

Educational Program about Professional Development for Nursing Teachers and its Effect on their Students' Satisfaction

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Abstract

Background: Professional development for nursing teachers improves the quality of teaching and learning in nursing schools, thus nursing students' learning outcomes as well as their satisfaction will be affected. The study aimed to: Assess effect of educational program about professional development for nursing teachers on their students' satisfaction. Study design: Quasi-experimental design was used. Setting: The study was conducted at three secondary technical nursing schools at Menoufia Government (Albagor, Menof and Ashmon nursing schools). Subjects: Included 60 nursing teachers and 174 nursing students. Tools for data collection: Three tools were used namely, Professional development knowledge questionnaire, professional development observational performance checklist for nursing teachers and student satisfaction scale. The results showed that: The majority (88.3%) and (83.3%) of studied nursing teachers had satisfactory level of knowledge regarding to professional development during post-program and follow up phases, while (75.0%) and (73.3%) respectively of studied nursing teachers had good level of performance at post-program and follow up phases, also (73.6%) and (67.8%) respectively of studied nursing students had high level of satisfaction during post-program and follow up phases. Moreover, there was a positive significant correlation between total knowledge score and total performance score of studied nursing teachers thorough the program phases, while there was no significant correlation between total studied nursing teachers' knowledge score and total studied nursing students' satisfaction level thorough the program phases. Furthermore there was a positive significant correlation between total performance score of studied nursing teachers and total studied nursing students' satisfaction level thorough the program phases. The study concluded that: The educational program was effective in improving nursing teachers level of knowledge and performance related to professional development and also increasing level of nursing students' satisfaction. The study recommended that: Conducting an educational program must be continuous process. Engagement of nursing teachers in professional development activities should aligned with nursing teacher needs, expectations and performance improvement goals.

Keywords: Nursing teachers, Professional development and Students' satisfaction

Introduction

Nursing is a profession that deals with complex human problems, and cannot limit itself to a circumscribed body of information, in order to respond to the array of problems that nurses confront (*Ingwu, et al., 2019*). The objective of nursing education is to educate nursing students to meet future health care needs. Nursing students must be trained to high standards and be competent in advanced clinical

assessment, nursing diagnosis and interventions. In reality, preparing such nursing students poses a huge challenge for nursing teachers (*Helminen, Johnson, Isoaho, Turunen and Tossavainen, 2017*).

Nursing teachers teach nursing students, they are responsible for designing, implementing, evaluating, and revising educational programs for nursing students.

Nursing teachers are registered nurses (RNs) who serve as staff members in both nursing schools and teaching hospitals, transferring their valuable knowledge, experience, and skill sets to nursing students who will ultimately serve as the next generation of nurses (*Oermann, Gagne and Phillis, 2017*).

Rapid changes in the health sector and the need for professional expertise call for further development of nursing education. The increasingly complex requirements of today's nursing practitioners have been accompanied by demands on nursing teachers to look at new ways to facilitate learning (*Takase, Imai, Niitani and Okada, 2019*). While nursing teachers are striving to respond to changes in education. Therefore, nursing teachers require increased flexibility, continuing professional development, and lifelong learning (*Zlatanovic, Havnes and Mausethagen, 2017*).

Professional development includes processes of supporting the development of professional knowledge, skills, values, and attitudes. As a result of the development of the teacher's professional behavior; students, school administrators, and families benefit from this (*Ekinci and Acar, 2019*).

Teacher influences student learning, participation, involvement, motivation, academic performance, and satisfaction. Teacher can influence the student's learning environment which in turn influences the students' satisfaction and learning gains. Studies have found that teaching quality, quality of instruction and teachers' teaching style are key determinants of students' satisfaction (*Masserini, Bini and Pratesi, 2019*). Student satisfaction is an expression of the quality of their learning experience. Student satisfaction is widely used as the evidence of successful learning (*Pham, Limbu, Bui, Nguyen and Pham, 2019*).

Significance of the study

Rapid and continuous changes which are considered one of the key conditions for achieving a quality teaching process of a

professionally teacher (*Burgener and Barth, 2018*). Modern society demands high quality of teaching and learning from teachers, in order to meet those demands and standards of quality education. Professional development is the only strategy school system has to strengthen teacher's performance level (*Merchieet, Tuytens, Devos and Vanaderline, 2018*). Professional development is the most significant factor required to obtain maximum output from the human resources. It can be used to improve or develop job related performance requirement of the teacher (*Treska, 2014*).

