
▪ **Basic Research**

Change Fatigue, Resilience and Organizational Commitment of Nurses: the Mediating Effect of Leader Empowering Behavior

Aisha Elsayed-ElAraby Abdelwahid⁽¹⁾ *& Azza Abdeldayem Ata⁽²⁾

(1) Lecturer of Nursing Administration, Faculty of Nursing, Zagazig University, Egypt

(2) Assistant Professor of Nursing Administration, Faculty of Nursing, Zagazig University, Egypt

*Corresponding author: Aisha_elaraby@yahoo.com

Abstract

Background: Successful organizational change is an important factor for maintaining sustainable competitive advantage and growth in today's rapidly changing healthcare environment. Organizational change influences nurses' reaction to change, which may cause fatigue and exhaustion. **Aim:** to explore the relationship among change fatigue, resilience, organizational commitment of nurses and leader-empowering behavior. **Participants and methods:** A stratified random sample of 345 staff nurse working in Zagazig University Hospitals, Egypt. This study used descriptive correlational design; four tools were used to collect the data; Change fatigue scale, Connor-Davision resilience scale, Leader empowering behavior questionnaire and Organizational commitment scale. **Results** revealed that 48.7% of nurses reported moderate level of resilience. In addition, 55.8 % & 81.4% of nurses reported high levels of organizational commitment and change fatigue, respectively. The highly displayed empowering behavior of nurse leader was coaching for innovative behavior as reported by studied nurses. Moreover, change fatigue was negatively and significantly correlated to resilience, organizational commitment and leader empowering behavior. While resilience was positively and significantly correlated to organizational commitment and leader empowering behavior where $p < 0.05$. **Conclusion:** leader-empowering behavior is complete mediator in the relationship of change fatigue with resilience and organizational commitment. **Recommendation:** health care organizations should encourage nurses in management role to study further to empower them in the role of being a manager. Nursing education institutions should include resilience training in the nursing curricula.

Keywords: Change fatigue, leader-empowering behavior, organizational commitment, resilience, staff nurses

Introduction

Nurses, as one of the most important human resources in health care organizations, play an important role in promoting community health. Hospitals constantly engage in change to understand and implement the latest and greatest ideas and to become more competitive and cost effective, but these changes have a tremendous impact on people at every level in the organization (Jin & Doonam, 2016). The failure of change efforts are often associated with change resistance, described collectively as negative and disruptive behaviors that jeopardize the change process and its desired outcomes. More recently, the concept of *change fatigue* has emerged as a concept offering a different path of discourse in explaining change failure (McMillian & Perron, 2013).

With change fatigue, staff can become disengaged and apathetic, often feeling disempowered, burnt out, disillusioned, and passive about changes being introduced (Ead, 2015). Change fatigue has also been associated with several different outcomes that have impacts for both the organization and the individual. Related to organizations; it is associated with increases in turnover and turnover intention while decreasing organizational commitment and effectiveness. For the individual, it has personal consequences such as increased strain, withdrawal, burnout and exhaustion, decreasing satisfaction and motivation (Dilkes et al., 2014).

One way to deal with the negative effects of change is resilience, which refers to the ability to overcome the difficulties and make successful adjustment (Jin & Doonam, 2016). It is also known as an individual ability and characteristic that includes the process of recovery and interaction after experiencing significant stress or hardship (Guo et al., 2018). Resilience is influenced by various factors, including individual factors such as culture, education, and individual efforts, as well as environmental factors. Studies on nurse resilience have reported negatively correlated work-related stress, job satisfaction, work performance, posttraumatic stress, anxiety, depression, burnout, and work environment (Thomas & Asselin, 2018).

Resilience has many characteristics; first, self-reliance which mean ability to depend on oneself; second, purposeful life which refers to the realization that life has a purpose; third, perseverance refers to determination to keep going despite any difficulties and disappointment; fourth, existential aloneness: this characteristic entails the realization that each person's life path is unique, and the final is equanimity: this characteristic refers to a balanced perspective of one's life and experiences (Fiksel, 2014).

Organizational commitment is of particular importance to health-care organizations that might affect the success of organizations in facing the more complex and changed environment (Rohail et al., 2017). Organizational commitment is a kind of attitude indicating the amount of staff interest and devotion and loyalty to the organization and their willingness

to remain in an organization. This attitude includes three dimensions: affective commitment, continued commitment and normative or task commitment (Alowerd et al., 2019).

Affective commitment had the strongest positive correlation with other work behaviors (i.e., attendance, job performance) followed by normative commitment, whereas continuance commitment was unrelated or negatively related to these work behaviors. (Jin & Doonam, 2016). It has potential and serious effects on organizational performance; therefore, its ignorance can be harmful and costly to the organization. On the other hand, leadership behavior of administrators has positive effects on organizational commitments of employees (Rohail et al., 2017).

Today's healthcare environment calls for a more empowered nursing profession. Nursing leader-empowering behaviors play a significant role in creating positive work environments that can have a major impact on how nurses respond to their working conditions. (Liu, 2015). The empowering leader behaviors influence nurses' staff work role performance by promoting nurses' self-efficacy. Laschinger et al., 2014

Concerning dimensions of leader empowering behavior, Konczak et al., (2000) identified six dimensions of leader empowering behaviors: delegation of authority, accountability, self-directed decision-making, information sharing, skills development, and coaching for innovative performance. Researchers have shown that empowering leadership behaviors are precursors to job satisfaction, turnover intentions, productivity and organizational commitment (Klerk and Stander, 2014).

Research problem

Organizational change can lead to both positive and negative outcomes; constant change within an organization leads to an increase in sick time, turnover rates, and change fatigue. One solution for lowering nursing change fatigue is building resilience-the capacity to move forward in a positive way from traumatic or stressful experiences (McDonald et al., 2013). On the other hand, organizational commitment has potential and serious effects on organizational performance; therefore, its ignorance can be harmful and costly to the organization.

Moreover, the empowering leader behavior of the nurse manager forms the vehicle through which management strategies, practice and tools, personality attributes and styles come together to produce effective outcomes in the organization (Mudallal et al.,2017). Moreover, no studies in Egypt at the time of data collection had examined the concept of change fatigue. Therefore, the aim of this study is to investigate relations among change fatigue, resilience, organizational commitment of nurses and leader empowering behavior at Zagazig University Hospitals.

