

The Effect of Head Nurses' Empowerment Educational Program on Staff Nurses' Burnout

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Received September 12, 2018; Revised October 20, 2018; Accepted October 28, 2018

Abstract Background: Empowerment is necessary for the era of competition and service because every organization needs employees who are fast, responsive and independent so they can be competitive through human resources and strengthen the capability and commitment of employees. The lack of empowerment of nurses in hospitals is one of the main causes of nurses' burnout. **Aim of the study:** The aim of this study was to examine the effect of head nurses' empowerment educational program on staff nurses' burnout. **Research Design:** A quasi-experimental design utilized to achieve the aim of the current study. **Study Setting:** The study conducted in medical, surgical and critical care units at Benha University Hospital, Egypt. **Study sample:** were all available head nurses who met the inclusion criteria (65) distributed as the following; 24 of head nurses working at medical units, 19 of head nurses working at surgical units and 22 head nurses working at critical care units. Convenience sample of staff nurses (342) who meet the inclusion criteria from the total number (716) nurses. **Tools of data collection:** Four tools utilized; namely, empowerment knowledge questionnaire, Conditions of Work Effectiveness Questionnaire, Psychological Empowerment Scale and Maslach-Burnout-Inventory-General Survey. **Results:** There was statistically significant improvement in head nurses' knowledge and level of empowerment after implementation of the program. In addition, there was a statistically significant improvement of staff nurses' level of burnout after implementation of the program. Also, there was a highly statistically significant negative correlation between head nurses' empowerment level and studied staff nurses' level of burnout post-program ($P < 0.001$). **Conclusion:** The study concluded that there was a positive effect of the educational program regarding empowerment for head nurses on the burnout of staff nurses. **Recommendations:** Future studies recommended to investigate the effect of psychological empowerment and employee engagement on other variables such as staff turnover, absenteeism, performance, and safety.

Keywords: Head nurses, Empowerment, Staff nurses, Burnout, Educational program

Cite This Article: Aziza Zakaria Farmawy Ali, Shaimaa Mohamed Nageeb, and Farida Mahmoud Hassona, "The Effect of Head Nurses' Empowerment Educational Program on Staff Nurses' Burnout." *American Journal of Nursing Research*, vol. 6, no. 6 (2018): 625-637. doi: 10.12691/ajnr-6-6-33.

1. Introduction

In any health organization, nursing staff plays an essential role in organizational success. Therefore, the nurse managers need to recognize nurses' work and provide them with opportunities to grow and to look after their comfort [1]. Workplace empowerment is confirmed strategy for creating a positive workspace environment in any health care organization, which in turn improve the quality of services to the client. Added to that, empowerment strategies are vital for improving nurses' involvement, reducing the fatigue of nurses and reduce the risk of burnout [2].

Empowerment refers to increasing the spiritual, political, social or economic strength of individuals and communities. It includes autonomous decision-making

power, information access, opportunities and choices, assertiveness, positive thinking and change, learning skills, influencing others by democratic means, continuous development and positive self-image. According to Whatley, [3]. Empowerment is a culture-bound expression that may vary in meaning across different cultures. In its broadest sense, empowerment is the expansion of freedom of choice, ability to act autonomously, control of resources and ability to make decisions [4].

There are two types of empowerment in the literature; Structural empowerment, which derives from organizational/management theory and psychological empowerment that derive from social psychological models [1]. Empowerment in nursing can mean either arising from the environment or developing from one's psychological condition. Empowerment, as viewed by many nurses, is required to elevate their lack of power, to influence their working conditions, and to access

workplace structures to gather structural empowerment. Empowerment can mean the process of providing the proper tools, resources, and environment to build, and increase the ability and effectiveness of others, to set and reach goals for an individual and social ends [5].

Structural empowerment has been defined as the ability to get things done, which is derived from structural conditions in the organization and not from the personal characteristics of the individual. Structural conditions in the organization that are important to foster employees' empowerment are providing access to information, support, resources needed to accomplish that job, and the opportunities to learn and grow [6].

Psychological empowerment is a motivational construct that contains four dimensions: meaning, competence, autonomy, and impact. The four dimensions are interrelated, when any one of these dimensions is missing, then the experience of empowerment will be limited. Meaning is defined as the value of a work goal or purpose, judged relation to an individual's ideal. Competence is defined as a sense of belief that the workers have in their skills and capability to perform their work better. Self-determination is defined as a sense of freedom or autonomy about how individuals do their work. While impact dimension describes a belief that individual employees can influence the system in which they are embedded. It is the degree to which workers can influence organization strategy, administrative or operating outcomes at work [7].

The previous study was conducted by El Dahshan and Dorgham [8] to study the effect of structural and psychological empowerment on occupational burnout in staff nurses working in Shebin El-Kom Hospitals, Menoufiya Governorate, Egypt, the authors concluded that higher structural and psychological empowerment corresponds to less burnout.

Burnout is one of the negative work-related health conditions among healthcare providers, especially among nurses. The nursing profession is often considered as one of the most stressful occupations and a highly exposed community for burnout. Nurse burnout is a widespread phenomenon characterized by a reduction in nurses' energy that manifests in emotional exhaustion, lack of motivation, and feelings of frustration and may lead to reductions in work efficacy [9]. It is a state of physical, emotional, and mental exhaustion that results from prolonged exposure to job stressors or work situations that are emotionally demanding. Burnout has numerous negative outcomes on organizations and individuals, such as increased staff turnover, absenteeism, sickness, injury and accidents, low productivity, and interpersonal and organizational conflicts [10]. Moreover, nurses who were emotionally exhausted and burned out often experienced apathy about their work and lack of confidence in their abilities. This is potentially dangerous for patient care [8].

Maslach Burnout Inventory (MBI) defined burnout as a syndrome composed of three key elements: emotional exhaustion (describes the sensation of emotional overextension resulted in fatigue and overstressed in professional life), depersonalization (as consequences of impersonal interactions and separation from coworkers), and low personal accomplishment (which describes failure to successful coping and decreased ability to motivation of being productive and adequate) [11].

Numerous studies were conducted at Egypt to assess burnout among the Egyptian nurses. One study carried out in the emergency departments of Zagazig University Hospital and Al-Ahrar Hospital in Egypt, the findings indicated that about two-fifths of the sample participants having a high level of burnout [12]. Another study conducted in the emergency hospital of the University of Tanta, Egypt concluded that about one-quarter of studied nurses and physicians suffer from a high level of burnout syndrome [13]. Also, Elrassas and colleagues [14] conducted a study to discuss the importance of revising the nature of burnout as an illness to be considered in psychiatric classification and to find out the overall prevalence of work-related burnout symptoms and their risk factors among nurses of different departments at Ain Shams University hospital, Egypt. The results indicated a high level of burnout among the studied nurses. Such studies indicated high burnout among the studied nurses. Therefore, the present study was conducted as an attempt to reduce nurses' burnout through the implementation of empowerment educational program to the head nurses.