The focus of the teaching profession is not simply to mediate in the process of knowledge acquisition, but the teacher to support students in the learning process and based on their age, to help taking responsibility for their own and to make them independent. Therefore considering the complex role of teacher in modern schools, teachers should be trained, facing new challenges and tasks for the full implementation of the responsibilities in the class room (*Ronfeldt, et al., 2015*). Effective professional development affects students' learning and students' major learning challenges and satisfaction (*Lalitha and Fernando, 2017*). So this study was conducted to assess effect of educational program about professional development for nursing teachers on their students' satisfaction.

Aim of the study

The Present study aimed to assess effect of educational program about professional development for nursing teachers on their students' satisfaction.

This aim achieved through the following objectives

1. Assessing knowledge of nursing teachers regarding professional development throughout the educational program phases.
2. Assessing nursing teachers' performance throughout the educational program phases.
3. Assessing nursing students' satisfaction level through the educational program phases.

4. Designing and implementing educational program about professional development for nursing teachers.

Research hypothesis

The educational program about professional development would improve the nursing teachers' knowledge and performance and would increase nursing students' satisfaction level.

Subjects and method

The aim of this study achieved by methodology that presented here according to the following categories:

1. **Technical design.**
2. **Administrative design.**
3. **Operational design.**
4. **Statistical design.**

I-Technical design

The technical design included study design, study setting, subjects, method and tools that used in data collection.

Study design

Quasi-experimental study design with pre-test, immediate post-test and follow up (after 6 months) assessments was carried out in this study.

Setting

The study was conducted at three secondary technical nursing schools at Menoufia Government chosen randomly namely (Albagor, Menof and Ashmon technical nursing schools). The total number of secondary technical nursing schools which follow Ministry of Health and Population at Menoufia Government at time of the study were nine schools (Albagor, Menof, Ashmon, Shebin –Elkom for boys, Tala, Barket –Elsaba, El-Sadat, Sers-Elyan, Elshohdaa).

Subjects

The current study subjects consisted of two groups namely nursing teachers and nursing students.

A-Nursing teachers group:

All available nursing teachers worked at above mentioned setting during the study time included in this study were 60 nursing teachers.

B-Nursing students group:

The total number of nursing students who were studied at Albagor, Menof and Ashmon secondary technical nursing schools was N=309 nursing students during study time. A simple random sample of nursing students taken from all classes at above mentioned study setting. The final sample was 174 nursing students from all classes. According the following equation:

$$n = \frac{N}{1 + N(e)^2}$$

(n) = is sample size

(N) = is total number of nursing students who are studied at above mentioned study setting (309) nursing students.

(e) is coefficient factor = 0.05 (Polonia, 2013).

Tools for data collection

Data of the present study was collected by using the following three tools:

I-Professional development knowledge questionnaire:

A structured questionnaire was developed by the researcher based on review of related literature Price *and Nelson (2018); Sewell, (2018);* and reviewing of *Teachers promotion forms (2019) and Professional development tests for teachers (2019)*. This tool used to assess nursing teacher's knowledge regarding professional development. It was included two parts:

Part (1): Included personal data (school name, age, qualifications, years of experience, marital status, and attending professional development training courses).

Part (2): Included questions to assess nursing teachers knowledge about professional development before, immediately post and follow up after 6 months of implementing the

educational program. It consisted of 32 multi choice questions regarding to knowledge about five domains of professional development namely (planning for teaching, teaching strategies, teaching evaluation, managing learning environment, utilizing educational aids and learning resources) for nursing teachers.

❖ Scoring system

The answers of the questions were scored as "1" for correct answer, and "Zero" for incorrect one, so the total scores was 32. Total knowledge score was calculated as following:

Unsatisfactory :< 60% of total knowledge scores.

Satisfactory: $\geq 60\%$ of total knowledge scores.

Tool Reliability: The reliability was done by Cronbach's Alpha Coefficient test. The internal consistency of knowledge was(0.71).