Theoretical framework

The Transactional Model of Stress and Coping developed by Lazarus and Folkman (1984) was used as the theoretical framework for this study. This model proposes that stressors and ways individuals cope with stress need to be considered jointly in explaining the stress and coping process because they are interdependent. This Model has been applied to many research studies to help understand how employees appraise a situation and the resource used in coping. Organizational change found to cause change fatigue (McMillian & Perron, 2013). One way to cope with change fatigue is resilience. According to Lian and Tam (2014), resilience is a personal quality that allows nurses to cope with the stress of organizational change.

On the other hand, successful and appropriate nursing care in a hospital requires a high level of commitment. Researchers consider organizational commitment as an important variable in understanding the employees' behavior. This research also considers empowering leader behavior as a guideline that increases the nurses' feeling of self-efficacy and removes conditions that foster a sense of powerlessness (Liu, 2015). This study jointly evaluate the interrelationships among change fatigue, resilience, organizational commitment and leader empowering behavior for nurses. The hypothesized model is depicted in Fig.1.

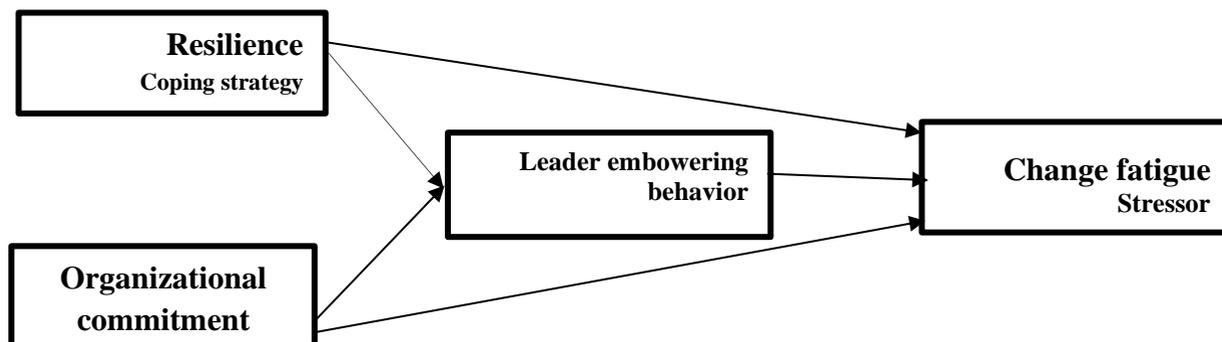


Figure. 1. The hypothesized model of change fatigue, resilience, organizational commitment and leader empowering behavior.

Aim:

The present study aimed to investigate relationships among change fatigue, resilience, organizational commitment of nurses and leader empowering behavior.

Research questions:

From the problem statement, the following questions arise:

What is the level of change fatigue experienced by studied nurses?

What is the level of resilience experienced by studied nurses?

What is the level of organizational experienced by studied nurses?

What empowering leader behavior do nurse managers display?

What is the relationship among change fatigue, resilience, organizational commitment and leader empowering behavior?

Hypotheses:

H1. An inverse association exists between resilience and change fatigue.

H2. An inverse association exists between organizational commitment and change fatigue.

H3. An inverse association exists between nurse leader empowering behavior and change fatigue.

H4. A positive association exists between leader empowering behavior and resilience.

H5. A positive association exists between leader empowering behavior and resilience.

H6. Leader empowering behavior is a mediator in the relationship between resilience and change fatigue.

H7. Leader empowering behavior is a mediator in the relationship between organizational commitment and change fatigue.

Methods**Design**

A descriptive correlational design was used to achieve the aim of the current study. The descriptive correlational studies is built on existing knowledge, describe the variables and proposes the relationships that occur naturally between and among them (**Sousa et al., 2007**).

Setting:

This study was conducted at Zagazig University Hospitals, Egypt, which includes two sectors involving 8 teaching hospitals providing free treatment; emergency sector included five hospitals; New-Surgery hospital, Internal-Medicine hospital, Emergency hospital, Delivery and premature hospital and outpatient hospital. El-Salam sector included 3 hospitals; Cardiac and Chest hospital, El-Salam hospital, and Pediatric hospital.

Subjects & Sampling:

A stratified random sample of 345 nurses working in direct patient care in the above-mentioned hospitals. All nurses' names were put in container and the researchers picked up until collecting the required number.

Exclusion Criteria: Staff nurses who were currently in orientation, and who had worked less than 3 months in Zagazig University Hospitals were excluded from the study. Staff nurses who were working strictly in an administrative capacity and had no involvement in providing direct patient care were also excluded from the study

Sample size was estimated using the following formula [$n = N / 1 + N (e)^2$] (**Yamane, 1967**); at confidence interval 95%, margin of errors 5.0%, a total population size of 2453 staff nurses. The required sample size was 345 staff nurses. The required number of staff nurses from each hospital was calculated with the following formula: Number of staff nurses in each hospital \times required sample size / total number of staff nurses in Zagazig University Hospitals.

Instruments:

Four tools were used to collect data for this study.

Tool I: Change Fatigue Scale: It consisted of two parts as follows: The first part: Personal characteristics of staff nurses; this part was used to collect data about gender, age, speciality, marital status and years of experience. The second part: The Change Fatigue Scale developed by **Bernerth et al., (2011)** to measure the level of change fatigue of staff nurses employed in hospital setting. The scale has six items, under single factor and is based on a three-point Likert scale ranged from (1) disagree to (3) agree. The possible scores ranged from 6 to 18. Scores < 12 indicates low level of change fatigue while, scores ≥ 12 indicates high level. The internal consistency of this tool was measured by Cronbach's alpha coefficient, and it was (0.85).

Tool II: Connor-Davidson Resilience Scale (CD-RISC). It was developed by **Campbell-Sills and Stein (2007)** to measure the level of resilience of staff nurses. The scale has ten

items, under single factor and is based on a three point Likert scale ranged from (1) disagree to (3) agree. The possible scores for resilience scale ranged from 10-30. Scores greater than 25 indicate high resilience, scores from 20 to 25 indicate moderate resilience, and scores below 20 indicate low resilience. The reliability of the instrument was estimated using Cronbach's alpha (0.85) which indicates good reliability.

Tool III: Leader Empowering Behavior Questionnaire (LEBQ), a self-reported measure developed by **Konczak, et al. (2000)** to measure empowering leader behaviors. It consisted of 17 items with six subscales. The six subscales consisted of items related to delegation of authority, accountability, self-directed decision making, information sharing, skill development, and coaching for innovative performance. The responses of staff nurses to the questionnaire were measured on a three point Likert scale ranged from (1) disagree to (3) agree. Higher scores indicated higher employee perceptions of leader empowering behaviors. The reliability of the instrument was estimated using Cronbach's alpha, it was 0.82.

