Effect of Job Crafting Training Program on Staff Nurses Work Involvement at Mansoura University Hospital

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Abstract

Background: Job crafting provides the opportunity to redesign nurses job towards their own strengths and interests for a better fit between their personal characteristics and the characteristics of their job that improve work involvement and performance. **Aim:** Investigate the effect of job crafting training program on staff nurses work   involvement in I.C.U at Main Mansoura University Hospital **Subjects and Methods: Design:** A quasi-experimental design was utilized. **Subjects:** The subjects were included all staff nurses (n=65) working in I.C.U at Main Mansoura University Hospital. **Tools:** Data was collected by using three tools: Job Crafting Knowledge Questionnaire, Job Crafting Questionnaire (JCQ) and Job Involvement Scale (JIS). **Results:** Total mean score of perceived job crafting and nurses work involvement mean score (72.95±8.45, 65.69±8.71, 29.65±5.08, 29.20±5.16) respectively were high post and after three months of implementing program than pre-program with mean score (65.72±9.00, 25.68±2.40) respectively. Staff nurses knowledge about job crafting were improve post and after three months with mean score (19.11±1.03, 16.52±2.02) than pre- program (16.20±1.86). **Conclusion:** Post application of job drafting training program. There is statistically significance difference (p <0.05) in relation to preprogram. Also, there is statistically significance between relational crafting dimension and work involvement post   implementation training program. **Recommendation:** Nurse's manger carries out workshops how to apply job crafting for their work. Also increase the levels of nurses' job involvement by re-designing jobs through job enlargement and enrichment. Finally, nurse managers should consider job demands and resources to increase job resources as opportunities for advancement, supervisor support, and receiving feedback.

Key words: Job crafting, Staff nurses, Training program, Work involvement.

Introduction

Today's healthcare institutions require their staff to have a high level of responsibility, proactivity and work involvement. Organizations require a high performance from health care providers at job. At the same time, nurses' expectations about the workplace are expanding, seeking to opportunities for personal development and fulfillment. As there are few opportunities for job change that puts a burden on the nurse to perform tasks. Nurses can overcome these stresses by controlling their jobs and creating a healthy work environment. This can be achieved through redesign the work, which in turn improves way to perform the tasks, job relationships, and increases the level of quality of the nursing services [1].

Job crafting means the way in which a person can reformulate the work as a whole in a way that suits his personal interests and needs in accordance with the job requirements and resources [2]. Nurses must create a work environment that enables them to create a balance between personal and job needs. A successful manager can understand the needs of subordinates and use that to reformulate tasks and improve nurse's well-being. Jobs have become the first responsibility of the individual [3].

Job crafting consists of three main dimensions: changing the job's boundaries task crafting, relational crafting and cognitive crafting [4]. Task crafting includes increasing additional tasks to an individual's job or changing the nature of task performance. Relational crafting is reframing work relationships such as creating comfortable working relationships with colleagues and using methods of constructive communication within the work scope [5]. Cognitive crafting means is how nurses changing the way of thinking, tasks perception and use rational ideas in new and innovative ways [6].

Job crafting is the main factor for the success of organizations, as it is based on two types of resources, which are personal resources and job resources works to optimize the use of resources and reduce the requirements and workload. Therefore, applying a program about job crafting to focus on both job and personal resources at the same time, to have maximum benefit and positive results for nurses [7]. Nurses have a higher level of integration and involvement who apply job crafting on their work. Nature of tasks, work relationships and the way

tasks perception are the main factors that reshape the boundaries of work. Nurses satisfy work needs through job involvement because they feel the value of the work do, which is reflected in their level of job satisfaction and motivation for goal achievement [8].

Work involvement is the relationship between the personality of the individual response to the work environment and the level of their influence with the workplace and dynamics of the work environment. Nurses have a high level of self-efficacy and involvement who possess a high level of autonomy, inclusion and participation in work [9].