II-Professional development observational performance checklist for nursing teachers:

It was adapted from *Ghanem, (2004)* and modified by The researcher through reviewing the related literature as *Abedel-latef, (2009)* and *Alshamary, (2012)* to examine the nursing teachers' performance in (5)domains of professional development(planning for teaching, teaching strategies, teaching evaluation, managing learning environment, utilizing technologies and learning resources)throughout the program phases. The observational checklist included skills needed in the teachers' performance distributed into (5) main domains of professional development

❖ Scoring system

Each item of observational checklist was scored as the following:

(2) Score given when the item (Done completely), (1) score given when the item (Done incompletely), (0) score given when the item (Not done).The scores of items were summed-up and converted into a percent score and the level of performance was considered :

- Good: if the subjects had a total score $\geq 75\%$

- Average: if the subjects had total score ranged between 60% :75%

- Poor: if the subjects had a total score < 60%.

Tool Reliability. The reliability was done by Cronbach's Alpha Coefficient test. The internal consistency of knowledge was (0.95).

III-Student satisfaction scale:

It is a scale developed by *Dennison and El- Masri, (2012)* and translated into Arabic by the researcher and modified by the jury committee to assess nursing student's satisfaction level. It consisted of two parts:

The first part: Included personal data (school name, age, class).

The second part: Consisted of 48 items questionnaire, which are divided into four main domains as following; in class teaching 16 items, clinical teaching 15items, program design and delivery 12 items , support and resources 5 items.

❖ Scoring system

For answers in each question, scores were allocated as follows:

(2) for (Agree), (1) for (neutral) and (0) for (Disagree). The scores of items were summed-up and converted into a percent score and the respondent academic satisfaction level was considered:-

- High if the total score was $\geq 75\%$

- Moderate if the total score ranged between 60% :75%

- Low level if the subjects had a total score < 60%.

Tool Reliability

The reliability was done by Cronbach's Alpha Coefficient test. The internal consistency of knowledge was(0. 87).

II-Operational design

The operational design included three stages namely; preparatory phase, pilot study and field work.

A-preparatory phase

In this phase the researcher reviewed the current available literature review to develop and modify the study tools of data collection. Finally, the tools and the educational program were revised and modified, then approved by the jury committee.

Content validity

These three tools were tested for validity (Face and Content) validity through distribution of the tool to a jury of five Experts on field of Nursing Administration consisting of (three Professor from Ain Shams University and two Professor from Benha University). Simple modifications were done in the light of their valuable comments such as modify some words to give the most appropriate meaning for the phrase which were not clear, rearrange of tool items.

B-Pilot study

The study was tested on 10% of the total subject ;6 nursing teachers and 17nursing students. To evaluate the effectiveness of the proposed data collection tools, and assess the feasibility of the study. In addition to estimating the time required to fill the appendices that approximately ranged from (20 -30) minutes to professional development knowledge questionnaire ,and (30-40)minutes to Professional development observational performance checklist, and (10-15)minutes to student academic satisfaction scale. No modifications are required, so the subjects were included in the main study subject.

C-Field Work

- The preparation, construction and approval of the data collection tools consumed around five months from May to September (2019) .Then, the researcher started to assess the readiness of the subjects in the study setting to announce and encourage subjects' participation in the study.
- At secondary technical nursing schools at (Albagor ,Menof and Ashmon cities) the nursing teachers was contacted and agreed to attend the educational program. They also,

agreed to provide the class room in their schools for this purpose.

- During October 2019, the researcher conducted the pilot study.
- Sufficient questionnaires sheets for nursing teachers and nursing students within each nursing school were distributed according to predetermined lesson schedule during preprogram phase in the period from November till December 2019.The researcher was present all the time during filling the questionnaire sheets for any clarification needed ,then the researcher checked each sheets to ensure its completeness. The researcher observe nursing teachers performance during class time using observational performance checklist, the researcher was observing each nursing teacher according to her daily lesson schedule .
- The researcher started the preparation of an educational program about professional development for nursing teachers and after reviewing the related literature.
- Detected needs were transformed to develop an educational program about professional development. The educational program was developed based on determined needs and relevant review of the literature.
- Program targets were nursing teachers working at secondary technical nursing schools at (Albagor, Menof, Ashmon nursing schools). It was aiming to prepare and develop an educational program about professional development for nursing teachers.
- Conduction of the educational program about professional development for nursing teachers lasted along 2 months from January till February 2020.
- The program was offered in (10) sessions through two weeks (10 days); one session per day. The session's time was one hour. Each session of (10)sessions included (45 minutes theory and 15minutes for practical if needed).The program included sessions about the concept of professional development, teaching planning, teaching strategies, active learning, teaching evaluation, evaluation strategies, concept of class management, class management fields, utilizing educational aids

and learning resources and finally, communication skills.

