

A Cross Sectional Study to Identify the Factors Influence Implementation of Changes in Healthcare Organization

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Abstract Background: Healthcare organizations are undergoing unusual changes. Implementation of changes may affect the performance of employees during and after change. Organizational changes in health care are more likely to succeed when health care professionals can influence the change, feel prepared for the change, and recognize the value of the change, including perceiving the benefit of the change for patients. Assessing the implementation of organizational changes will help to identify positive areas and shortcomings that require for the future improvement. **Aim of the study:** This study aims to identify the factors that influence changes in healthcare organization and evaluating the employees' perceptions concerning to organizational changes. **Subjects and Methods:** A Cross-Sectional design. Undertaken at specialized hospital, Makkah, Saudi Arabia. Sample collected from 400 healthcare workers by using a survey instrument which was designed based on the initial interviews carried out from the experts in the health care organization. **Results:** The highest rated dimensions among implementation of organizational changes are Individual personality, Team collaboration, Team communication, openness to change, goals and objectives, organizational architecture, overall satisfaction, and effective leadership respectively. The result proved the relationship between implementation of organizational changes and staff positions, professional role, and work experience. Nurses and physician have found the highest mean score compared to allied health workers. **Conclusion:** This study found the strength and areas of improvement on implementation of organizational changes in the healthcare settings. Individual personality, good team collaboration and communication, employee openness to change, employee known their goals and objectives, good leadership and overall satisfaction can contribute the implementation of organizational changes in the healthcare settings. This study recommends the health care leaders to evaluate area of concerns to implement changes in the organization.

Keywords: changes, implementation, healthcare organization

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1. Introduction

The only constant in health care organizations, as the saying goes, is "change". Technological advancements, ageing populations, changing disease patterns and new discoveries for the treatment of diseases require health care organizations and professionals to change almost constantly [1]. Many organizations have found it difficult to implement organizational change successfully. Unsuccessful organizational changes were related to insufficient education and training for the staff, employees' apathy, inadequate management support, poor leadership, inappropriate organizational culture, inadequate resources, poor communication, inappropriate planning, insufficient customer focus, and lack of a monitoring and measurement system [2].

Changes within an organization are usually associated with employee psychological uncertainty about how the

change will affect their lives [3]. Change is pervasive in health care. Understanding the responses to changes in healthcare professionals in the organizations may be crucial in an environment that rapidly changes health care. Changing disease patterns, aging populations, new discoveries of treatment of diseases, technological advancements, political reforms, and policy initiatives place demands on health care organizations and professionals' capacity to implement change [4].

Therefore, more general change responses, e.g., negative experiences from numerous and/or large organizational changes impacting health care professionals' work, may be an important underlying influence on health care practitioners' implementation intentions and behaviors [5]. Identifying the factors that contribute to change in organization success or failure enables change leaders to develop effective strategies for enhancing the chances of achieving desired outcomes [2].

Change responses have usually been described in terms of resistance to change, a concept, which was introduced

by Coch, and French [6]. However, later conceptualizations have expanded beyond conceptualizations of resistance to change to encompass various degrees of acceptance (or readiness) for change, thus creating a continuum of change responses. Change response in the framework is conceptualized as a tridimensional attitude composed of three components: cognitive (opinions about changes, their usefulness, advantages, and disadvantages, etc.), affective (feelings about changes), and intentional/behavioral (actions already taken or which will be taken for or against changes). This tridimensional concept of change response was proposed by Elizur and Guttman and is widely used [7,8].

Researchers have focused on linking objective measures of change exposure, such as the number of downsizing activities implemented, with employee well-being. This has meant that less attention has been paid to employees' subjective experience of change [9]. When introducing innovations to health care, it is important to gain insight into determinants that may facilitate or impede the introduction, to design an appropriate strategy for introducing the innovation [10].

The changes within the organization are continuous and ongoing process. Change is something that exists in all individuals, in all organizations, and in all sectors. However, there are still gaps in understanding how to better ensure successful organizational change in today's world [11].

As a number of scholars have noted, researchers currently face significant challenges in measuring implementation of changes in organization [12]. No previous research has examined the factors that influence the changes in health care organization. Therefore, the goals of this study are to identify the factors that contributing changes in health care organization.

