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
1.1. Significance of the Research

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 Guttmann 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.

1.2. 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, Nurses1020 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, will 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 in 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%      |
| 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       | 22.56| 3.99 | 74.53% | 400 |

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

| Variables                        | 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 6 illustrates that there is a significant relationship between Implementation of organizational changes and professional role (p<0.001).
Table 7 shows that there is a 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  |         |
| 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   | < 0.01  |

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 improvement to implement changes in healthcare organization and identify potential obstacles that prevent successful 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 get more ideas and recommendation on implementation of changes in the healthcare organizations.

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