There is a strong link between providing new opportunities for learning in the work environment and high level of work involvement. As it requires nurses to perform some additional tasks and responsibilities. Nurse managers can work to add some challenging tasks to motivate the nurses and create a spirit of positive competition. This broadens the level of awareness, increases the work expectations, and opens new visions for ways to perform tasks, which is reflected in the work environment [10].

Work involvement is an important factor which affects organizational and individual outcomes. It is closely correlated with the level of work affiliation, self-understanding and job control and engagement. Work involvement has positive results, as it increases the level of expertise and ability to perform tasks and self-confidence, which is generally reflected in the results of the healthcare outcomes [11].

Significance of the study:

Job crafting naturally occurs in the workplace. Nursing directors are the crafters who reshape the jobs for nurses in healthcare organizations. Nurses make modifications to their jobs for a greater fit and meaning. They must be able to create a positive work setting that enables them for personal and goal achievement. ICU nurses can achieve the greatest benefit from the application job crafting in the way of performing work tasks which enhance their well-being. They can craft their job by changing three aspects of their work boundaries, namely, task boundaries, cognitive task boundaries and/or relational boundaries. While nurses engage in job crafting increase the meaningfulness of their role and work involvement that create positive job outcomes [12].

Aim of the study

Investigate the effect of job crafting training program on staff nurses work   involvement in I.C.U. at Main Mansoura University Hospital through:

a) Assess job crafting knowledge among nurses in I.C.U. at different phases of program.

b) Assess perceived job crafting among nurses in I.C.U. at different phases of program.

c) Assess work involvement among nurses in I.C.U. at different phases of program.

d) Determine   relation between perceived job crafting and work involvement among nurses   in I.C.U.   at different phases of program.

Hypothesis:

It is hypothesized that, an application of job crafting training program will improve staff nurses work involvement in I.C.U. at Main Mansoura University Hospital.

Subjects and Methods

Research design: A quasi- experimental research design.

Setting:

The study was conducted at all ICUs Main Mansoura University Hospital (Surgical, Neurosurgical, Internal medicine, Obstetric and Neuro- medicine ICUs). These hospitals provide a wide spectrum of health services at Delta region with bed capacity 1800.

Subjects:

The subjects were included all staff nurse working in all I.C.Us at Main Mansoura University Hospital available at the time of data collection (n=65). Nurses working in ICU were very stressful and high work loaded as critically ill patients need complex and multidimensional healthcare services.

The data of the present study was collected by:

Tool (I): Job Crafting Knowledge Questionnaire.

This tool developed by researchers from different related literature review [13,14] to assess knowledge of nurses related to job crafting topic before and after the implementation of the training program. This tool divided into two parts:

Part1: Personal characteristics: - As age , gender, marital status, educational level, years of experience.

Part 11: Job Crafting Knowledge sheet was consisting of 20 questions classifying as true and false questions (10 items) and a series of multiple choices (10 items). Scoring system: Fair (50.0%-75.0%) and Good (>75.0%) The total score divided into two levels based on the following cutoff point.

Tool (II): Job Crafting Questionnaire (JCQ).

This tool developed by Slemp and Vella-Brodrick (2013) [15]. It aimed to assess job crafting among staff nurses at workplace. It consists of fifteen statements. It divided into three dimension which are task crafting (5 items), cognitive crafting (5 items) and relational crafting (5 items). Likert Scale to evaluate responses ranged 1 = hardly ever, to 6 = very often. Scoring system: The total score divided into three levels based on the following cutoff point, Low (<50%), moderate (50.0%-75.0%) and high (>75.0%)

Tool (III): Job Involvement Scale (JIS).

It was developed by Kanungo (1982) [16] to assess job involvement in workplace. It is consisting of 10 items to assess study subjects job involvement. The 10 items were summed to provide a total involvement score. High scores reflect a higher level of work involvement. The response options also ranged on a 5-point Likert Scale from 1 (strongly disagree) to 5 (strongly agree). Scoring system: The total score divided into two levels based on the following cutoff point. Scoring was moderate (50.0%-75.0%) and high (>75.0%).