1.1. Significance of the Research

Healthcare organizations are undergoing unusual changes. Implementation of changes may affect the performance of employees during and after change. During the change process, the behavior of the employees is greatly impacted through emotional responses. When the issue of change is introduced to the employees, they tend to fear. They often assume a defensive and resistant role. It is important to note that employees do not perceive change positively. Change interferes with their routine activities, and they are subjected to a deviation from what they are used to doing. They feel threatened and unsure of their future. This brings about mental and emotional instability, often with implications on their performance.

Even though organizational change may be unavoidable, negative employee outcomes from change are preventable. Positive work environments that are supportive and provide autonomy may be associated with more positive employee outcomes, and they may buffer negative outcomes resulting from change. Research has shown that the success of any change depends on the employees of the organization mainly because organizations only announce the change whereas the employees carry out the implementation.

Health care sector need to identify positive areas and shortcomings in implementation of changes in health care organization that require future improvement. Not much research available to explore the health care worker's insight on how their facilities are performing in terms of promoting changes in health care organization. This study was aimed to evaluate employees' perceptions concerning to organizational changes, identify potential obstacles that prevent successful implementation of changes in healthcare organization and finally to identify areas of concern that need further improvement to implement changes in healthcare organization.

1.2. Aim of the Study

The aim of the research is to identify the factors that influence changes in healthcare organization. This aim is achieved through the following objectives:

1. To evaluate KAMC employees' perceptions concerning to organizational changes.
2. To identify potential obstacles that prevent successful implementation of changes in healthcare organization.
3. To identify areas of concern that need further improvement to implement changes in healthcare organization.

2. Subjects and Methods

2.1. Research Design, Setting, and Participants

The Study type was a Cross-Sectional design. Undertaken at KAMC with the study population being doctors, nurses, and other allied health staff. It included 400 participants from different departments. All subjects were selected by simple random sampling and the questionnaires distributed through online platform.

2.2. Sample Size

The sample size included permanent front-line health care providers and total number was 2720 including [Doctors = 600, Nurses 1020 and Other allied health staff 1100]. The minimum sample size by total number of health care providers is 350 assuming a minimum response rate of fifty percentages and a confidence interval of +/-5%. A total of 400 healthcare workers participated in this study. The sample number in each category as follow:

Statement	Doctors	Nurses	Allied health staff
Total population	600	1020	1100
Minimum sample	80	155	165

2.3. Tool of Data Collection

Survey questions were developed based on the requirements of the current scenario, which included the most items suitable to identify the factors that influence the changes in healthcare organization from the

employee's perspectives. It consists of 8 dimensions and 52 items. The first part of the questionnaire represented socio-demographic characteristics of the participants: staff position, area of work, professional role, total professional work experience and experience in KAMC. The other's part is represented survey questions related to factors that affect implementation of changes in the health care organization included 8 dimensions such as Effective leadership (EL), Goals and objectives (GO), Team communication (TC), Individual personality (IP), Openness to change (OC), Team collaboration (TCN) Overall satisfaction (OS) and Organizational architecture (OA). Each Dimensions reflecting some questions. The participants were answered the questionnaire by Likert scale, which included as strongly agree, agree, neutral, disagree, and strongly agree. Each questions answers were scored from 1-5 and total score calculated from each item of all dimensions.

2.4. Validity and Reliability

The internal consistency was calculated for the data sheet by calculating the correlation coefficient between each statement. It was found that all the correlation coefficients between each statement and the total degree range between (0.278 – 0.757) which are positive and significant at the level of (0.01), this indicates high internal stability for the data of healthcare professionals in King Abdullah Medical City. The results of "reliability test by using (split half) method". The total "split half" score for the questionnaire in the first round is 0.887. The result ensures the reliability of the questionnaire, meaning that the instrument is reliable to measure the objectives of the study, which is high (>0.70) and acceptable for the researcher and we can rely on the results reached through it.

2.5. Ethical Considerations

IRB approval was obtained from the KAMC research Center letter 21-783, dated 06/05/2021. After getting official permission from IRB, the online survey was distributed to the health care workers. For ethical consideration, the aim of the study and an information part explaining the study details was included in survey to obtain their cooperation. Participants was not identified on questions. In this way the researcher was maintained anonymity and confidentiality of the participants.