Empowered people are self-controlling and self-regulating [15]. They easily take responsibility and have a positive view towards themselves, others and the environment [16]. They are optimistic about working life and see others as partners and co-workers instead of rivals [17]. If a conflict or a problem occurs in the workplace, instead of being disinterested and passing the buck, they will look for a solution to it. They are open to criticism and are constantly learning [18]. Therefore, a low level of job burnout will be likely observed among the staff in working units with the characteristics necessary to empower employees [19].

1.1. Significance of the Study

Employee empowerment is known as a necessary element, which contributes to the success of an organization. Previous studies indicate that the structural empowerment of nurses had an inverse correlation with job stress and burnout [20]. Accordingly, head nurses have been required to create positive change in the work environment and to motivate and empower nurses to achieve the best outcomes for clients, employees, and the organization. Therefore, head nurses are considered a key factor in creating workplace empowerment and a positive work environment by enhancing the meaningfulness of work, enabling employees to participate in decisions related to their work, expressing confidence in employees' abilities to perform at a high level, facilitating goal attainment, and providing autonomy [9].

1.2. Statements of the Problem

Literature supports a need for empowering head nurses to gain benefits of empowering nursing staff but a gap exists for interventions to enhance nurses' empowerment. Head Nurse Empowerment Program (HNEP) as an in-service education program strengthens the management knowledge and skills, especially interpersonal relationships, the capacity to deliver high-quality patient care, and self-confidence in head nurses [21]. Moreover, the previous study was conducted by Babaeipour-Divshali and colleagues

[22] and concluded that the execution of the HNEP in clinical settings can improve the nurse staffs' job satisfaction level. However, up to our knowledge, there are no studies conducted to assess the effect of HNEP on staff nurses' burnout among nursing staff at the setting of the study

1.3. The Theoretical Framework of the Study

The theoretical framework of this study based on Kanter's theory of structural empowerment which focuses on the structures within the organization rather than the individual's qualities. According to Kanter, two systemic sources of power exist in organizations, these being formal and informal power. Formal power is that accompanies high visibility jobs and requires a primary focus on independent decision-making. Informal power comes from building relationships and alliances with peers and colleagues. Kanter believes that a leader's power will grow by sharing the power through empowering others and as a result, leaders will realize increased organizational performance. Furthermore, Kanter posits that with tools, information, and support, people's skill base will improve, they will increasingly make informed decisions and overall accomplish more, thereby benefiting the organization as a whole [23].

The conditions required for empowerment to take place according to Kanter include opportunity for advancement, access to information, Access to support, Access to resources. By providing these conditions to employees, it has been found that there is increased job satisfaction, commitment, trust and a marked decrease in job burnout [24].

1.4. Aim of the Study

The present study aimed to examine the effect of head nurses' empowerment educational program on staff nurses' burnout.

1.5. Research Hypothesis

1.The head nurses who will be exposed to the empowerment educational program will have better knowledge after program implementation compared to their pre intervention level.

2.The head nurses who will be exposed to the empowerment educational program will have high level of empowerment after program implementation compared to their pre intervention level.

3.Staff nurse's burnout level will be decreased after the implementation of program compared to their pre intervention level.

4.There will be a negative correlation between head nurse's empowerment level and the level of their staff nurses' burnout.

2. Subject and Methods

2.1. Research Design

Quasi-experimental design used to achieve the aim of the present study. A quasi-experiment is an empirical

interventional study used to estimate the causal effect of an intervention on target population without random assignment [25].

2.2. Setting

The study conducted in medical, surgical and critical care units at Benha University Hospital, Egypt .

2.3. Sample

1.All available head nurses who met the inclusion criteria (65) and working in a previous mentioned setting and distributed as the following; 24 of head nurses working at medical units, 19 of head nurses working at surgical units and 22 head nurses working at critical care units.

2.Convenience sample of staff nurses (342) who meet the inclusion criteria from the total number (716) nurses.

2.4. Inclusion Criteria

For head nurses

- Agree to participate in the study.
- Head nurses with at least one year of job experience.
- They did not participate in a previous training course or program about empowerment

For staff nurses

- Agree to participate in the study.
- Staff nurses with at least 2 years of job experience in the current job.

2.5. Exclusion criteria

- Absence of more than one session from training classes.
- Who work at night shift continuously.

2.6. Tools of the Study

Data of the study was collected by using four tools:

First tool: - Self-administer Knowledge Questionnaire:

This questionnaire developed by the researchers based on the review of the related literature guided by [26,27,28] to assess head nurses' knowledge level regarding empowerment thorough program. It consisted of two parts.

Part I: Concerned with personal characteristics of head nurses such as; age, sex, level of education, and experience years).

Part II: Empowerment knowledge assessment Questionnaire. It consists of 20 close-ended questions (true and false "10" questions and multiple choice "10" questions). That grouped under the main four dimensions namely; Concepts related to empowerment (5 questions), Basic components of empowerment (5 questions), Sources of structural and psychological empowerment (5 questions), Importance of empowerment in nursing (5 questions).

Scoring system

Head nurses' responses were measured by giving a score of (1) for the correct answer and (zero) for the incorrect answer. For each domain of knowledge, the scores of the items were summed-up. Total and subtotal

summation was done for each domain of knowledge and the maximum possible total score was 20; the total scores were converted into percentages. The total level of knowledge was considered adequate if the percent score was 60% or more and inadequate if less than 60%.

Second Tool: Conditions of Work Effectiveness Questionnaire. The Spanish version of the CWEQ-II [29] that used was developed by J_amez and Bretones [30]. To measure the head nurse's level of structural empowerment. It consisted of 12 items, three for each of the structural empowerment construct: support (three items; e.g., 'I receive specific information about the things I do well'), resources (three items; e.g., 'I have enough time to meet the requirements of my work'), information (three items; e.g., 'I have information about the objectives of the organization'), and opportunity for development (three items; e.g., 'I have the opportunity to acquire new skills and knowledge at work').

Scoring system:

Head nurses' responses were measured on a five points Likert Scale ranging from 1 'little' to 5 'a lot'. Head nurses had to choose to what extent the item defined the characteristics of their work. A subtotal for each construct was divided by the number of the items, giving a mean score for each part. A total mean was calculated for the CWEQ-II. Total scores of studied head nurses' responses regarding structural empowerment level classified as follow; low <60%, average 60-75%, and highly >75%.