Methods of data collection:

Obtaining an official permission to conduct the study from the hospital administration. Oral consent of staff nurses was taken before the beginning. The right to withdraw from the research at any stage is approved.

Data collection tools were translated to Arabic. Content validity was tested and revised by a committee of 5 experts in nursing administration department. Cronbach's alpha test was used for assessing the reliability of the three tools items, it was 0.75for (tool I), 0.78 for (tool II) and 0.76for (tool III).

A pilot study was carried out on seven of staff nurses in I.C.U. to assess the tools applicability and clarity and to determine the necessary modifications according to their responses. These staff nurses were not included in this study.

The data was collected by the researchers as tool (I), tool (II), and tool (III) were distributed to studied nurses as (pretest) before starting the program, then post immediately and 3 months after the program. The time needed to complete each sheet ranged from 20 -30   minutes. The job crafting training program was implemented during September 2020 till November 2020 in the training and education center in Mansoura University Hospital at morning shift.

 Designed the training program which includes objectives of the training, definition of job crafting, importance of job crafting, types of job crafting and the consequences of job crafting .Before implementation of the training program, the data was collected by the researchers as tool (1), tool(2), and tool (3) were distributed to studied sample as (pretest) before starting the program, then post immediately and 3 months after the program. The time needed to complete each sheet ranged from 20 -30   minutes. The job crafting training program was implemented during September 2020 till November 2020 in the training and education center in Mansoura University Hospital at morning shift.

While follow up phase started at February 2021. The training program was implemented two times for two groups according to the workplace unit of each group. Each group contains about 30 nurses and the available time. The total allocated time for achieving the whole program to each group was 5 hours, divided into six sessions in two weeks, duration of every session was one hour. The program sessions started from 11am to 12:00pm. Different teaching and learning methods were used during the sessions which included interactive lectures, group discussion, brain storming, work in small groups, adult learning principles were applied by giving time for questions and discussions.

Ethical consideration

The Research Ethical Committee of Faculty of Nursing, Mansoura University, the director of the hospital at Mansoura University Hospital, hospital nursing administrator, Dean of the Faculty of Nursing to conduct this study. All participants were informed that the participation in the study is voluntary, and they have the right to withdraw from the study at any time. All participants were assured about the confidentiality of the

collected data and therefore the privacy of the study sample was assured.

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 26, SPSS Inc. Chicago, IL, USA). The normality assumption was accepted. Therefore, categorical variables were represented as frequency and percentage. Continuous variables were represented as mean, and standard deviation. Two-way ANOVA test was conducted to test differences in repeated measures when variables are parametric and continuous. For pairwise comparisons, paired t-test was used to compare the means and standard deviations of two related groups. Friedman's test was conducted to test differences in repeated measures when variables are ordinal variables. The McNemar test was conducted to compare the differences between dichotomous categorical variables in paired groups. The Marginal Homogeneity test was conducted to compare the differences between ordinal categorical variables in paired groups. Pearson correlation coefficient test was conducted to test the association between two continuous variables. Statistically significant was considered as (p-value < 0.01 &0.05).

Results

Table (1): Showed personnel characteristics of studied staff nurses. Regarding age about half of them aged (43.1%) from 20-30 years. The most of them were female (89.2%). Majority of nurses were married (75.4%) and having Bachelor's degree in nursing (70.8%). Finally, about two third of them (61.5%) were experienced from 6-10 years.

Table (2): Illustrated mean score of job crafting knowledge, total job crafting and work involvement among the studied staff nurses throughout different phases of training program. Regarding job crafting knowledge, total job crafting and work involvement mean score (19.11±1.03, 72.95±8.45 , 29.65±5.08) respectively were higher than pre and after three months of application of program. Regarding job crafting knowledge there is there highly statistically significance at P1, P2 and P3 ($p < 0.01$). While total job crafting there is there highly statistically significance at P1 and P3 ($p < 0.01$). Finally work involvement there is there highly statistically significance at P1, P2 ($p < 0.01$).