Tool IV: Organizational Commitment scale, developed by **Allen & Meyer (1991)** to measure the overall organizational commitment level of staff nurses. It consists of 24 items with three dimensions of commitment, namely affective, continuance, and normative commitment. Each dimension has eight items. The responses of staff nurses to the questionnaire were measured on a three point Likert scale ranged from (1) disagree to (3) agree. The scores of items number 3, 7, 10, and 13 are reversed. The possible scores ranged from 24-72. Scores greater than 43 indicate high level of organizational commitment, and scores below \leq 43 indicate low level. The reliability of the instrument was estimated using Cronbach's alpha, it was 0.85.

Field work:

Data collection took about three months from January till end of March, 2021. The researchers clarified the aim of the study to each staff nurse either individually or through group meetings. Each staff nurse was given an opportunity to complete the questionnaire under the guidance and supervision of the researchers. The time required to complete each questionnaire sheet was about 20-30 minutes.

Content validity:

After the tools were translated into Arabic; a jury of experts (5 professors) from the academic nursing staff at Zagazig University did face and content validity for the tools. According to their opinions all needed adjustments were done.

Pilot study:

It was carried out before starting the actual data collection to confirm clarity, understanding, and applicability of the tools. Additionally, to estimate the required time to complete the questionnaire sheet. The pilot study was carried out on 35 staff nurses (10% of the study sample). Staff nurses were selected randomly and excluded from the main study sample and the necessary modifications were done.

Administrative and ethical consideration:

Scientific Research Ethics Committee and dean of the Faculty of Nursing, Zagazig University had approved the study. Verbal and written explanation of the nature and aim of the study were explained to staff nurses included in the study sample. The researchers informed the participants that their participation is voluntary; they could withdraw without filling in the questionnaire. The Researchers also, explained to participants that they aren't forced to write their names with emphasis on confidentiality of the information as it would be used for the research purpose only.

Statistical analysis:

Data entry and statistical analysis were performed using the Statistical Package for Social Science (SPSS), version 21.0. Cleaning of data was done to ensure that there was no missing or inappropriate data existed. Data were displayed using descriptive statistics in the form of frequencies and percentages for categorical variables, and means and standard deviations for continuous variables. Pearson correlation analysis was used for assessment of the inter-relationships between studied variables. Multiple Linear inner regression analysis was used to assess the mediation effect.

Results**Descriptive statistics and correlations**

Table 1 presents that 91% of nurses were females, 52.5 % of them were between the ages of 20 and under 30 with mean (30.44 ± 8.67), 33.62 % had experience less than 5 years. Additionally, 73.91%, 40% & 32, 5%, of them were married, had bachelor of nursing and working at surgery departments, respectively.

Table 2 reveals the distribution of study variables' mean scores as reported by nurses; the highest mean score of organizational commitment was for normative commitment while the lowest was for affective commitment (19.48 ± 10.30 & 16.24 ± 4.01 , respectively) with total mean score 53.50 ± 12.78 . The mean score of change fatigue was 13.62 ± 2.59 and the mean score for resilience scale was 20.38 ± 4.22 .

Figure 1 presents that, only 55.8 % & 81.4% of nurses reported high levels of organizational commitment and change fatigue, respectively.

Figure 2 illustrates that, nearly half of nurses scored moderate levels of resilience (48.7%) while only 11.9% of them reported high levels.

Table 3 shows distribution of leader empowering behaviors mean percent scores as reported by nurses, the highest mean percent score was in coaching for innovative behavior (79.44 %), while the lowest was in skill development (71.55 %). As well as the total mean score of leader empowering, behavior was 74.37 % which indicates high empowering behavior.

Table 4 displays that, change fatigue was significantly and negatively correlated to resilience, organizational commitment and leader empowering behavior ($r= 0.538^{**}$ $p=0.000$, $r= 0.155^{**}$ $p=0.04$ & $r=0.100^{**}$ $p=0.006$, respectively) which supports 1st, 2nd and 3rd research hypothesis. Resilience was significantly and positively correlated to organizational commitment and leader empowering behavior ($r=0.311^{**}$ $p=0.000$, $r=0.277^{**}$ $p=0.000$, respectively) which supports 4th, and 5th research hypothesis. In addition, there was positive and significant correlation between organizational commitment and leader empowering behavior ($r= 0.879$ $p=0.000$).

Table 5 shows statistically significant relation between nurses' level of change fatigue and gender; female nurses experience high level. As well, there was significant relation between nurses' level of resilience and their qualifications ($P - \text{value} < 0.05$); higher education experience high level of resilience.

Table 6 demonstrates statistically significant relation between nurses' level of organizational commitment with personal characteristics regard gender; female nurses experience less organizational commitment.

Mediation analysis

Regression results have been used according to instructions given by **Preacher and Hayes (2008)**. Table (4) shows change fatigue (dependent variable) was significantly correlated to resilience and organizational commitment (independent variables). Hence, the **first** condition of mediation is fulfilled as per **Preacher and Hayes**. Next, there is a significant negative correlation between leader empowering behavior (mediator) and change fatigue (dependent variable). These results support the **second** condition of mediation. Next, leader-empowering behavior (mediator) was significantly correlated to resilience and organizational commitment (independent variables). Hence, the **third** condition of mediation is supported.

Fourth condition is explained in **table 7**; as it is evident when leader empowering behavior was included in the indirect model (resilience – change fatigue model), the regression coefficient of resilience was reduced from (β 0.330, $p=0.000$ to β 0.011, $p= 0.268$ (no significance), it proves that leader empowering behavior is a complete mediator in the relationship between resilience and change fatigue.