Third tool: Psychological Empowerment Assessment Scale The Spanish version of the Psychological Empowerment Scale. Spreitzer, [31] used in this study was developed by J_amez [32]. To measure the head nurse's level of psychological empowerment. The instrument uses 13 items to measure the four dimensions of the psychological empowerment construct: competence (three items; e.g., 'I trust my ability to perform the tasks required at work'), meaning (three items; e.g., 'The work I do is meaningful and important to me'), autonomy (four items; e.g., 'I have autonomy to determine how to do my work'), and impact (three items; e.g., 'I have enough influence on what happens in my department').

Scoring system:

Head nurses' responses were measured on a five points Likert Scale ranging from 1 'little' to 5 'a lot'. The head nurses had to choose to the level of the psychological empowerment level. Total scores of studied head nurses regarding psychological empowerment level classified as follow; low <60%, average 60-75%, and highly >75%.

Fourth Tool: Maslach-Burnout-Inventory-General Survey. It consisted of two parts:

Part I: It was included personal characteristics of staff nurses as age, sex, educational qualification, and years of experience.

Part II: Maslach-Burnout-Inventory-General Survey MBI-GS. It was developed by Maslach and Jackson, [33]. to assess the staff nurse's level of burnout. The instrument uses 16 items to measure the three dimensions of the burnout construct: emotional exhaustion (five items, e.g., 'I'm tired when I wake up in the morning and I have to face another day in my job'), cynicism (five items; e.g., 'I have become more cynical about the usefulness of my work'), and reduced professional efficacy (six items; e.g., 'I efficiently tackle any problems that arise in my work').

Scoring system:

Staff nurses' responses were measured on a five points Likert Scale ranging from 7-point Likert scale from 0 'never' to 6 'every day'. A total and subtotal mean score were calculated for each burnout construct and the total. The Total scores of studied staff nurses' burnout classified as the following; Low <60%, moderate 60-75%, and high >75%.

2.7. Content Validity

The tools' contents were developed and tested for its content and face validity through a jury of five academic staff in nursing administration from different faculties of nursing in Egypt namely; Benha faculty of nursing, Ain shams faculty of nursing, El Monofia faculty of nursing, Tanta faculty of nursing and Helwan faculty of nursing. The validity of the tools aimed to judge its clarity, simplicity, accuracy, comprehensiveness, and relevance. All items were reviewed and accepted by the jury committee.

2.8. Reliability

Cronbach's alphas were ($r= 0.91, 0.87, 0.889, \text{ and } 0.892$) for Self-administer Knowledge Questionnaire, 'The Conditions of Work Effectiveness Questionnaire II' (CWEQ-II, 'Psychological Empowerment scale', and Maslach-Burnout-Inventory-General Survey respectively.

2.9. Approval

Official permission was obtained from medical and nursing directors of Benha University Hospital to collect data for this study from the above mentioned setting that studied head nurses and staff nurses were working in it during the time of implementing this study.

2.10. Pilot study

A pilot study was carried out on 10% of study subjects that included (7 head nurses & 35 staff nurses) before starting the actual data collection to ascertain the clarity and applicability of the study tools and the feasibility of the research process. It also needed to estimate the time necessary to fill in the questionnaires of data collection. It take about 20-25 minutes to fill in the questionnaire. The results obtained from the pilot study, were included in the study because no modification was done in the study tools.

2.11. Ethical Consideration

The agreements of studied subjects (head nurses and staff nurses) for the participation in the study were taken after the aim of the study was explained to them, The participants were informed that their participation in the study is completely voluntary and there was no harm if they choose not to participate, and they could withdraw at any time from the study. Confidentiality of data was obtained, they assured that the information would remain trustworthy and utilized for scientific research purposes only.

2.12. Fieldwork

The study was carried out from the beginning of May 2017 to the end of June 2018. As the following sequence:

- **Pre implementation phase:** It was carried out from the beginning of May 2017 to the mid of June 2017. Preparation of tools for data collection and the teaching sessions for empowerment program based on a review of national and international related literature using journals, textbooks, internet and theoretical knowledge of the various aspects concerning the topic of the study. The content of the program *included:*

Introduction, concepts, types of empowerment, sources of structural and psychological empowerment, the implications of structural empowerment in the workplace, the implications of psychological empowerment in the workplace.

Ways to improve structural empowerment:

- Access to opportunity and the possibility for growth and movement within the organization as well as the opportunity to increase knowledge and skills.

- Access to resources and one's ability to acquire the financial means, materials, time, and supplies required to do the work.

- Access to information and having the formal and informal knowledge that is necessary to be effective in the workplace (technical knowledge and expertise required to accomplish the job and an understanding of organizational policies and decisions).

- Access to support and receiving feedback and guidance from subordinates, peers, and superiors.

Ways to improve psychological empowerment:

- Developing self-esteem and Building confidence in the workplace (Ways to enhance self-esteem- Building confidence in the workplace).

- Using assertive communication and conflict resolution (Role play of communication styles and Using assertive communication and conflict resolution in the workplace).

- Developing adaptive coping skills (Stress awareness exercise, and maladaptive and adaptive coping skills).

- Developing personal and professional relationships, using self as a moral agent, and developing a sense of purpose and mission (Building healthy relationships, Sense of purpose and mission).

- **Implementation phase (intervention):** This phase carried out through the following sequence:

• **First:** head nurses were divided into (6) small groups (10-11 nurse) according to their units. The pre-program test carried out from the mid of June 2017 to mid of July 2017. The preprogram questionnaires were fulfilled by the head nurses and staff nurses before beginning of the program. Self-administer Knowledge Questionnaire took from 10–15 minutes to be completed; Conditions of Work Effectiveness Questionnaire took from 10-15 minutes to be completed, 10–15 minute for completing psychological empowerment questionnaire and Maslach-Burnout-Inventory-General Survey questionnaire took from 10–15 minutes to be completed. This preprogram pretests was conducted to let the researchers to collect a baseline assessment for head nurses' regarding empowerment knowledge, level of structural empowerment, and level of psychological empowerment, also staff nurses' burnout level in order to compare it with post and follow-up

program. The data collected from head nurses 2 days/week in the morning and afternoon shift. The number of head nurses whom completed the questionnaires per day ranged from 8 to 9 head nurse. While the data collected from staff nurses 5 days/week in the morning and afternoon shift. The number of staff nurses who completed the questionnaires per day ranged from 17 to 18 staff nurse.