Table (3): Showed levels of job crafting knowledge among the studied staff nurses throughout different phases of training program. There is highly statistically significance pre and post and post and after three months (p <0.01). **Table(4) :** Illustrated levels of job crafting among the studied staff nurses throughout different phases of training program. The nurses reported high level of job crafting immediately after training program (72.3%) in relation to pre- program. there highly statistically significance between pre and post and post and after three months (p1=0.000**, p3=0.000**).**Table (5):** Illustrated levels of work involvement among the studied staff nurses throughout different phases of training program. This table showed that before training program the most of nurses were moderate work involvement. While post and after three months of training of job crafting program were one third of them were high work involvement (36.9%, 33.8%) respectively. There is highly significance differences pre and post and pre

and after three months (p1, P3=0.000**)**Table (6):** Showed relationship between knowledge related job crafting and work involvement among the studied staff nurses at different phases of training program. It showed that there is no statistically significance correlation between knowledge related job crafting, and work involvement in different phase. Except post application of job drafting training program there is statistically significance difference (p <0.05).

Table (7): Showed relationship between total job crafting and its dimension with work involvement among the studied staff nurses at different phases of job crafting training program. It showed that there is no statistically significance correlation between total job crafting, and work involvement (p=) at three phase of application of program. Finally, there is statistically significance between relational crafting dimension and work involvement post program.

Table (1): Personal Characteristic of the Studied Staff Nurses (n=65)

Variables	No	%
Age years		
20-30	28	43.1
31-40	27	41.5
>40	10	15.4
Gender		
Male	7	10.8
Female	58	89.2
Marital status		
Single	8	12.3
Married	49	75.4
Divorced	5	7.7
Widowed	3	4.6
Educational levels		
Technical institute	7	10.8
Bachelor degree	46	70.8
Postgraduate studies	12	18.5
Experience		
1-5	4	6.2
6-10	40	61.5
>10	21	32.3

Table (2) Mean Score of Perceived Job Crafting and Work Involvement among Studied Staff Nurses Throughout Different Phases of Training Program (n=65)

Variables	Phases of training program			F value /p	Pairwise comparison (p)
	Pre-program	Post program	After 3 months		
	Mean±SD	Mean±SD	Mean±SD		
1. Job crafting knowledge	16.20±1.86	19.11±1.03	16.52±2.02	29.67/ 0.000**	p1=0.000** p2=0.012** p3=0.000**
2. Total Perceived job crafting	65.72±9.00	72.95±8.45	65.69±8.71	29.67/ 0.000**	p1=0.000** p2=0.976 p3=0.000**
3. Work involvement	25.68±2.40	29.65±5.08	29.20±5.16	15.61/ 0.000**	p1=0.000** p2=0.000** p3=0.633

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ ** highly statistically significant at p <0.01

Table (3): Levels of Job Crafting Knowledge among Studied Staff Nurses Throughout Different Phases of Training Program (n=65)

Levels of job crafting knowledge	Phases of training program						p	Pairwise comparison (p)
	Pre-program		Post program		After 3 months			
Fair (50.0%-75.0%)	22	33.8		0.0	20	30.8	32.88/ 0.000**	p1=0.000** p2=0.7 p3=0.000**
Good (>75.0%)	43	66.2	65	100.0	45	69.2		

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ ** highly statistically significant at p <0.01

Table (4): Levels of Perceived   Job Crafting among the Studied Staff Nurses Throughout Different Phases of Training Program(n=65)

Levels of Perceived job crafting	Phases of training program						p	Pairwise comparison (p)
	Pre-program		Post program		After 3 months			
	No.	%	No.	%	No.	%	27.41 /0.000**	p1=0.000** p2=0.82 p3=0.000*
High (>75.0%)	25	38.5	47	72.3	24	36.9		
Moderate (50.0%-75.0%)	39	60.0	18	27.7	40	61.5		
Low (<50%)	1	1.5	0	0.0	1	1.5		