- The educational program was implemented in each secondary technical nursing schools at (Albagor, Menof, Ashmon nursing schools) , so the program was implemented 3 times that consumed 30 hours. Sessions achieved by using available resources, relevant contents and instructional strategies for each session. Different methods of teaching were used such as lecture, group discussion, brain storming for theory and role play for practical. Instructional media included were lap top , blackboard and handout prepared by the researcher which distributed to participants in the first day of the training.
- The subject were divided in to 3 groups according to their school, nursing teachers of Albagor nursing school group were (19) , nursing teachers of Ashmon nursing school group were (18), the other group nursing teachers of Menof nursing school were (23). Professional development program took about (10) days. The duration of each session was one hour depending on nursing teachers' lessons schedule of each school and including periods of discussion according to their achievement, progress and feedback. It started at (11.00) A.m. to (12.00) P.m. At the beginning of each session an orientation to the training and its aims took place. Feedback was given at the beginning of each session about the previous one and at the end of each session about the current session and program situations given to participants to write their suggestion for alternative solutions.
- During the period from February (2020) till March (2020). The impact of the educational program was evaluated (immediately post program phase), using the same tools which were used before the program.
- During the period from October (2020) to November (2020). Sufficient questionnaires for nursing teachers and nursing students within each nursing school were distributed (follow up phase). And the data was analysis and the results interpreted and clinical significance of findings were evaluated for comprehended discussion of the data analysis results of the study.

Ethical considerations

The study was conducted with careful attention to ethical standards of research and rights of the participants:

Informed consent

The respondent rights was protected by ensuring voluntary participation, so the informed consent will be obtained by explaining purpose, nature time of conducting the study, potential benefits of the study, how data will be collected, any invasive procedure, expected outcomes and the respondent rights to withdrawing from the research study at any time in case of violation of his rights.

Anonymity and confidentiality

The respondent was assured that the data will be treated as strictly confidential; furthermore, the respondent anonymity will be maintained as they will not require mentioning their names.

Scientific honesty

To ensure scientific honesty, the researcher uses bracketing and intuiting to avoid bias.

III-Administrative design

An official approval was obtained from the Dean of the Faculty of Nursing of Benha University and the director of training and technical nursing schools administration at Menoufia Government through official letters sent to the managers of technical nursing schools at Menoufia Government explaining the aim of the study and to request permission to conduct the study. Official permissions for data collection and implementation of the program were obtained from managers of technical nursing schools at Menoufia Government .Assured complete confidentiality of the obtained information and the study would not affect in any way the work or educational process. The results of the study, along with the recommendations will be forwarded to the training and technical nursing schools administration at Menoufia Government for possible application, to obtain their permission

and help in conducting and facilitating data collection.

Meetings were held between the researcher and the nursing teachers and nursing students at schools. The aim of the study was discussed with them. The time for data collection and program implementation were also determined based on nursing schools 'mangers and nursing teachers' views to gain their approval and cooperation.

IV-Statistical design:

Data were verified prior to entry into the computer. The Statistical Package for Social Sciences SPSS version (22.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied quantitative data (frequency and percentages). Chi-square test (χ^2) was utilized to compare percentage between studied variable. Paired t test was used to compare mean scores between pre , post program and follow up phases . Pearson correlation(r) test was used for association between total scores . A significant level value was considered when $p \leq 0.05$ and a

Table (1): displays that, more than three quarters(76.7%) of the studied nursing teachers' age was between 25 -30 years with Mean \pm SD (26.75 \pm 2.52). As for their educational qualification most of the studied nursing teachers (95. 0%) had Bachelor degree in nursing . According to sex all of the studied nursing teachers were female . As regarding to years of experience less than three quarters (73.3%) of the studied nursing teachers had 1-3 years of experience with Mean \pm SD (4.17 \pm 2.14). While most (96.7 %) of the studied nursing teachers were married as regarding to their social status . And (78.3%)of studied nursing teacher attended training courses about professional development.