• **Second:** Implementation of the program sessions started after the questionnaires were completed, the program implemented by the researchers. The time plan of the program implemented over the period from the mid of July 2017 to end of August 2017. The program has taken 12hours for each group to cover the sessions, distributed as the following; 6 sessions, 2hour/session, 2 sessions/day, 3 days/week in the morning and afternoon shift, At the beginning of the program sessions, an orientation to the program and its purpose took place, and the staff nurses were informed about the time and place of sessions that were carried out at the newly established training center or available suitable setting according to collaboration between nursing directors, researchers and studied nurses. Each session started by setting objectives and an overview of the new topic. At the end of each session, the staff nurses' questions discussed and answered to ensure understanding. The same teaching strategies, available resources, relevant content, and instructional strategies for each session utilized to implementing the program by the researchers according to their collaboration. Methods of teaching used like the following; lecture, group discussion, role-play, and brainstorming. Teaching and instructional media included the following; hand out and PowerPoint presentation.

Evaluation phase: (post & follow up program evaluation) during this phase, the effect of educational program was evaluated; by using the same format of tools which used before the program implementation. This phase includes the following: -

The post program test was carried out after 6 months of program implementation and took one month started from the end of February 2018 to the end of March 2018.

Follow up program test was carried out after 9 months of program implementation and took one month started from the end of May 2018 to the end of June 2018.

2.13. Statistical Design

The collected data organized, tabulated and statistically analyzed using statistical package for social science (SPSS) version 25 for windows, running on IBM compatible computer. Descriptive statistics were applied (e.g. frequency, percentages, mean and standard deviation). Test of significance, Chi-square "X²" and correlation coefficient (r) were used. A significant level value was considered when $p < 0.05$ and a highly significant level value was considered when $p < 0.001$. No statistical significance difference was considered when $p > 0.5$.

3. Results

Table 1 shows that the total number of head nurses was 65, staff nurses were 342. In relation to their age more

than half of both of them were aged 25<35years and the majority of both of them were females (95%, 95%) for head nurses and staff nurses respectively. Regarding to their years of experience majority of both of them had 5-< 15 years of experience (42%, 60%) for head nurses and staff nurses respectively. As far as their qualification; (54%) of head nurses had bachelor's degree while (54%) of staff nurses had diploma degree in nursing.

Table 2 clarifies that there was a high statistically significant improvement at (P value ≤ 0.001) of total knowledge of empowerment thorough the educational program. In addition, majority (89%) of studied head nurses have adequate level of their total knowledge regarding empowerment post the educational program compared to 17% before implementation and 71% at the follow up with a statistically significant difference between the three phases.

Table 3 clarifies that there was a highly statistically significant improvement ($P \leq 0.001$) of studied head nurses' total level regarding structural empowerment thorough the educational program. Regarding structural empowerment dimensions, there was a highly statistically significant improvement ($P \leq 0.001$) related to support, resources, information and opportunity thorough the educational program as reported by studied head nurses.

Table 4 clarifies that there was a highly statistically significant improvement ($P \leq 0.001$) of studied head nurses' total level regarding psychological empowerment thorough the educational program. Regarding psychological empowerment dimensions, there was a highly statistically significant improvement ($P \leq 0.001$) related to competence,

meaning, impact, and autonomy thorough the educational program as reported by studied head nurses.

Figure 1 illustrates that 87%, 76% of head nurses had a high level of empowerment post and follow up the program respectively compared to preprogram scores (6%).

Table 5 clarifies that there was a highly statistically significant improvement ($P \leq 0.001$) of studied staff nurses' total level regarding burnout thorough the educational program. Regarding burnout dimensions, there was a highly statistically significant improvement ($P \leq 0.001$) related to emotional exhaustion, cynicism, and reduced professional efficacy thorough the educational program as reported by studied staff nurses.

Figure 2 illustrates that 84%, 76% of staff nurses had a low level of burnout post and follow up the program respectively compared to preprogram scores (7%).

Figure 3 shows a negative statistical significant correlation between head nurse's empowerment and staff nurses burnout as the value of Pearson coefficient = -0.922 $R^2 = 849$.

Table 6: Displays that there was positive statistically significant correlation between age, years of experience and, nursing qualification and head nurses' empowerment level and staff nurses' burnout.

Table 7: Illustrates that there is a negative significant impact for head nurses structure and psychological empowerment on staff nurses' burnout as when the head nurses structure empowerment increases by one unit the staff nurses' burnout decreases by 0.757, and when the head nurses psychological empowerment increases by one unit the Staff nurses' burnout decreases by 0.345.

Table 1. Frequency and percentage distribution of studied participants' Personal characteristics (n1=65 & n2=342). (N1) for head nurses & (N2) for staff nurses

personal characteristics	Head nurses (65)		staff nurses (342)	
	No	%	No	%
Age in years				
< 25	3	5%	45	13%
25<35	37	57%	213	62%
35 <45	25	38%	84	25%
Mean \pm SD	32.66+11.9		28.15+8.1	
sex				
Male	3	5%	16	5%
Female	62	95%	326	95%
Years of experience of the current job				
<5	12	18%	17	5.75 %
5 < 15	27	42%	206	60%
15<25	22	34%	58	17%
≥ 25	4	6%	51	17.25 %
Mean \pm SD	11.37+5.6		7.66+7.59	
Nursing Qualification				
Diploma degree	7	11%	183	54%
Technical nursing institute	12	18%	118	35%
Bachelor degree	35	54%	41	12%
Master degree	11	17%	0	0%

Table 2. Comparison of the studied head nurses' knowledge regarding empowerment through the educational program (n=65)

Empowerment' knowledge	Pre-program No=(65)		Post Program		Follow up		(X ²)1	P (value)1	(X ²)2	P (value)2
	No=(65)		No=(65)		No=(65)					
	No	%	No	%	No	%				
Concepts related to empowerment (5 items)										
Incorrect	55	85%	8	12%	20	31%	32.419 ^a	0.000**	30.212	0.000**
Correct	10	15%	57	88%	45	69%				
Basic components of empowerment (5 items)										
Incorrect	57	88%	10	15%	15	23%	29.117 ^a	0.000**	26.713	0.000**
Correct	8	12%	55	85%	50	77%				
Sources of structural and psychological empowerment(5 items)										
Incorrect	50	77%	13	20%	17	26%	18.158 ^a	0.000**	16.233	0.000**
Correct	15	23%	52	80%	48	74%				
Importance of empowerment in nursing (5 items)										
Incorrect	49	75%	17	26%	24	37%	21.715 ^a	0.000**	18.871	0.000**
Correct	16	25%	48	74%	41	63%				
Total knowledge										
In adequate	54	83%	7	11%	19	29%	31.949 ^a	0.000**	28.867	0.000**
Adequate	11	17%	58	89%	46	71%				

Total knowledge is satisfactory when (more than 60%)* * Unsatisfactory knowledge (less than 60%)

**A highly statistical significant difference (P ≤ 0.001), *A highly statistical significant difference (P ≤ 0.05).

(X²)1: pre & post, (X²)2: pre & follow up. P (value)1: pre & post P (value)2: pre & follow up.