2.6. Data Collection

The investigator collected data from the participants by using online survey questionnaires. The data was collected from 10/05/2021 to 10/07/2021. The survey link was closed when the need number of respondents is achieved. An invitation part was included in the survey to understand the aim of the study to the participants and to obtain their cooperation. the aim of the study and an information part explaining the study details will be included in survey to obtain their cooperation. The

participants were made aware through the questionnaire that by submission of online survey would indicate their consent to participate. Participants will not be identified on questions. In this way the researcher, will maintained anonymity and confidentiality of the participants. The selection of the sample was using by simple random sampling method.

2.7. Statistical Analysis

The obtained data was analyzed qualitatively and quantitatively. SPSS 25 model was used to analyze multiple data to identify key trends and statistics from the data. Descriptive statistics was used to examine demographic data of the participants, while a t-test was performed to examine possible differences in means between groups. Differential analysis (ANOVA) was employed to test the statistical association between the variability studied.

3. Results

Table 1 show that one hundred fifty-five (38.8%) were registered nurses and eighty (20%) were physician and 54 (13.5%) were Technicians including Laboratory, Radiology and Cardiac and remaining 40 (10%) pharmacist, 36(9%) respiratory therapist and lastly 35 (8.8%) were administrative and management staff. Most of the participant's primary working area medical area (24.5%) remaining intensive care unit (23.8%), surgery (11.3%), emergency department (10.8%), pharmacy (10. %), laboratory (9.5%), Radiology (7.5%) and Anesthesiology (2.8%) respectively. Regarding work experience most of the staff have experience in between 6-10 years and 168 (42 %) and 102 (25.5%) staff have experience between 1-5 years. Coming in work experience in same hospital most of the staff have experience between 6 to 10 years 145(36.2%) and 114 (28.5%) staff have experience between 1 to 3 years in the same hospital.

Table 2 illustrates that the most rated mean score was for Individual personality (35.61) and remaining was team collaboration (30.55), Team communication (27.97), openness to change (27.32), goals and objectives (24.17), organizational architecture (22.36), overall satisfaction (15.86) and effective leadership (15.49%) respectively.

Table 3 show that the total mean of Implementation of organizational changes dimensions among the hospital staff in relation with employee's position shows that the most rated dimensions were "Individual personality" (35.40), "team collaboration" (30.90) "Team communication" (28.24) "Openness to change" and "goals and objectives" (24.09). Lowest rated Implementation of organizational changes dimensions were "effective leadership" (15.44) "overall satisfaction" (15.88) and "organizational architecture" (22.37). Nurses and physician have found the highest mean score compared to allied health workers.

Table 1. Demographic characteristics of the participants (n = 400)

Variables	Categories	Frequency	Percentage
Staff position in the hospital	Registered Nurse	155	38.8%
	Physician	80	20%
	Pharmacist	40	10%
	Administration/Management	35	8.8%
	Respiratory Therapist	36	9%
	Technician (Lab, Radiology, Cardiac)	54	13.5%
Primary work area	Emergency department	43	10.8%
	Intensive care unit	95	23.8%
	Medicine (non-surgical)	98	24.5%
	Pharmacy	40	10%
	Radiology	30	7.5%
	Laboratory	38	9.5%
	Surgery	45	11.3%
	Anesthesiology	11	2.8%
Total work experience in the profession	1 to 5 years	102	25.5%
	6 to 10 years	168	42.0%
	11 to 15 years	58	14.5%
	16 to 20 years	51	12.8%
	21 years or more	21	5.2%
Work experience in same hospital	Less than 1 year	21	5.2%
	1 to 3 years	114	28.5%
	3 to 6 years	70	17.5%
	6 to 10 years	145	36.2%
	More than 10 Years	50	12.5%

Table 2. Mean, Standard deviation and Mean % of Implementation of organizational changes dimensions