Table (2): displays that , more than half (53.4%) of the studied nursing students' age was above 18 years with Mean \pm SD (17.06 \pm 1.08). According to their class (52.3%) of the studied nursing students were in second class.

Figure (1): shows total knowledge percentage scores of the studied nursing teachers about professional development

highly significant level value were considered when $p \leq 0.00$. Arithmetic mean: as average describing the central tendency of observation. The standard deviation: as a measure of dispersion of results around the mean (for quantitative variable).

Limitations of the study

- The time for giving the session to nursing teachers was difficult to be organized
- Far distance between study settings .
- Variations in classroom instruction and routines may have contributed to variability in the data during observation of nursing teachers.
- The researcher did not include a comparison group of teachers who did not participate in the professional development program (PDP). It would be interesting to examine which changes in teachers' knowledge and performance are due to the PDP and which changes would occur naturally in a period of 6 months.

Results:

through the program phases. Which indicated that the program had greater effect on improving nursing teachers' knowledge throughout post and follow up phases of the program compared with the preprogram phase. Majority(88.3 %) and (83.3) of studied nursing teachers had satisfactory level of knowledge regarding professional development during post program and follow up phases compared with preprogram phase.

Figure (2): shows performance level of studied nursing teachers thorough the program phases. This figure illustrated that three quarters (75.0%) of studied nursing teachers had good level of performance regarding professional development domains at post-program phase .

Figure (3): shows satisfaction level of studied nursing students through the program phases. Figure indicated that (73.6%) and (67.8%)of studied nursing students had high level of satisfaction during post-program and follow up phase compared with preprogram phase.

Table (3): demonstrate correlation between total knowledge score and total performance of studied nursing teachers thorough the program phases. Table clarified, that there was a positive significant correlation between total knowledge score and total performance of studied nursing teachers thorough program phases.

Table (4): demonstrate correlation between total studied nursing teachers knowledge and total studied nursing students satisfaction level thorough the program phases. Table clarify, that there was no significant

correlation between total studied nursing teachers' knowledge and total studied nursing students' satisfaction thorough the program phases.

Table (5): demonstrates correlation between total studied nursing teacher' performance and total studied nursing students' satisfaction through the program phases. Table clarified, that there was a positive significant correlation between total performance of studied nursing teachers and total studied nursing students' satisfaction thorough the program phases.

Table (1): Frequency distribution of studied nursing teacher regarding to their demographic characteristics (n=60).

Demographic characteristics of studied nursing teachers	No	%
Age		
<25	6	10.0
25≤30	46	76.7
30+	8	13.3
Mean ±SD26.75±2.52		
Educational qualification		
Bachelor degree of nursing	57	95.0
Master degree of nursing	3	5.0
Sex		
Female	60	100.0
Male	0	
Years of Experience:-		
1 < 3 years	44	73.3
3 < 5 years	14	23.3
5 and more	2	3.3
Mean ±SD4.17±2.14		
Social Status		
Married	58	96.7
Unmarried	2	3.3
Attending training courses about professional development		
No	13	21.7
Yes	47	78.3

Table (2):Frequency distribution of studied nursing students regarding to their demographic characteristics (n=174).

Demographic characteristics of studied nursing students	No	%
Age		
15<16	14	8.0
16<17	55	31.6
17<18	12	6.9
18+	93	53.4
Mean ±SD17.06±1.08		
Class		
First class	32	18.4
Second class	91	52.3
Third class	51	29.3