Table 3. Comparison of head nurses' regarding structural empowerment dimensions through the educational program (n= 65)

Head nurses structure empowerment dimensions	Pre program	Post program	Follow up program	T-test 1	P value	T-test 2	P. value
	Mean ± SD	Mean ± SD	Mean ± SD				
Support	4.06±1.34	14.69±0.6	13.21±1.82	65.633	0.000**	6.508	0.000**
Resources	4.38±1.50	14.38±1.2	12.24±2.28	57.009	0.000**	7.738	0.000**
Information	4.09±1.29	13.64±1.91	12.6±2.23	29.994	0.000**	5.162	0.000**
Opportunity	3.95±1.30	13.61±1.98	12.58±2.22	28.486	0.000**	5.290	0.000**
Total	16.49±4.85	56.3±4.80	50.67±7.04	45.358	0.000**	8.189	0.000**

**A highly statistical significant difference (P ≤ 0.001), *A highly statistical significant difference (P ≤ 0.05)

T-test 1: pre & post, T-test 2: pre & follow up.

Table 4. Comparison of head nurses' psychological empowerment dimensions through the educational program (n= 65)

Head nurses Psychological empowerment dimensions	Pre program	Post program	Follow up program	T-test 1	P value	T-test 2	P. value
	Mean ± SD	Mean ± SD	Mean ± SD				
Competence	4.3±1.32	13.8±1.6	55.6±5.07	34.537	0.000**	4.514	0.000**
Meaning	3.7±1.1	14.10±1.53	12.92±2.07	45.265	0.000**	10.257	0.000**
Impact	3.55±1.17	14.26±1.33	11.83±1.69	43.043	0.000**	8.294	0.000**
Autonomy	3.38±0.99	19.1±2.15	12.38±1.81	47.334	0.000**	3.411	0.000**
Total	16.1±4.48	61.27±4.95	18.49±2.37	48.700	0.000**	9.627	0.000**

**A highly statistically significant difference (P ≤ 0.001) * statistically significant difference (P ≤ 0.05).

T-Test 1: pre & post T-Test 2: pre & follow up.

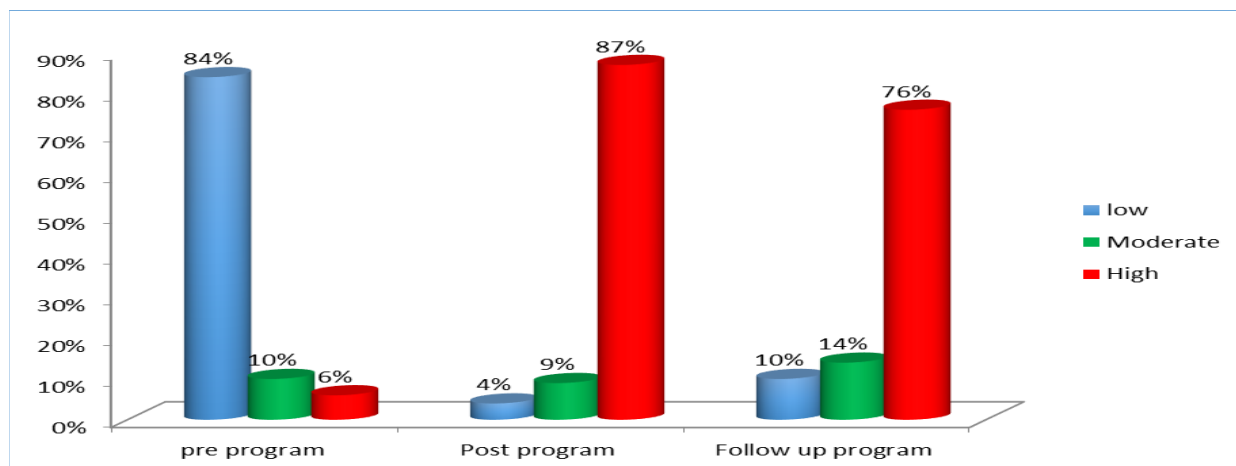
**Figure 1. Total level of studied head nurses' e regarding empowerment through program**

Table 5. Comparison of staff nurses' regarding burnout dimensions through the educational program (n= 342)

staff nurses burnout dimensions	Pre program	Post program	Follow up program	T-test 1	P value	T-test 2	P. value
	Mean ± SD	Mean ± SD	Mean ± SD				
Emotional exhaustion	27.09±2.91	4.38±2.24	9.19±7.56	128.298	0.000**	11.935	0.000**
Cynicism	23.46±4.30	4.82±3.79	11.43±6.02	59.514	0.000**	18.097	0.000**
Reduced professional efficacy	28.86±5.51	5.44±3.25	11.74±8.28	67.989	0.000**	12.754	0.000**
Total	79.42±11.29	14.65±8.36	32.41±21.31	86.837	0.000**	14.675	0.000**

**A highly statistically significant difference ($P \leq 0.001$) * statistically significant difference ($P \leq 0.05$)
 T-Test 1: pre & post T-Test 2: pre & follow up.