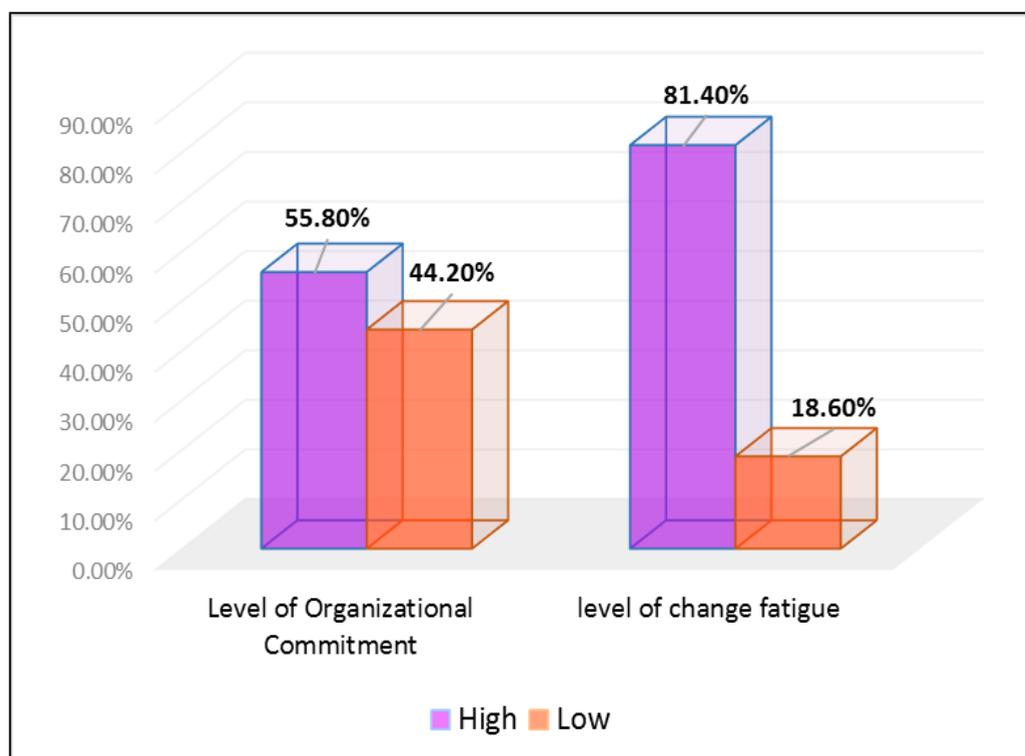
Additionally, when leader empowering behavior was included in the indirect model (organizational commitment – change fatigue model), the regression coefficient of organizational commitment was reduced from (β 0.087, $p=0.000$ to β 0.016, $p= 0.219$ (no significance). Consequently, leader-empowering behavior has complete mediation effect in the relationship between organizational commitment and change fatigue.

Table (1).Personal characteristics of studied staff nurses (n=345)

Characteristics	N	%
Gender		
• Male	31	9
• Female	314	91
Age (years)		
• Less than 20 y	5	1.45
• 20 - >30	181	52.5
• 30 - >40	94	27.2
• 40-50	60	17.4
• More than 50 y	5	1.45
Mean	30.44±8.67	
Marital status		
• Married	255	73.91
• Not married	90	26.09
Scientific qualification		
• Diplome of Nursing	84	24.3%
• Institute of Technical healthy	123	35.7%
• Bachelor of Nursing	138	40%
Specilaity		
• Internal Medicine	107	31
• Emergency	57	16.5
• Delivery and premature	31	9
• Surgery	112	32.5
• Pediatric	38	11
Years of experience		
• Less than 5 y	116	33.62
• 5 - >10 y	76	22.03
• 10 - >15 y	38	11.01
• 15-20 y	56	16.23
• More than 20 y	59	17.11
Mean	10.92±9.04	

Table (2). Distribution of Different Study Variables' Mean Scores as Reported by Studied staff nurses (n=345)

Variables	Mean \pm SD
I. Organizational commitment	
• Affective commitment	16.24 \pm 4.01
• Continuance commitment	17.76 \pm 3.13
• Normative commitment	19.48 \pm 10.30
Total score of organizational commitment	53.50 \pm 12.78
II. Change fatigue	13.62 \pm 2.59
III. Resilience	20.38 \pm 4.22

**Figure (1)** levels of nurses' organizational commitment and change fatigue as reported by studied nurses (n=345)

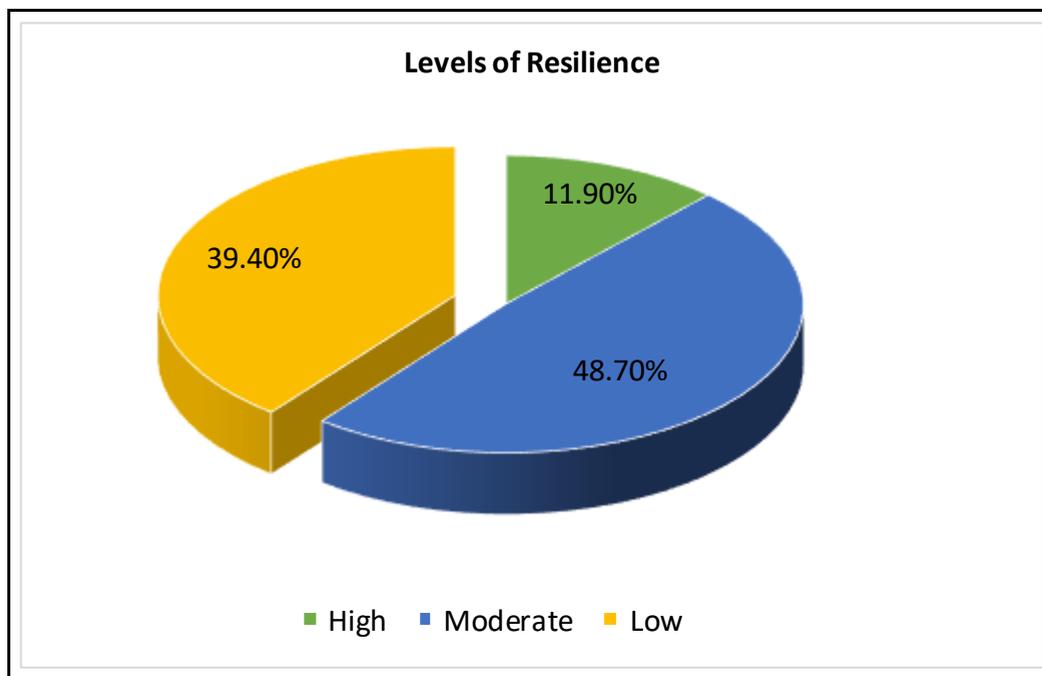


Figure (2) levels of resilience as reported by studied nurses (n=345)

Table (3). Distribution of Leader Empowering Behavior domains' Mean Scores as Reported by Studied staff nurses (n=345)

Domains	Maximum score	Mean \pm SD	Mean percent score
• Delegation of authority	9	6.46 \pm 2.96	71.77 %
• Accountability	9	6.64 \pm 1.88	73.77 %
• Self-directed decision making	9	6.60 \pm 2.16	73.33 %
• Information sharing	6	4.62 \pm 1.60	77.00 %
• Skill development	9	6.44 \pm 2.24	71.55 %
• Coaching for innovative performance	9	7.15 \pm 10.07	79.44 %
Total LEB	51	37.93 \pm 12.48	74.37

Table (4): Correlation Matrix Between Study Variables as Reported by Studied Nurses (n=345).