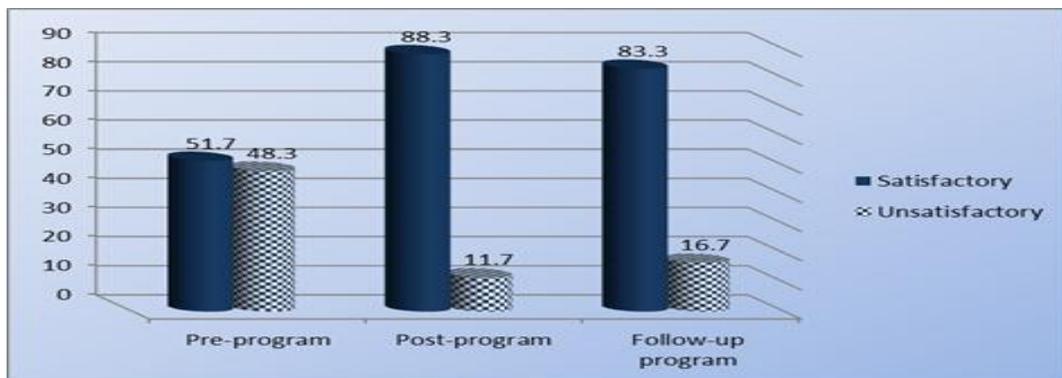


Figure (1): Percentage distribution of the studied nursing teachers regarding their total knowledge level about professional development through the program phases (n=60).

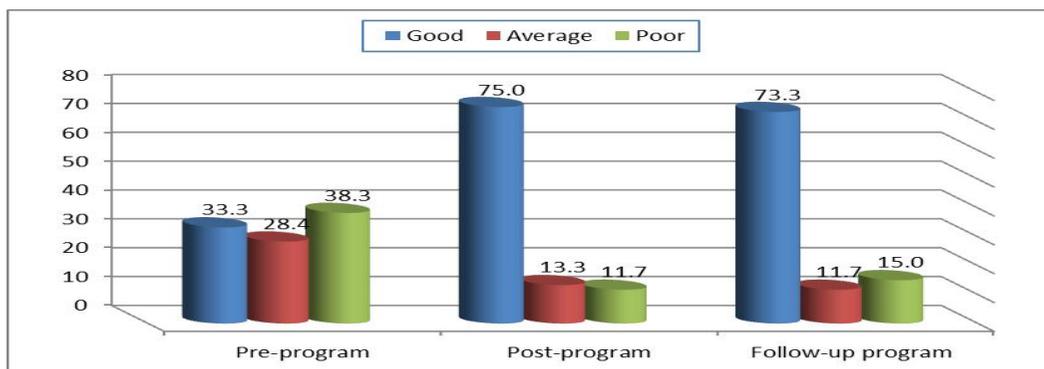


Figure (2): Percentage distribution of studied nursing teacher's performance level through the program phases (n = 60).

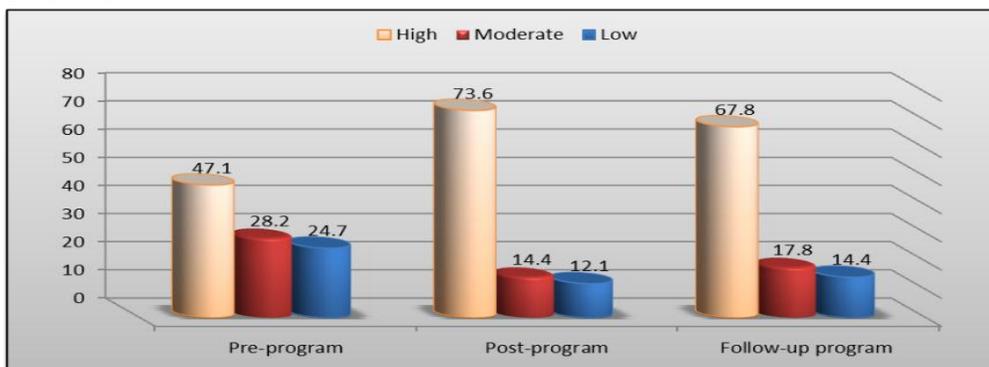


Figure (3): Percentage distribution of studied nursing students regarding their satisfaction level through the program phases.

Table (3): Correlation between total knowledge score and total performance level of studied nursing teachers thorough the program phases (n=60).

Variables	Total knowledge of studied nursing teachers					
	Pre-program phase		Post-program phase		Follow-up phase	
	r	p-value	r	p-value	R	p-value
Total performance level of studied nursing teachers	.253	.05*	0.612	.03*	.600	.01*

Table (4): Correlation between total studied nursing teachers knowledge and total studied nursing students satisfaction thorough the program phases.

Variables	Total knowledge of studied nursing teachers					
	Pre-program phase		Post-program phase		Follow-up phase	
	r	p-value	R	p-value	r	p-value
Satisfaction of studied nursing students	.015	.910	0.03	.797	.09	.483

Table (5): Correlation between total studied nursing teacher performance and total studied nursing students satisfaction thorough the program phases.