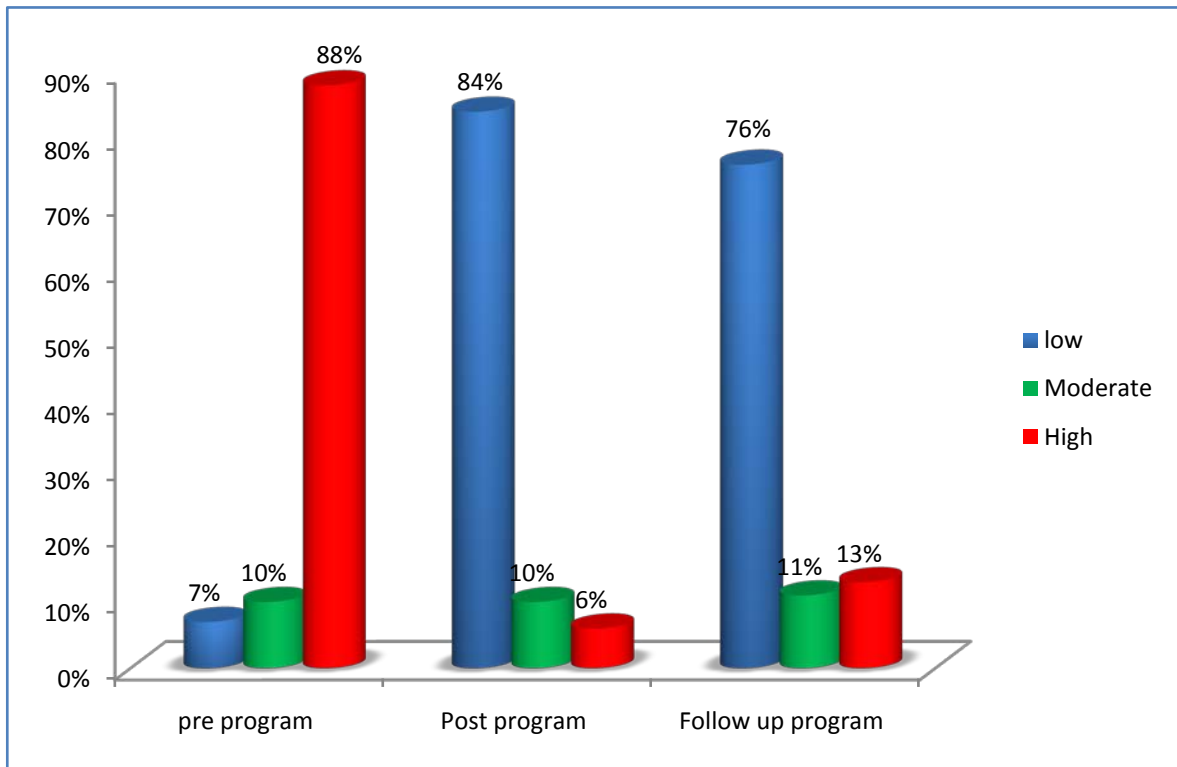


Figure 2. Total level of studied staff nurses' e regarding burnout through program

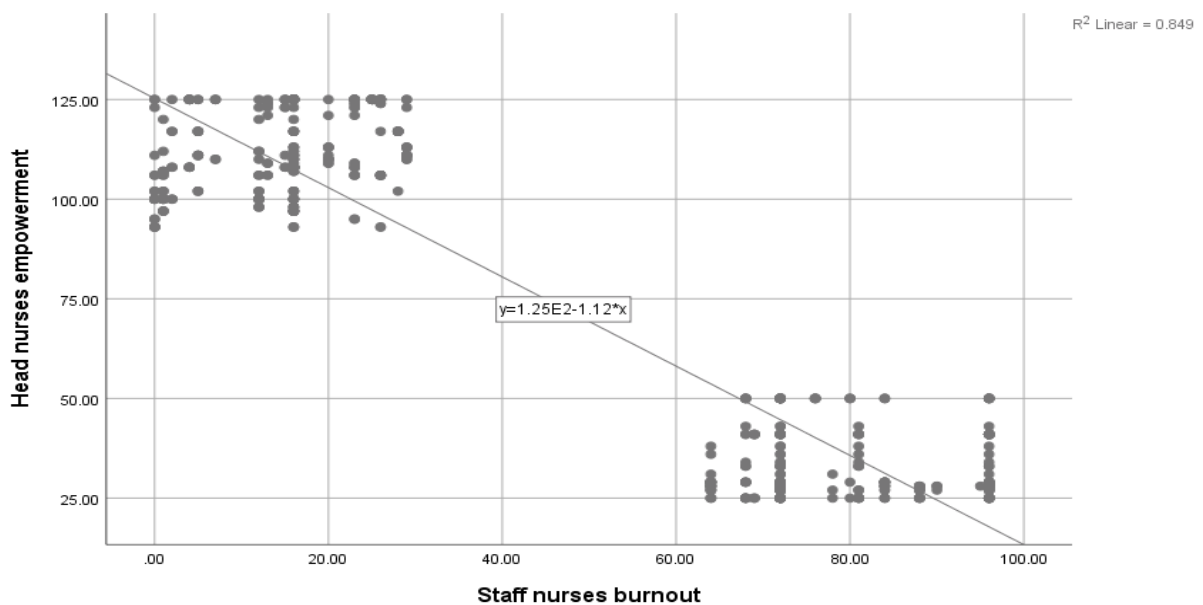


Figure 3. Scatter correlation between head nurses' empowerment and staff nurses' burnout (n1=65 & n2=342). (N1) for head nurses & (N2) for staff nurses

Table 6. Correlation between personal characteristics and head nurses' empowerment level and staff nurses' burnout level (n1=65 & n2=342). (N1) for head nurses & (N2) for staff nurses

Personal characteristics	Empowerment level among head nurses		Staff nurses' burnout	
	R	P.Value	R	P.Value
Age in years	0.452	0.000**	0.172	0.000**
Years of experience	0.225	0.000**	0.219	0.000**
Nursing Qualification	0.181	0.000**	0.409	0.000**

Table 7. Summary of Structure empowerment, psychological empowerment and burnout regression model

	Staff nurses burnout				
	Coefficients	Std. Error	Beta	t	Sig
(Constant)	120.589	22.678		5.318	0.000**
Head nurses structure empowerment	-0.757	0.117	0.646	6.472	0.000**
Head nurses psychological empowerment	-0.345	0.155	-0.222	-2.221	0.000**

4. Discussion

Empowerment is essential in nursing because it suggests that individuals should possess the power to perform their daily work in an environment that enables them to achieve both personal and organizational goals. Therefore, head nurses should support a working environment that provides staff nurses with sufficient resources, in order to promote patient health by ensuring nurses access to empowering conditions [34]. Head nurses must be concerned about organizational and nurse staff's needs simultaneously to solve the problems that may arise in the hospital wards or units. As the effectiveness of head nurses influences the organization's productivity and their management skills have to be promoted. Head Nurse Empowerment Program (HNEP) as an in-service education program strengthens the management knowledge and skills, especially interpersonal relationships, the capacity to deliver high-quality patient care. So the aim of this study was to examine the effect of head nurses' empowerment program on staff nurses' burnout.