Study Variables	Change Fatigue		Resilience		Leader Empowering Behavior	
	r	p	r	p	r	p
Resilience	-0.538**	0.000				
Leader Empowering Behavior	-0.100**	0.006	0.277**	0.000		
Organizational Commitment	-0.155**	0.004	0.311**	0.000	0.879**	0.000

** Correlation is highly significant where $p < 0.01$ level

Table (5): Relation between personal and job characteristics of the studied nurses and nurses' resilience and change fatigue (n=345)

Variables	Change fatigue			Resilience		
	Mean	±	SD	Mean	±	SD
Age						
• ≥ 30 y	13.45	±	2.604	19.93	±	4.304
• > 30	13.76	±	2.594	20.77	±	4.134
Independent t-test....P-value	-1.126----0.928			-1.83----0.29		
Sex						
• Male	12.93	±	2.780	19.45	±	4.257
• Female	13.69	±	2.576	20.48	±	4.220
Independent t-test....P-value	2.16----0.01*			-1.294----0.77		
Qualification						
• Technical Diploma of Nursing	13.61	±	2.53	20.64	±	4.66
• Institute of Technical health	14.06	±	2.59	20.98	±	4.01
• Bachelor of Nursing	13.23	±	2.60	19.72	±	4.06
ANOVA F test-----P-value	1.226----0.925			0.562---0.037*		
Specialty						
• Internal Medicine	14.06	±	2.219	21.06	±	3.433
• Emergency	11.85	±	2.552	17.70	±	3.900
• Delivery and premature	12.39	±	8.001	18.96	±	3.430
• Surgery	13.78	±	2.895	21.05	±	4.771
• Pediatric	14.73	±	1.884	22.21	±	3.103
ANOVA F test-----P-value	2.85 ----0.116			1.502----0.87		
Marital status						
• Not married	13.83	±	2.47	21.77	±	3.84
• Married	13.66	±	2.55	20.03	±	4.24
Independent t-test....P-value	0.50--0.39			3.14---0.455		
Years of experience						
• < 10 y	13.80	±	2.572	4.31	±	4.123
• ≥ 10	13.39	±	2.623	19.86	±	4.311
Independent t-test....P-value	-1.476----0.865			-2.071----0.345		

*Statistically significant at $P < 0.05$, ** Highly statistically significant at $P < 0.01$.

Table (6): Relation between personal and job characteristics of the studied nurses and nurses' organizational commitment and leader empowering behavior (n=345)

Variables	Organizational commitment			Leader empowering behavior		
	Mean	±	SD	Mean	±	SD
Age						
• ≥30 y	53.52	±	8.47	37.37	±	8.034
• > 30	53.48	±	15.57	38.40	±	15.310
Independent t-test....P-value	0.213---0.28			-0.013---0.067		
Gender						
• Male	53.96	±	24.74	37.90	±	24.36
• Female	53.45	±	10.99	37.93	±	10.700
Independent t-test....P-value	0.213---0.028*			-0.76---0.26		
Qualifications						
• Technical Diploma of Nursing	54.35	±	6.55	38.14	±	8.62
• Institute of Technical health	53.65	±	13.96	38.45	±	14.14
• Bachelor of Nursing	52.84	±	13.43	37.33	±	12.95
ANOVA F test-----P-value	-0.404---0.751			0.181---0.62		
Speciality						
• Internal Medicine	50.542	±	7.695	34.40	±	6.617
• Emergency	57.15	±	5.160	43.21	±	16.862
• Delivery and premature	50.80	±	8.376	35.80	±	8.001
• Surgery	55.42	±	8.534	41.64	±	16.101
• Pediatric	53.13	±	7.429	36.78	±	6.718
ANOVA F test-----P-value	1.63--- 0.001**			2.38---0.265		
Marital status						
• Not married	53.027	±	17.01	39.097	±	17.25
• Married	53.007	±	8.41	37.109	±	7.82
Independent t-test....P-value	0.014---0.30			1.40---0.163		
Years of Experience						
• <10 y	53.24	±	15.37	38.08	±	15.167
• ≥10	53.82	±	8.516	37.73	±	7.989
Independent t-test....P-value	0.417---0.361			-0.25---0.30		

*Statistically significant at $P < 0.05$, ** Highly statistically significant at $P < 0.01$.

Table (7): Simple linear regression analysis to study the mediating effect of leader empowering behavior on the relationship between change fatigue and nurses' resilience (n=345)

Items	R	R ²	Unstandardized coefficient		t	Sig.
			β	Std. Error		
I. Resilience	0.538	0.289	0.330	0.028	11.80**	0.000
Resilience	0.540	0.291	0.011	0.010	1.108	0.268
Leader empowering behavior			-0.339	0.029	-11.65**	0.000
II. Organizational commitment	0.283	0.080	0.087	0.016	5.47**	0.000
Organizational commitment	0.290	0.084	0.016	0.013	1.231	0.219
Leader empowering behavior			0.100	0.019	-5.267**	0.000

*Statistically significant at $P < 0.05$, ** Highly statistically significant at $P < 0.01$.

Discussion

Nurses, as the primary caregivers, are charged with implementing many new change initiatives into their daily practice; frequent and vast changes can make a load on nurses and cause change fatigue. Change fatigue has been shown to have significant impacts in organizations, and as organizations continue to adapt and change, understanding the impacts of change fatigue will be important to keep employees engaged, productive, and committed (**Ead, 2015**). Organizational commitment is one of the essential factors that can create a healthy organizational climate, increase the organizational ethics, induce motivation, and enhance the productivity of the organization (**Pouri et al., 2015**). Therefore, the aim of this study was to investigate relations among change fatigue, resilience, organizational commitment and leader empowering behavior.

Concerning level of change fatigue, the present research results presented that majority of studied nurses experience high level of change fatigue. It could be related to that; Zagazig University Hospitals are continually changing to become more competitive, apply new methods and cost-effective. All these changes made exhaustion and burnout to nurses. Similar result was reported by **McMillan & Perron (2020)**; who conducted a qualitative study on change fatigue in nurses working in urban pediatric teaching hospital located in Canada. In addition, **Perel (2015)** conducted a study entitled examining the relationship between organizational culture and change fatigue, and reported the same results.

Regarding level of resilience, half of nurses in this study reported moderate level of resilience. It can be best explained as the nature and environment of nurses' work, social

status, occupational risks, and other factors may result in the psychological stress of nurses in our study and they did not have a strong will to overcome stress and hardship. Similarly, **Shin et al., (2018)** carried out a study entitled clinical nurses' resilience skills for surviving in a hospital setting at K university medical center in Seoul. In the same respect, the study entitled exploratory study on resilience and its influencing factors among hospital nurses in Guangzhou, China by **Ren et al., (2018)** affirms that the level of resilience in nurses was low. In agreement with previous results, **Guo et al., (2017)** reported that nurses showed a moderate level of resilience in a study aimed to assess burnout and its association with resilience in nurses in Hunan Province, China.