Variables	Total performance of studied nursing teachers					
	Preprogram phase		Post-program phase		Follow-up phase	
	r	p-value	R	p-value	r	p-value
Total satisfaction of studied nursing students	.08	.005*	0.7	.007*	.534	.03*

Discussion:

Discussion of the study was presented in the following sequence

Demographic characteristics of studied subjects:

The present study illustrated that distribution of studied nursing teachers regarding their demographic characteristics, according to their age more than three quarters of nursing

teachers were between 25 -30 years with Mean \pm SD (26.75 \pm 2.52) . As for their educational qualification most of nursing teachers (95. 0%) had Bachelor degree of nursing. According to sex all of nursing teachers were female. As regarding to years of experience majority of nursing teachers (73.3%) had 1-3 years of experience with Mean \pm SD (4.17 \pm 2.14). While most of nursing teachers (96.7 %) were married as regarding to their social status. And (78.3%) of nursing

teachers attended training courses about professional development.

The present study illustrated that distribution of studied nursing students regarding their demographic characteristics, according to their age more than half (53.4%) of studied nursing students were above 18 years with Mean \pm SD (17.06 \pm 1.08) . As for their class more than half of nursing students were in second class.

Nursing teachers knowledge regarding professional development thorough the program phases:

The present study illustrated that, there was statically significant difference in nursing teachers' knowledge level thorough the program phases, which indicated that the program had a positive effect on improvement of nursing teachers knowledge level about Professional development throughout post program and

follow up phases compared with preprogram phase.

From researcher point of view inadequacy nursing teacher's knowledge about Professional development was related to college and university programs that cannot provide the extensive range of learning experiences necessary for graduates to become effective educators also inadequate training of nursing teachers about professional development. So this improvement was related to utilizing of professional development program. Increasing knowledge acquired by nursing teachers could be explained by the fact that learning was not a passive experience and courses created an interactive environment.

This result was supported by *Fabriz, et al., (2020)* who conducted study about how a professional development program for teachers impacts their teaching-related self-efficacy, self-concept, and subjective knowledge at German University. The study showed increasing the teacher's knowledge level thorough post and follow up program phases.

This result was contradicted with *Anderson, and Tully, (2020)* who conducted study about designing and evaluating an integrated professional development program for school teachers in Australia. They found that teachers improved in their self-efficacy and made productive changes in their classroom practices, though no significant gains in knowledge was detected.

Nursing teachers performance regarding professional development thorough the program phases

The current study revealed that, there was significant difference improvement of nursing teachers' performance throughout post program and follow up phase compared with preprogram phase.

From researcher point of view the professional development program can foster

improvements in teaching skills. So, foundations and agencies spend large sums on the design and implementation of PD programs. Yet despite this widespread agreement due to its importance in improving teaching process. Professional development courses can improve teachers 'efficacy in their professional performance. Professional development for teachers is now recognized as a vital component of policies to enhance the quality of teaching and learning in the schools.

This result findings were in agreement with *Egert, Dederer, and Fukkink, (2020)* who conducted a study about the impact of in-service professional development on the quality of teacher-student interactions in education and care and stated that there was a highly statistical significant difference of studied teachers' total performance and experimental findings were positive, quality of in-service programs, have the strength to improve teachers performance.

This result was contradicted with *Novozhenina, and LopezPinzon, (2018)* who conducted a study about impact of a professional development program on teachers' performance, they gave an account of a project aimed at improving the teaching performance and self-reflection of teachers in Colombia by means of a professional development program , the Findings demonstrated that the program initiated some slight changes in teachers' performance and reflection and still left space for more training and improvement.

Nursing students' satisfaction level thorough program phases:

The present study revealed that, there was improvement of nursing students satisfaction levels throughout post program and follow up phases compared with preprogram phase. This result due to improve level of knowledge and performance of studied nursing teachers regarding professional development after program application, this increase students' satisfaction with their learning processes.

This result finding were supported by *Alconero-Camarero, Sarabia-Cobo, Catalán-Piris, González-Gómez, and González-López, (2021)* who conducted a study about nursing students' satisfaction: A comparison between medium-and high-fidelity simulation training in two Spanish Universities. They showed that, there was a significantly higher level of satisfaction of studied students.