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ *statistically significant at p <0.05/ ** highly statistically significant at p <0.01

Table (5): Levels of Work Involvement among Studied Staff Nurses Throughout Different Phases of Training Program (n=65)

Levels of work involvement	Phases of training program						p	Pairwise comparison (p)
	Pre-program		Post- program		After 3 months			
	No.	%	No.	%	No.	%		
High (>75.0%)	1	1.5	24	36.9	22	33.8	22.65/ 0.000**	p1=0.000** p2=0.87 p3=0.000**
Moderate (50.0%-75.0%)	64	98.2	41	63.1	43	66.2		

p1: difference between pre and post / p2: difference between pre and post 3 months / p3: difference between post and post 3 months/ *statistically significant at p <0.05/ ** highly statistically significant at p <0.01

Table (6): Relationship between Knowledge related Job Crafting and Work Involvement among the Studied Staff Nurses at Different Phases of Training Program(n=65)

Variable	Work involvement					
	Pre-program		Post- program		After 3 months	
	r	p	r	p	r	P
Job Crafting Knowledge	0.05	0.67	0.25	0.04*	0.14	0.23

Table (7): Relationship between Job Crafting Dimensions with Work Involvement among the Studied Staff Nurses at Different Phases of Job Crafting Training Program (n=65).

Job crafting dimensions	Work involvement					
	Pre-program		Post - program		After 3 months	
	r	P	r	P	R	P
Task crafting	0.18	0.15	0.03	0.80	0.02	0.84
Cognitive crafting	008	0.51	0.03	0.80	0.01	0.93
Relational crafting	0.10	0.42	0.25	0.04*	0.05	0.67
Total job crafting	0.14	0.25	0.22	0.08	0.01	0.93

Discussion

Work environment, including healthcare setting are highly service oriented and knowledge-based setting. When serving patients require nurses become more involved at work, incorporate innovative technologies and new ways of working. Job crafting is an adjustment of one's job in innovative way of working within the ever-changing work environment. So, nurses can apply job crafting to improve their work outcomes [17].

The current study investigates the effects of job crafting training program on work involvement and after 3-month follow-up outcomes among studied nurses. The current findings revealed that the level of studied nurses' knowledge about job crafting immediately after program implementation increased and two third of them were good after three months of application. There is highly significance at three phases of job crafting training program. This result may be due to nurses need chance to redesign their duties and responsibilities to match their

personal goals, interests that align with job demands.

On the same line with this result, Van Leeuwen et al. (2021) [18] found that applying a job crafting training program increase the level of awareness about job crafting behavior that leading to reduce the level of work obstacles and optimizing the use of work resources. For instance, Oprea et al. (2019) [19] showed in his study that the impact of the application of a program about job crafting create a positive impact on all dimensions job crafting. Also, the program developed by Dubbelt et al. (2016) [20] found that studied sample utilize their personal and past experiences about job crafting which who worked on improving specially their clinical outcomes as work involvement and job commitment.

The current study reported that studied nurses have a high level of job crafting immediately after training program in relation to preprogram.This may be due to job crafting program encourages nurses to motivate nurses to think about the way they perform tasks and find alternative methods to achieve work goals and build constructive relationships with co-workers, in addition to focusing on appositive cognitive thinking and

new ideas to redesign work that fosters involvement, engagement and satisfaction.

On the line with current study Bernburg et al. (2016) [21] who reported that job crafting program enhancing career management skills, mindfulness a self-regulation technique and reducing job demands and increasing job resources, such as training opportunities, autonomy and social support. In addition to, in the program reported by Kooij et al. (2017) [22] who found that participants creating new job crafting plans related to their past experiences, improving the behavior about job crafting.

However, Zhao et al. (2010) [23] found that there is no need to demonstrate job crafting as there is no general impact of the application of a program about job crafting or any of its dimensions on the functional results of individuals in the work environment. In other words, no evidence of an influential relationship between work involvement and job satisfaction where the participants involve in job crafting. Trustful social climate is the main reason for motivating nurses to participate and involved into work.