4.1. Regarding Personal Characteristics of Studied Head Nurses and Staff Nurses

The present study began by seeking and understanding of whom the participants are, personal data conducted, such as the age, gender, level of education, and the years of experience. The results of the present study indicated that the total number of head nurses was 65, staff nurses were 342. In relation to their age, more than half of both of them were aged from 25 to less than 35 years old and the majority of both of them were females for head nurses and staff nurses. Regarding to their years of experience majority of both of them were had from 5 to less than 15 years of experience. As far as their qualification, more than half of head nurses had bachelor's degree, while more than half of staff nurses had secondary school diploma degree in nursing.

This result was consistent with Nasiripour & Siadati [35], who conducted a study entitled "A Propose Model for Nurses Empowerment Through Characteristics of Workplace and Management Strategies; A Study in Iranian Hospitals" and reported that average age was

35.7 years while nearly about three quarters of the respondents were female, their average work experience was 11.87 years. And more than four fifths of them had bachelor degree.

In the same line, Nursalam et al. [2] who conducted a study entitled "Development of an empowerment model for burnout syndrome and quality of nursing work life in Indonesia" and found that nearly one third of staff nurses were between 36 and 40 years old, while more than half of them were female. And more than half of them had from 5 to 10 years of work experience, while O'zbas, & Tel [36], who conducted a study entitled "The effect of a psychological empowerment program based on psychodrama on empowerment perception and burnout levels in oncology nurses: Psychological empowerment in oncology nurses" reported that the nurses in the study group, more than half of them were between 28 and 37 years of age, while more than four fifths were university graduates and more than one third of them had from 5–10 years of work experience

This result was consistent with Abou Hashish et. al., [37], who conducted a study entitled "Nurse Managers: An Association between Empowerment and Burnout" and found that the majority of the respondents were females, while two fifths of them were aged between 30 to less than 40 years old, slightly more than one third of them had more than 20 years of nursing experience and nearly three quarters of them had a diploma of secondary nursing school.

4.2. Regarding Head Nurses' Knowledge Related to Empowerment

The result of present study revealed a highly statistically significant improvement in head nurses' knowledge scores regarding empowerment post program and follow up the program than preprogram scores. This might be due to head nurses were excited to know about empowerment and they were able to acquire knowledge easily. Moreover, the program was effective as it influenced and increased their knowledge related to the concepts and basic components of empowerment, sources and importance of empowerment in nursing. Therefore, head nurses are interested to train to create a positive work environment that reduces staff nurses' burnout and improves patient outcomes.

These findings were similar Babaeipour-Divshali et al., [22], who conducted a study entitled "Effect of head nurse empowerment program on staff nurses' job satisfaction at two educational hospitals in Rasht, Iran" and found in their study done on head nurses that there was a highly significant improvement in sources and components of empowerment.

These findings supported by Van Bogaert et al., [38], who found in their study that there was a highly significant improvement in the nursing knowledge regarding empowerment throughout the program.

This study disagreed with Rashed & Fekry [39], who conducted a study entitled "Workplace Empowerment as Perceived by Nurses in Acute Health Care Hospitals" and revealed that The nurse managers reported that the nurses have adequate knowledge regarding empowerment; these results are similar to other conducted studies [40,41,42,43]. This support the first research hypothesis

4.3. Regarding the Head Nurses' Total Level of Structural Empowerment

The result of present study revealed a statistically significant improvement in head nurses' level regarding structural empowerment thorough the program. Regarding structural empowerment program dimensions related to support, resources, information and opportunity thorough the educational program as reported by studied head nurses This is due to empowerment intervention targets teaching head nurses to take initiative, be creative and innovative, take responsibility, make quick decisions for their actions, and control their own work environment. To perform these tasks traditionally confined within the management level, employees require organizational endorsement and support and to be "empowered" to perform at the beneficial level for the organization. When employees have access to empowering conditions, they are empowered to perform their work [44].

This result goes in the same line with Nursalam et al., [2], who revealed that there was an improvement in empowerment of head nurses in post and follow-up phases of the training program compared with the pre-phase structural empowerment. Formal power was the lowest and was in the inadequate category (less than 41%), and it had a mean of 8.95. By contrast, information was in the adequate category (56%), and it had a mean of 9.75.

This result was in agreement with RashidAzar et al., [20], who conducted a study entitled "Investigation of the relationship between structural empowerment and reduction of nurses' occupational stress and job burnout (case study: nurses of public hospitals in Tehran)" and revealed that the feeling of competence had the highest mean and the feeling of efficacy had the lowest mean among the dimensions of structural empowerment.

Also ÇAVUŞ & Demir [26], conducted a study entitled "The Impacts of Structural and Psychological Empowerment on Burnout:" demonstrated that nurses are low level structurally empowered.

Considering the level of structural empowerment, the findings of this study are also congruent with what has shown that they were only moderately structurally empowered [40,41,43,45,46,47,48,49].

4.4. Regarding Head Nurses' Total Level of Psychological Empowerment

The result of the present study revealed that there was a highly statistically significant improvement of studied head nurses' total level regarding psychological empowerment thorough the educational program. Regarding psychological empowerment dimensions' post program and follow up the program compared to preprogram scores there was a highly statistically significant improvement ($P \leq 0.001$) related to competence, meaning, impact, and autonomy thorough the educational program as reported by studied head nurses. From the researcher's opinion, Training program for head nurses was effective as it improved their psychological empowerment and Nurses believe that competence is their source of power in the hospital and they mastered the necessary competence, skills, abilities, confidence, and sense of purpose to perform work activities and the assigned duties and career responsibilities efficiently. also Suominen et al., [50] showed that psychological empowerment had significant relationships with education. Thus, it can be noted that teaching empowerment is important in nursing education.

This result was supported by O'zbas, & Tel [36], who assessed the effect of stress program on job satisfaction in psychiatric nurses. Their results showed that nurses in the study group had higher psychological empowerment scores one and three months after the psychological empowerment program.

This finding is consistent with Calvo & Garcia [51], who conducted study entitled "Hardiness as moderator of the relationship between structural and psychological empowerment on burnout in middle managers" and revealed that there was statistically significant improvement between the total mean scores of psychological empowerment for the experimental group.

Further, Chang et al. [52], stated that a training-based psychological empowerment program can increase the psychological empowerment of nurses. In addition to Wahlin et al. [53], reported that internal and external interventions affect psychological empowerment. These findings support the ones reached in our study. This supported the second research hypothesis.

4.4. Regarding Staff Nurses' Total Level of Burnout

This study revealed that there was a highly improvement ($P \leq 0.001$) of studied staff nurses' total level regarding burnout thorough the educational program. Regarding burnout dimensions, there was a highly statistically significant improvement ($P \leq 0.001$) related to emotional exhaustion, cynicism, and reduced professional efficacy thorough the educational program as reported by studied staff nurses. From the researcher's opinion this was due to the effective educational program for head nurses which made improvement of their structural and psychological empowerment that reflected in reduction of the level of staff nurses' burnout.

