necessity of participation of large teams with diverse specializations, the need to work with a combination of diverse tendencies, and the occurrence of employee resistance in managing guidelines.

Regarding the implementation requirements and the willingness and ability to use a participatory approach, we obtained similar results in studies conducted by Gharehdaghi et al (20), Asadi et al (22), Latif (24). Also, the results of this research concerning implementation obstacles match the results of Asadi and colleagues' research (22). Successful participatory management requires laying the groundwork for implementation, designing implementation method, systematic implementation, and evaluation and correction. The results demonstrate that the implementation of strategies, such as appropriate grouping, using experts in implementation, assignment of responsibility, implementation content, establishing participation-oriented communication, implementation process, determining cooperating departments, and holding meetings, culminates in improving healthcare policy implementation. According to the participants in the research, evaluation, getting feedback and providing feedback, correction implementation, and support for repetition and re-action are subcategories related to the

main category of evaluation and correction.

The results of this research regarding the strategies of healthcare policy implementation are consistent with the results of studies by Saut et al (17), Jamal Lyvani and Bagherpur (29), and Khanifar et al (27). It is essential to pay attention to the current status of information, the current status of facilities, and environmental conditions. The results of this study in the category of background conditions concerning the subcategories of environmental facilities and conditions are consistent with the results of studies by Saut et al (17), Huang et al (30), and Jamal Lyvani and Bagherpur (29). Furthermore, Budd et al (31), Appelbaum et al (32), Kohtamäki et al (33), and Xiu et al (24) all pointed out the positive effects of participatory management in their studies, which is matched with the results of our survey regarding positive consequences. A vast majority of the consequences of implementing the participatory management plan were positive. The implementation of this plan has numerous advantages for organizations and individuals. It also culminates in a better recognition of problems and solving them. Organizational excellence, individual excellence, and finding and solving problems are subcategories related to this main category. In this regard, the results of the present research are in line with the results of studies conducted by Chen et al (34), Elbanna and Fadol (35), and Engberg et al (36). Hence, applying participatory management will lead to better healthcare policy implementation.

Paying attention to the identified components will help managers take steps toward elevating their system and implementing policies by considering the components. According to the MIs resulting from the analyses of this research, shown in the final model, it is suggested that all managers pay particular attention to the management style design, policy implementation styles, implementation content, grouping, determining cooperating departments, implementation process, and implementation, information, communication, and cultural prerequisites. It is also suggested that experts' perspectives be used in designing implementation method regarding implementation time, method, and team, and various techniques of getting feedback and evaluation be employed in all stages in order to make the system smart and control the conditions.

The most important limitations of the present research included the personnel's high workload due to the coronavirus disease 2019 (COVID-19), the healthcare personnel's shortage of time, and the prolonged process of completing the questionnaires. Another limitation was the employees' reluctance to participate in the research.

Conclusion

Complete healthcare policy implementation is usually impossible because of numerous obstacles and inhibiting factors, some of which are out of control; however, by

paying more attention to these factors in the policy implementation phase, we will have more complete implementation. This research revealed that conflict of interests and implementation obstacles (including resistance of managers and employees, lack of productivity, and shortage of time) have an inhibiting role that must be taken into account. On the other hand, strengthening and increasing the willingness and ability to use a participatory approach and laying the groundwork for employee participation were identified as implementation facilitation components. The results demonstrated that special measures and interactions, such as providing implementation prerequisites, providing information prerequisites, providing communication prerequisites, and providing cultural prerequisites, designing policy and rules, designing implementation educational content, designing organizational communication, and designing participation style, evaluation and correction for the implementation of participatory management should be taken into account to facilitate policy implementation. Based on the results of statistical tests, we found that the environmental culture and the environmental facilities and conditions affected the strategies. Despite some executive limitations faced by applying the participatory management style, paying attention to the positive consequences of implementing the participatory management style, i.e., organizational excellence, individual excellence, and finding and solving problems, well displays the advantage of employing this management style. The last and most important result of the current research was providing an improved model obtained from statistical analysis and making corrections to the initial model proposed. The results of the current research are expected to guide managers, policy-makers, and analysts in the field of policy implementation so that they can be more successful in healthcare policy implementation with the help of participatory management.

According to these studies, it can be concluded that participatory management components, including causal conditions, strategies, background conditions, and mediating conditions, positively affect healthcare policy implementation. For successful policy implementation, these components must be managed comprehensively.

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Authors' Contribution

Conceptualization: Zahra Shokooh, Mahtab Ghanbarnejad.

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Funding acquisition: Zahra Shokooh, Zahra Shokooh, Saeed Sayadi.

Investigation: Zahra Shokooh, Zahra Shokooh, Saeed Sayadi.

Methodology: Mahtab Ghanbarnejad, Zahra Shokooh.

Resources: Mahtab Ghanbarnejad, Zahra Shokooh.

Validation: Mahtab Ghanbarnejad, Zahra Shokooh, Amin Nikpoor,

Mohsen Zayanderoodi.

Writing-review & editing: Mahtab Ghanbarnejad, Mohsen Zayanderoodi.

Competing Interests

The authors declared no conflict of interest.

Ethical Approval

The present article was reviewed and approved by the Ethics Committee of Kerman University of Medical Sciences (IROKMUOREC014010461). The confidentiality of the information was maintained in all stages of the research. The identity of the interviewees was also kept completely confidential.

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