The current findings showed that before training program the most of nurses were

moderate work involvement. While immediately after and after three month of job crafting training one third of them was high work involvement. There is highly significance differences pre and post and pre and after three months. These results may be due to there is a strong link between reducing work requirements, obstacles, increasing job resources and increasing the level of work involvement.

The current results supported with Rudolph et al. (2017) [24] being shared in personally meaningful work , the ability to change the way of thinking and the style of performing tasks and dealing well with the work environment has an effective and positive relationship with job involvement . Also, staff that have the ability to find meaning and benefit from work that aligns with his or their personal interests, has a high level of work involvement [25]. In addition to, for participants who have a weak level of job crafting, their level of work involvement improved after applying a training program about job crafting after 3 months. This was as a result that they found alternative ways to perform tasks and discuss work problems with colleagues and the create of new working relationships that stimulate work involvement [26].

These results are inconsistent with Sakuraya et al. (2020) [27] who found that, in general, is no positive impact of the application of job crafting program on work participation and involvement nor performance results, as this program is not sufficient to improve work involvement.

The point of distinction in this program is that it focuses on all dimensions of job crafting (task, relation, and cognition). As, the current results revealed that there is a positive relation between relational crafting dimension and work involvement immediately after program. These results may be due to the program helps the studied nurses to properly understand the job requirements and work environment and strengthen their abilities personal and organizational growth.

On the line with current results Rosso et al. (2010) [28] reported that having a strong relationship between co-workers based on trust and a spirit of cooperation and working as an integrated team is the main factor in improving the level of job involvement. It can help individuals to understand the work in depth and find the right ways to accomplish tasks for improving levels of work involvement.

This results contradictory with, Slemp et al. (2015) [29] who found that the strong relationship between cognitive crafting and work involvement, the way an participant makes changes to their perception about their job to attach more meaning to their work linked with high level of job involvement. Also, De Devotto et al. (2020)[30] indicated that there was a positive correlation between the cognitive crafting and positive work outcomes as work involvement.

The current results shows that there is statistically significance correlation between knowledge related job crafting, and work involvement immediately after application of job drafting training program. These results may be due to implementing of program enhancing career management skills, and improve social work environment and enable cognitive modifications, thus improving ability of work involvement.

On the line with current results Tims and Akkermans (2020) [31] who reported that job design is the main factor for job crafting as it is based on job management skills, which motivates individuals to participate and integrate into work and create a positive work environment that helps to improve work involvement. Also, Dubbelt et al. (2019) [32]

job crafting is the way to creating a balance between personal and career requirements. This is assumed to enhance work involvement and clinical competence. Furthermore, it was found that nurses who are able to change the way they perform tasks by using alternative methods to achieve goals or add new tasks in line with their needs and preferences, and those who had constructive relationship with their peers perceive a high level of involvement, commitment and quality of care [33].

Conclusion

   This study confirmed that that the job crafting intervention program specially relation job crafting increase work involvement of studied nurses. Post application of job drafting   training program there is statistically significance difference. Also, there is statistically significance between relational crafting dimension and work involvement immediately after implementation training program.

Recommendations

Based on the findings of the present study, the following can be recommended:

Carry out workshops and training programs to raise the awareness of nurses of how to apply job crafting for their work**.**

 2.Conduct team crafting that encourage participation and discussion between nurses.

3.Nurse managers can increase the levels of nurses' job involvement by re-designing jobs through job enlargement and enrichment.

4.Nurse managers should consider job demands and resources levels in hospital to increase job resources as opportunities for advancement, supervisor support, and receiving feedback.

5.Encourage nurses to made positive work changes in the way they perform their tasks, seeking alternative ways for goal achievements.

6. Build and maintain open lines of communication between nurse mangers and nurses that promotes trust and positive job outcomes.

7. Provides a job crafter model in workplace with reflect positive impact of job crafting.

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