Concerning level of organizational commitment, slightly more than half of studied nurses had high level of organizational commitment, when the sub-dimensions of organizational commitment are compared, the highest mean score was in normative commitment while the lowest was in affective commitment. The best rationale for this result is that nurses in current study feel that they ought to obey the hospital in order to stay in the work (high continuance commitment). On the other hand, they don't have positive feeling towards their hospital (low affective commitment). In general, nurses in our study have to be committed to the hospital in order to stay at work

Unlike the previous results, **Kalhor et al., (2018)** conducted a study to assess the role of organizational climate in job involvement and organizational commitment of nursing staff and reported that continuous commitment was the highest score of organizational commitment. Moreover, **Eskandari et al., (2017)** investigated the relationship between structural empowerment and organizational commitment of nurses in Zanzibar hospitals and reported that, the score of nurses' organizational commitment was at average level and the continued commitment was the dominant commitment.

As for nurse leader-empowering behaviors; from studied nurses' perspectives, they perceived their leaders' behaviors to be highly empowering. Moreover, coaching for innovative behavior was the highest mean score, while the lowest was for skill development behavior. From researchers' point of view, these results can be explained by that, the nurses in this study felt empowered by their leader's ability to transform the work environment into one that promoted coaching for their innovative performance.

In accordance with the previous results, **Bukhari et al., (2018)** conducted a study entitled the role of nursing leader empowering behavior on work engagement and intent to stay in Hospital, Pakistan. Another study carried out by **Oducado (2019)** entitled leader empowering behaviors and psychological empowerment as perceived by young hospital staff nurses in a private teaching and training hospital in Iloilo City, Philippines. **Kindipan (2017)** who assessed the role of leader empowering behaviors on work engagement and intent to stay among staff nurses in acute care hospitals in her study. All these studies

reported that most of the nurses perceived that their leader as one who demonstrated leader empowering behaviors and leader provides frequent opportunities to develop new skills.

Incongruent with the previous studies, a study entitled the association of leadership styles and empowerment with nurses' organizational commitment in an acute health care setting by **Asiri et al., (2016)**; they found that most nurses in their study believed that their immediate nursing managers were not displaying the ideal level of transformational leadership behaviors wherein empowerment is central.

As for analysis of the relationships among study variables, the current study findings showed that change fatigue was significantly and negatively correlated to resilience, organizational commitment and leader empowering behavior. On the other hand, resilience was significantly and positively correlated to organizational commitment and leader empowering behavior. Additionally, there was positive and significant correlation between organizational commitment and leader empowering behavior. On the other hand, leader-empowering behavior has complete mediation effect in the relationship between organizational commitment and resilience with change fatigue.

The previous study results emphasized the role of nurse managers in providing conditions or appropriate structures to enable staff nurses to perform effectively within their work environments, thereby contributing to the achievement of goals of the organization. Moreover, nurse managers provide empowerment, autonomy, and responsibility to nurses through empowering leadership, they can make the nurses more proactive in the implementing process of change.

In addition, Organizational commitment enhances the employees' desire to remain in the organization, improves their performance, and stimulates their utmost efforts to accomplish the goals of the organization. Resilience provides individuals with the necessary skills to engage in self-development activities that enable them to recognize and take advantage of opportunities.

A significant relation of change fatigue with resilience and organizational commitment that was shown in this study is agreed with other previous studies as that of **Perel (2015)**, who reported significant negative relationship between change fatigue and organizational commitment. Another study by **Brown et al., (2018)** assessed the relationship among change fatigue, resilience, and job satisfaction of hospital staff nurses, and mentioned that there was statistically significant inverse association between resilience and change fatigue.

This study also examined the effect of leader empowering behavior, **Besuner (2017)** conducted a study entitled leadership attributes and behaviors as predictors of organizational resilience in academic health care systems and found positive statistical significance

correlation between all active styles of leadership (i.e. transformational, transactional contingent reward styles) and organizational resilience. **Cziraki & Laschinger (2015)** investigated the mediating role of structured empowerment among nurses, revealed that structural empowerment partially mediated the influence of leader empowering behaviors on work engagement.

Laschinger et al., (2010) mentioned that the nurse managers' role is important in providing appropriate conditions to enable staff nurses to perform effectively within their work environments. On the same context, **Deschenes (2019)** studied change fatigue and leadership influences, reported that leadership behaviors have significant influence on change fatigue.

In this study, resilience was correlated to organizational commitment. Previous investigators such as **Jin & Doonam (2016)** carried out a study entitled relationships between nurses' resilience, emotional labor, turnover intention, job involvement, organizational commitment and burnout, they reported that resilience was positively correlated with organizational commitment. In addition, **Shin et al. (2012)** performed a longitudinal study with employees and managers and found that resilience was positively related to employee's commitment to organizational change.

With regard to relation between nurses' personal and job characteristics with different study variables, there were statistically significant relation between nurses' level of change fatigue and organizational commitment with regard gender. A possible explanation is that female nurses have high duties in their families than males, therefore much change cause fatigue and exhaustion to them and feel less committed.

No prior research studies were found that examined change fatigue and the relationship with gender. However, the present study did not find a significant association of nursing experience with change fatigue. There are some previous research studies addressing the association between change fatigue and nursing experience, **Vestal (2013)** suggested that new graduate nurses are more vulnerable to the effects of change fatigue. While, **Brown et al., (2018)** reported that experienced nurses reported higher level of change fatigue than novice nurses.

As well, there was significant relationship between nurses' level of resilience and their qualifications; nurses who have bachelor of nursing reported higher resilience level than others. From researchers' point of view, nurses with high education and high work position levels understandably have rich theoretical knowledge and clinical experiences and can manage stress in clinical environments. **Ren et al., (2018)** mentioned that, the examination of discrepancies of resilience among different demographic characteristics has proved that female nurses with high education and work position levels become more resilient.

Conclusion

Resilience, commitment, and leader empowering behavior affect change fatigue. Moreover, leader-empowering behavior has complete mediation effect in the relationship between organizational commitment and resilience with change fatigue. Furthermore, our study enhanced the understanding of the significance of empowering leadership as a type of sustainable leadership in evoking a positive attitude and behavior toward organizational change from employees.