Patient safety culture dimensions	Mean	SD	Mean %	n
Effective Leadership	15.49	3.66	77.45%	400
Goals and objectives	24.17	3.59	80.57%	400
Team communication	27.97	3.92	69.93%	400
Individual personality	35.61	3.82	79.13%	400
Openness to change	27.32	3.3	78.06%	400
Team collaboration	30.55	3.91	76.38%	400
Overall satisfaction	15.86	2.66	79.30%	400
Organizational architecture	22.36	3.99	74.53%	400

Table 3. Descriptive analyses for staff position and mean and SD for Implementation of organizational changes dimensions

	Staff Position					
	Registered Nurse		Physician		Allied Health Staff	
	Mean	SD	Mean	SD	Mean	SD
Effective Leadership	15.44	3.62	15.71	3.91	15.43	3.59
Goals and objectives	24.09	3.66	24.33	3.57	24.17	3.57
Team Communication	28.24	4.01	27.66	3.84	27.87	3.89
Individual Personality	35.40	4.20	36.14	3.64	35.54	3.52
Openness to change	27.30	3.38	27.71	3.38	27.15	3.19
Team Collaboration	30.90	4.37	30.00	3.74	30.48	3.49
Overall satisfaction	15.88	2.79	16.24	2.84	15.67	2.43
Organizational Architecture	22.37	4.14	22.29	4.09	22.38	3.83

Table 4 demonstrates that there is a significant relationship between Implementation of organizational changes and different staff positions. ($p < 0.001$). The overall mean score was high for the physicians.

Table 5 shows that the p value (> 0.05) indicate there is no significant relationship between Implementation of organizational changes and primary work area. The staff

working in medical department shows high mean score than other departments.

Table 4. Relationship between Implementation of organizational changes and staff positions

Staff position	Mean	SD	n	p-value
Registered Nurse	189.63	23.91	155	< 0.001
Physician	200.07	21.71	80	
Allied Health Staff	187.69	20.82	165	

Table 5. Relationship between Implementation of organizational changes and primary work area

Primary work area	Mean	SD	n	p-value
Emergency department	197.72	28.13	40	0.116
Intensive care unit	201.66	22.00	95	
Medicine (non-surgical)	196.07	20.89	98	
Pharmacy	199.21	21.55	43	
Radiology	194.91	24.68	30	
Laboratory	197.32	19.65	38	
Surgery	204.33	19.09	45	
Anesthesiology	213.27	21.54	11	

Table 6 illustrates that there is a significant relationship between Implementation of organizational changes and professional role ($p < 0.001$).

Table 6. Relationship between Implementation of organizational changes and Professional role

Professional role	Mean	SD	n	p-value
Director	207.72	26.27	39	< 0.01
Manager	190.06	23.11	50	
HOD	206.07	22.82	52	
Department staff	189.21	21.65	259	

Table 7 shows that there is significant relationship between Implementation of organizational changes and years of experience.

Table 7. Relationship between Implementation of organizational changes and years of experience

Work experience	Mean	SD	n	p-value
1 to 5 years	187.22	25.23	102	< 0.01
6 to 10 years	190.16	22.15	168	
11 to 15 years	196.07	23.12	58	
16 to 20 years	201.77	21.45	51	
21 years or more	206.23	26.22	21	

4. Discussion

This research project was aimed to identify the factors that influence changes in healthcare organization KAMC. This survey was evaluating KAMC employees' perceptions concerning to organizational changes also to identify potential obstacles that prevent successful implementation of changes in healthcare organization and finally to identify areas of concern that need further improvement to implement changes in healthcare organization. The test report showed that a culture implementation of changes in the organization from the perspective of staff is considered a place of strength and those areas that need to be improved were spread across several levels.

Result regarding all the dimensions in implementation of all organizational changes. The most rated mean score was Individual personality, Team collaboration, Team communication, openness to change, goals and objectives, organizational architecture, overall satisfaction, and effective leadership respectively. While many findings of the study are in line with existing research on organizational changes, no previous study has identified these dimensions of interdependent characteristics. The study provides important knowledge for health care organizations to plan and implement changes with better chances of being successful. This result is consistent with another study which demonstrate that employees' commitment to change, in this organization, can be improved through increasing formal and informal communication, creating adaptive organizational systems, and enhancing the role of transformational leaders during the change [13].