This study is supported by O'zbas, & Tel [36] who stated nurses' burnout scores had significantly improved between nurses' scores in the sub dimensions

of emotional burnout, desensitization, and personal achievement ($p, 0.05$), and that nurses in the study group had lower levels of emotional burnout and desensitization and higher personal achievement scores at one and three months after the psychological empowerment program compared to nurses in the control/comparison group.

This study is supported by Mudallal, et al., [9], who conducted a study on Jordanian nurses and found that they exhibited high levels of burnout as demonstrated by their high scores for Emotional Exhaustion and Depersonalization and moderate scores for Personal Accomplishment. Factors related to work conditions, nurses' demographic traits were significantly correlated with the burnout categories. A stepwise regression model–exposed 4 factors predicted Emotional Exhaustion: hospital type, nurses' work shift, providing autonomy, and fostering participation in decision making. The previous findings supported the third research hypothesis.

4.5. Regarding Correlation between Head Nurses' Structural Empowerment Level, Psychological Empowerment Level and Staff Nurses' Burnout Level

This study illustrated that, there was negative statistical significant correlation between head nurses' empowerment and staff nurses' burnout, also, a negative significant impact for head nurses structure and psychological empowerment on staff nurses' burnout as when the head nurses structure empowerment increases by one unit the staff nurses' burnout decreases by 0.757, and when the head nurses psychological empowerment increases by one unit the Staff nurses' burnout decreases by 0.345. This is due to the psychological empowerment is a logical outcome of structural empowerment [27]. In turn, psychological empowerment has beneficial effects on burnout of employees, acting as a protective factor in reducing the effects of stressors of the work environment on burnout [54]. And as put forward by Cavus and Demir [26]. psychological empowerment mediates the relationship between the dimensions of structural empowerment and two dimensions of burnout (emotional exhaustion and professional efficacy/personal accomplishment), helping to reduce chronic stressors in the workplace.

In a study done by RashidAzar et al., [20], reported that structural empowerment is an internal motivation factor that is reflective of the active role of staff in the organization. Supportive working environment is the most important factor for job satisfaction among nurses. Using the results of this research, nursing managers can provide adequate work environment to continue their activities by increasing organizational support. Considering that job burnout reduces the quality of nursing care, increases stress and ultimately reduces the satisfaction of patients, its prevention is effective in improving nursing services, increasing the satisfaction of patients, reducing nurses stress and preventing their burnout at work

This study is supported by Nursalam et al. [2], who reported that the structural empowerment influenced psychological empowerment, in addition the psychological empowerment influenced burnout syndrome.

This result goes in the same line with study done by Calvo & Garcia [51], who revealed an indirect effect of structural empowerment and psychological empowerment on burnout

This result is supported by O'Brien, [54] who conducted a study entitled "Relationships among structural empowerment, psychological empowerment, and burnout in registered staff nurses working in outpatient dialysis centers" and demonstrated that there is a significant inverse relationship between structured empowerment and burnout.

Our study supported by O'zbas, & Tel [36], who stated that psychological empowerment can have a positive effect on lowering the burnout scores of oncology nurses. In the first- and third-month post-program assessments of the nurses in the study group, emotional burnout and desensitization scores were found to be lowered, and personal achievement scores were found to be higher compared to the control/ comparison group.

This study in the same line with Cavus and Demir [26], who showed that five dimensions of structural empowerment and psychological empowerment were negatively related to dimension of the emotional exhaustion and positively related to dimension of personal accomplishment of burnout. Thus, higher structural and psychological empowerment corresponds to less burnout. These results are similar to Hochwalder & Bergsten-Brucefors, [55], These relations can also be rendered to mean that a higher sense of empowerment was associated with less burnout.

This study in the same view of Fibriansari, et. Al., [56], who reported that the higher empowerment, the lower level of nurses' burnout. Empowerment behavior in leaders can improve nurse job fit and prevent burnout. Structural and psychological empowerment have a significant adverse effect on burnout at the hospital.

Gilbert et al. [57], show that structural empowerment is the predictor of emotional exhaustion and suggest that structural empowerment has diminishing effects on burnout. In addition to this, when psychological empowerment levels improve their levels of burnout decrease. These findings supported the fourth study hypothesis.

4.6. Regarding correlation between Sociodemographic Characteristics and Structural, Psychological Empowerment Level among Head Nurses and Staff Nurses' Burnout

This result revealed a positive statistical significant correlation between Age, years of experience and, Nursing Qualification regarding to Empowerment level among staff nurses and Staff nurses' burnout.

This study goes in the opposite line with Calvo & Garcia [51], who found strong predictors of work engagement were: gender, marital status and education. However, age and employment status were not predictors of work burnout.

This study disagreed with Rashed & Fekry [39], who found that, there was no statically significant relationship between others personal characteristics like age, gender, and work experience and empowering behavior.

The benefits of nurse empowerment are to nurture staff to think critically, solve problems and develop a leadership attitude, among others. Empowerment promotes leadership, collegiality, self-respect and professionalism (Sirin and Sokmen) [58]. Empowerment liberates staff from mechanical thinking and encourages problem solving, Staff motivation and autonomy are embedded in empowerment involvement, such as developing knowledge and skills through education and training to develop a sense of professional responsibility and create a positive work environment [59].

5. Conclusion

The study concluded that the empowerment program for head nurses was effective program on eliminating of staff nurses' burnout through the following findings.

1. The head nurses who exposed to the empowerment educational program had better knowledge after program implementation compared to their pre intervention level.

2. The head nurses who exposed to the empowerment educational program had better high level of empowerment after program implementation compared to their pre intervention level.

3. Staff nurses' burnout level decreased after the implementation of program compared to their pre intervention level.

4. There was a negative correlation between total head nurses' empowerment level and the total level of their staff nurses' burnout.

6. Recommendation

(1) Seminars and continuous education must be facilitated, and nurses must be encouraging to participate.

(2) The management and information system that are integrated into hospital management and patient care electronic documentation system must be improved.

(3) The communication and teamwork across disciplines must also be improved to address patient safety

(4) Clear job descriptions of the professional nursing care model of the team must be established, and standard routine operating procedures must be implemented.

(5) Routine non-nursing activities must be redirected to reduce nurse fatigue and stress.

(6) Nurse managers should create a conducive work environment and improve the quality of services to the patient.

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