Recommendations Based on the results of the research, the following recommendations are suggested:

-Recommendations for nursing education

Nursing education institutions should include resilience training in the nursing curricula to empower nurses with aspects of resilience to equip them to handle the adverse working conditions they will experience in the nursing profession.

Nursing education institutions should also focus on stressing the importance of leader empowering behavior and the factors relating to it.

-Recommendations for healthcare organizations

In the workplace, engaging in strategies aimed at preventing change fatigue in nursing staff.

Organizations should encourage nurses in management role to study further to empower them in the role of being a manager.

Nurse Managers and policy makers should improve nursing work conditions through decreasing unnecessary change and providing empowerment to nurses.

-Recommendations for further nursing research

Research could be conducted to further explore the relationship between resilience and empowering leader behavior of nurse managers because there was not much research found on this topic.

Future studies need to include a more diverse sample, and a qualitative study would be valuable in understanding change fatigue and individual coping strategies used during organizational change.

Future research is needed to test interventions that promote resilience and the effects on change fatigue.

Limitations

There were some limitations in our study; the use of the descriptive correlational design and data collection with a questionnaire and reliance on self-report data. As a result, some people may refuse to provide real responses and give unrealistic responses. In future studies, the results can be evaluated by applying qualitative data analysis including interview. A further limitation is collection of data in time of Corona (Covid 19) pandemic, which may affect the results. Overall, there is currently limited knowledge regarding change fatigue and its potential relationships with other variables of interest in nursing profession.

Acknowledgements

We express our deepest appreciation to the administration of Zagazig University hospitals for their support and encouragement. We are also very grateful to the nurses who took part in this research; without them, this study would not have been possible.

References

- Jin, J. & Doonam, O.** Relationships between Nurses' Resilience, Emotional Labor, Turnover Intention, Job Involvement, Organizational Commitment and Burnout. *Indian Journal of Science and Technology*. 2016: 9(46).www.indjst.org
- McMillan, K. & Perron, A.** Nurses amidst change: The concept of change fatigue offers an alternative perspective on organizational change. *Policy, Politics, & Nursing Practice*. 2013: 14(1), 26-32.
- Ead, H.** Change fatigue in health care professionals-an issue of workload or human factors engineering. *Journal of Perianesthesia Nursing*. 2015: 30(6), 504–515.
- Dilkes, J., Gray, J., & Cunningham, C.** The new Australian curriculum, teachers, and change fatigue. *Australian Journal of Teacher Education*.2014: 39(11), 45–64.
- Guo YF, Luo YH, Lam L, Cross W, Plummer V, Zhang JP. (2018).** Burnout and its association with resilience in nurses: a cross-sectional study. *J Clin Nurs*. 2018:27(1&2):441-449.
- Thomas LJ, Asselin M.2018.** Promoting resilience among nursing students in clinical education. *Nurse Educ Pract*.2018: 28, 231-234.
- Fiksel, J.** Why Resilience. *Journal of Resilience*. 2014. Available from: <http://www.resilience.org/stories>.
- Rohail, R., Zaman, F., Ali, M., Waqas, M., Mukhtar, M. & Parveen, K.** Effects of Work Environment and Engagement on Nurses Organizational Commitment in Public Hospitals Lahore, Pakistan. *Saudi Journal of Medical and Pharmaceutical Sciences*. Saudi J. Med. Pharm. Sci.2017: 3(7A), 748-753.
- Alrowwad A, Almajali D, Masa'deh R, Obeidat B, Aqqad N.** The role of organizational commitment in enhancing organizational effectiveness. *Education*
-

Excellence and Innovation Management through Vision 2020. 2019: Available at <https://www.researchgate.net/publication/332697163>. Accessed January 20, 2021.

Liu, Y.Y. The Review of Empowerment Leadership. *Open Journal of Business and Management*. 2015: 3, 476-482.

Laschinger, H.K.S., Cummings, G.G., Wong, C.A. & Grau, A.L. Resonant leadership and workplace empowerment: The value of positive organizational cultures in reducing workplace incivility. *Nursing economics*. 2014: 32(1):5-15.

Konczak, L. J., Stelly, D. J., & Trusty, M. L. Defining and measuring empowering leader behaviors: Development of an upward feedback instrument. *Educational and Psychological Measurement*. 2000: 60(2), 301-313.

Klerk, S. & Stander, W.M. Leadership empowerment behaviour, work engagement and turnover intention: The role of Psychological Empowerment. *Journal of Positive Management*. 2014: 5(3):28-45.

McDonald G, Jackson D, Wilkes L, Vickers MH. Personal resilience in nurses and midwives: effects of a work-based educational intervention. *Contemp Nurse*. 2013; 45(1):134-143.

Mudallal, R., Othman, W. & Al Hassan, N. Nurses' Burnout: The Influence of Leader Empowering Behaviors, Work Conditions, and Demographic Traits. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*. 2017: 54, 1–10 .

Lazarus, R. S. & Folkman, S. Stress, appraisal, and coping. New York, NY: Springer Publishing Company. 1984.

Lian, S. & Tam, C. Work stress, coping strategies and resilience: A study among working females. *Asian Social Science*. 2014: 10(12), 1911-2025.

Sousa, V., Driessnack, M. & Mendes, I.A. An overview of research designs relevant to nursing: part 1: quantitative research designs. *Rev Latino-AM Nursing*. 2007: May-June; 15(3):502-507.

Yamane, T. Statistics: An Introductory Analysis. 2nd Edn., Harper and Row, New York, 1967: pp: 919.

Bernerth, J. B., Walker, H. J., & Harris, S. G. Change fatigue: Development and initial validation of a new measure. *Work & Stress*. 2011: 25(4), 321-337.

Campbell-Sills, L., & Stein, M. B. Psychometric Analysis and Refinement of the Connor-Davidson Resilience Scale (CD-RISC). *Journal of Traumatic Stress*. 2007: 20(6), 1019–1028.

Allen, N., & Meyer, J. The measurement and antecedents of affective, continuance and normative commitment to organization. *Journal of occupational Psychology*. 1990: 63, 1-18.

Preacher K.J. & Hayes A.F. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods*. 2008: 40, 879–891.