The result of Implementation of organizational changes dimensions among the hospital staff in relation with employee's position shows that the Nurses and physician have found the highest mean score compared to allied health workers. This result is supported by some studies which revealed that the health care professionals are attached great importance to being able to influence changes that may influence their work. They expressed positive attitudes to changes that have been developed [14]. The health care professionals emphasized the importance of having the opportunity to influence organizational changes that are implemented. A physician described the more importance of bottom-up changes in the organization [1]. This is stressing that the importance of individual responses to organizational changes has been

increasingly emphasized and valuing the change in terms of experiencing personal gains has been linked with involvement in the change [15,16].

Considering the dimensions of organizational changes, the most rated traits were "Individual personality", "team collaboration", "Team communication", "Openness to change" and "goals and objectives" Lowest rated Implementation of organizational changes dimensions were "effective leadership" "overall satisfaction" and "organizational architecture". Consistent with these findings the organizational research has shown that participation in changes can yield increased acceptance. Indeed, widespread participation in the change process is perhaps the most frequently cited approach to overcoming resistance to change [13,17].

Managers and employees must effectively institutionalize and embed changes Planned organizational change involves a redeployment or redirection of scarce organizational resources toward a host of new activities, including developing a plan or strategy for implementing the change, communicating the need for change, training employees, developing new processes and practices, restructuring, and reorganizing the organization, and testing and experimenting with innovations [18]. It appears that effective transformational leadership is one of the key elements going forward and would suggest strengthening it. Both teams have a similar and strong understanding of the goals and objectives of the organization. Team communication ranked lowest amongst all the survey categories. Both teams report having a high openness toward change on a personal level as well as their work circumstances [13].

This study revealed that almost all dimensions in the implementation of organizational changes suggesting areas with potential for improvements. The finding shows that there is a significant relationship between Implementation of organizational changes and staff positions, professional role, and work experience. These findings underscore the importance of changes having frontline support and being perceived as legitimate among the employees affected by the changes. This result supporting other studies which revealed that health care professionals valued and perceived as successful organizational changes with a patient focus, with clear benefits to patients [5].

Health care professionals emphasized the importance of predictability for them to perceive organizational changes as successful. Individuals are better able to adjust their behavior accordingly when they are prepared [9]. There is no relationship exist between Implementation of organizational changes and primary work area. However, we have not been able to find any previous study, either in health care settings or in other environments, which has identified the relevance of this triad of characteristics or how they are interlinked.

5. Conclusion

The result proved the relationship between implementation of organizational changes and staff positions, professional role, and work experience. The highest rated dimensions

among implementation of organizational changes were Individual personality, Team collaboration, Team communication, openness to change, goals and objectives, organizational architecture, overall satisfaction, and effective leadership respectively. Nurses and physician have found the highest mean score compared to allied health workers.

Healthcare organizations should focus on the need of assessing employee concerns on organizational changes as that will provide basic understanding of the perceptions of their staff. This assessment tools can help healthcare organizations in identifying the areas for improvement. However, further studies are required to include all health care staff to identify their perception on implementing changes in the healthcare settings.

6. Implications and Recommendations

This study finding will help the healthcare leaders to implement changes in the health care organizations. The result of the study showing the strongest and weakest part of the dimensions in the organizational change that will help the leaders to prepare improvement programs. This research recommending the health care leaders to evaluate area of concerns for improvement to implement changes in the organization.

7. Strengths and Limitations of the Study

The contribution of this study will help the health care leaders as base to implement changes in the health care organization and help them to develop protocols and policies for improvements and can make standards to aware all employees to adapt the changes that will help to make a good culture in the hospital settings. To institutionalize improvement in health systems, it is critical to ensure that the employees have a role for willing to accept all the changes in the organization through implementing policies, procedures, and resources for health service quality improvement. The strength of this study was in addition to the cross - sectional study the designs was used to understand all the areas and dimensions concerned with employee perceptions on implementation of changes in the health care organizations.

A limitation of this study was that the perceptions of all health care employees were not included. So, the result cannot be represented organizational level. The study relies on self-reported online survey and if using participant's direct interview may will get more ideas and recommendation on implementation of changes in the healthcare organizations.

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