- Pouri AN., Raeissi P., Omrani A., Khosravizadeh O. & Alirezaei S.** The relationship between nurses' organizational commitment and services quality. *J Client-Centered Nurs Care*.2015:1,133-138.
- McMillan, K. & Perron, A.** Change fatigue in nurses: A qualitative study. *J Adv Nurs*. 2020: 76: 2627–2636.
- Perel, C.** Examining the Relationship between Organizational Culture and Change Fatigue. Published master thesis. 2015. <https://jewlscholar.mtsu.edu>
- Shin, H., Kim,J. & Ji, E.** Clinical Nurses' Resilience Skills for Surviving in a Hospital Setting: A Q-methodology Study. *Asian Nursing Research*.2018: 12; 175-181.
- Ren, Y., Zhou Y., Wang, S., Luo ,T., Huang, M. & Zeng, Y.** Exploratory study on resilience and its influencing factors among hospital nurses in Guangzhou, China. *International Journal of Nursing Sciences*. 2018: 5, 57-62.
- Guo, Y., Luo, Y., Lam, L., Cross, W., Plummer, V.& Zhang, J.** Burnout and its association with resilience in nurses: A cross-sectional study. *J Clin Nurs*. 2017:27:441–449.
- Kalhor, R., Khosravizadeh,O., Moosavi, S., Heidari, M. & Hasan Habibi, H.** Role of Organizational Climate in Job Involvement: A Way to Develop the Organizational Commitment of Nursing Staff. *Journal of Evidence-Based Integrative Medicine*. 2018: 23, 1-5.
- Eskandari F, Siakhali SR, Shoghli A, Pazargadi M, Tafreshi MZ.** Investigation of the relationship between structural empowerment and organizational commitment of nurses in Zanjan hospitals. *Afri Health Sci*. 2017; 17(1): 285-292.
- Bukhari, N., Afzal, M., Azhar, M. & Gilani, S.** The Role of Nursing Leader Empowering Behavior on Work Engagement and Intent to Stay in Hospital. *Journal of Health, Medicine and Nursing*. 2018: 54. www.iiste.org
- Oducado, R. M.** Leader Empowering Behaviors and Psychological Empowerment as Perceived by Young Hospital Staff Nurses: A Pilot Study, *Jurnal Ners*. 2019: 14 (I), pp. 47-54.
- Kindipan, I.** The role of leader embowering behaviors on work engagement and intent to stay among staff nurses in acute care hospitals. Published Doctor of Philosophy thesis. 2017. [https://rc.library.uta.edu/uta ir/bitstream/handle](https://rc.library.uta.edu/uta%20ir/bitstream/handle)
- Asiri, S.A., Rohrer, W.W., Al-Surimi, K., Da'ar, O.O., & Ahmed, A.** The association of leadership styles and empowerment with nurses' organizational commitment in an acute health care setting: A cross-sectional study. *BMC Nursing*. 2016: 15.
- Brown, R., Wey, H. & Foland, K.** The Relationship Among Change Fatigue, Resilience, and Job Satisfaction of Hospital Staff Nurses. *Journal of Nursing Scholarship*. 2018: 50(3), 306–313.

Besuner, P.L. Leadership Attributes and Behaviors as Predictors of Organizational Resilience in Academic Health Care Systems. doctoral dissertation. 2017.

<https://scholarworks.waldenu.edu/dissertations>

Cziraki, K. & Laschinger, H. Leader Empowering Behaviours and Work Engagement: The Mediating Role of Structural Empowerment. *Journal of Nursing leadership*. 2015: 28(3):10-22.

Laschinger, H.K.S., Gilbert, S., Smith, L., & Leslie, K. Towards a comprehensive theory of nurse/patient empowerment: Applying Kanter's empowerment theory to patient care. *Journal of Nursing Management*. 2010: 18(1), 4-13.

Deschenes, S. Change Fatigue and Leadership Influence. Published Master thesis. 2019. <https://jewlscholar.mtsu.edu>.

Shin, J., Taylor, M.S. and Seo, M.G. Resources for change: the relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors toward organizational change", *Academy of Management Journal*. 2012: 55, pp. 727-748.

Vestal, K. Change fatigue: A constant leadership challenge. *Nurse Leader*. 2013, 1(5), 10-11.

الملخص العربي

ارهاق التغيير، المرونة، والالتزام المؤسسي لدي الممرضات:

التأثير الوسيط لسلوك تمكين القائد

المقدمة: التغيير المؤسسي الناجح هو عامل مهم للحفاظ على الميزة التنافسية المستدامة والنمو في بيئة الرعاية الصحية المتغيرة يوميا. يؤثر التغيير المؤسسي على رد فعل الممرضات على التغيير ، مما قد يسبب التعب والإرهاق. **الهدف من الدراسة:** دراسة العلاقة بين ارهاق التغيير ، والمرونة ، والالتزام المؤسسي لدي الممرضات وسلوك تمكين القائد.

فرضيات البحث: سوف تتحقق هذه الدراسة من الفرضيات الآتية: 1. سلوك تمكين القائد سوف يكون وسيط في العلاقة بين ارهاق التغيير والمرونة. 2. سلوك تمكين القائد سوف يكون وسيط في العلاقة بين ارهاق التغيير والالتزام المؤسسي.

تصميم البحث: تصميم ارتباط وصفي. منهجية البحث: اجريت هذه الدراسة في مستشفيات جامعة الزقازيق، تم اخذ عينة عشوائية طبقية مكونة من 345 ممرضة، أدوات جمع البيانات: تم استخدام 4 أدوات: مقياس ارهاق التغيير، مقياس المرونة، مقياس الالتزام التنظيمي واستبيان سلوك تمكين القائد.

أظهرت نتائج الدراسة أن 48.7% من الممرضات أبلغن عن مستوى متوسط من المرونة. بالإضافة إلى ذلك، 55.8% و 81.4% من الممرضات لديهن مستويات عالية من الالتزام المؤسسي ارهاق التغيير، على التوالي. كان التدريب على السلوك المبتكر من أكثر السلوكيات التمكينية للقائد كما ذكرت الممرضات. علاوة على ذلك، كان ارهاق التغيير مرتبطاً بشكل سلبي وكبير بالمرونة والالتزام المؤسسي وسلوك تمكين القائد. في حين أن المرونة كانت مرتبطة بشكل إيجابي وكبير بالالتزام المؤسسي وسلوك تمكين القائد، حيث القيمة الاحتمالية >0.05 . **الخلاصة:** على ضوء هذه النتائج نستخلص ان سلوك تمكين القائد هو الوسيط الكامل في العلاقة بين ارهاق التغيير والمرونة والالتزام المؤسسي.

التوصيات: يجب على مؤسسات الرعاية الصحية تشجيع الممرضات في دور الإدارة على مزيد من الدراسة لتمكينهم من القيام بدور المدير. يجب أن تُدرج مؤسسات تعليم التمريض التدريب على المرونة في مناهج التمريض.

الكلمات الدالة: ارهاق التغيير-المرونة -الالتزام المؤسسي-سلوك تمكين القائد-الممرضات