This result was contradicted with *Hakim, (2014)* who conducted a study about students' satisfaction about their field of study in 6 major topics (situation of educational environment, situation of clinical environment, trainers, social image, relation to colleagues and management). This study was performed to evaluate the nursing students' satisfaction about their field of study and stated that most students had little satisfaction concerning to their field of study.

Correlation between study variables thorough program phases:

The current study revealed that there was a positive statistically significant correlation between total knowledge score and total performance of studied nursing teachers through program phases.

From researcher point of view a positive statistically significant correlation between total knowledge score and total performance of studied nursing teachers through program phases .As a results of involvement of nursing teachers in professional development program this, positively impacted their ability to address teaching problems and they could transfer their new knowledge to their work. The effectiveness of the teachers' professional knowledge increased and consequently, their teaching performance level also improved. Moreover, improvement in nursing teachers knowledge regarding professional development resulting in utilizing of effective teaching skills and demonstrated higher teaching performance and contributes to their growth as teachers.

This result findings were supported by *Miedijensky, and Sasson, (2020)* who conducted study about participatory action research as a way to innovate teaching, teachers' professional development perceptions and performances . The study examined in-service teachers who engaged in a year-long professional development course. The findings indicated that there was positive significant correlation between teachers' knowledge and performance during the course.

This result was contradicted with *Depaepe and König, (2018)*. They conducted study about general pedagogical knowledge, self-efficacy and instructional performance: Disentangling their relationship in-service teacher education. They stated that the correlation between the teachers' scores of knowledge and performance was not statistically significant.

The current study revealed that, there was not significant positive correlation between total studied nursing teachers knowledge regarding professional development and total studied nursing students satisfaction through the program phases.

From researcher point of view a positive correlation between total knowledge score regarding professional development and total studied nursing students satisfaction as a result of professional development program which linked to acquiring the knowledge and strategies needed to improve student learning and increase student satisfaction. Moreover, increasing teachers' understanding of the content they teach, how students learn that content and how to represent and convey that content in meaningful ways .

This result finding were supported by *Chang, Ward and Goodway, (2020)*. They conducted study about the effect of a content knowledge teacher professional program on enacted pedagogical content knowledge and students' satisfaction and learning outcomes. The findings of this study showed that improvement in teachers' knowledge can result in better student satisfaction level.

This result was contradicted with *Affandi, Saputra, and Husniati, (2020)*. They conducted study about teaching for what?-investigating the effect of teacher's pedagogical knowledge on school students' satisfaction and outcome. This research aimed at exploring effect of teachers' knowledge on students' satisfaction and outcome. This research stated that there was a significant correlation between teachers' knowledge and students' satisfaction.

The current study revealed that, there was positive significant correlation between total performance of studied nursing teachers and total studied nursing students satisfaction level through the program phases.

From researcher point of view a positive significant correlation between total performance of studied nursing teachers and total studied nursing students satisfaction as a result of nursing teachers' participation of professional development program which led to understanding the factors that contribute to high-quality teaching and effective teacher professional development, which improves teaching skills and student satisfaction and outcomes.

This result finding were supported by *Weerasinghe, and Fernando, (2018)*. They conducted study about critical factors affecting students' satisfaction with higher education in Sri Lanka. This study showed that there was positive statistically significant correlation between total performance of studied teachers and students satisfaction.

This result was contradicted with *Rashidi, and Moghadam, (2014)*. They conducted study about the effect of teachers' performance and sense of self-efficacy on Iranian learners' satisfaction and academic achievement and concluded that there was a significant negative correlation between teachers' performance and students' satisfaction. Moreover, a small positive correlation between teachers' sense of self-efficacy and student satisfaction was found.

Conclusion:

Based on the finding of the current study, it can be concluded that: The present study concluded that the educational program was effective in improving nursing teachers level of knowledge and performance and increased nursing students 'satisfaction level thorough the program phases : There was an improvement in the level of knowledge and performance of studied nursing teachers regarding professional development thorough post program and follow up program phases compared with preprogram phase, also the studied nursing students increased their level of satisfaction during post-program and follow up phases compared with preprogram phase, moreover there was a positive statistical significant correlation between total knowledge score and total performance of studied nursing teachers through program phases, while there was a positive with no statistical significant correlation between total studied nursing teachers' knowledge and total studied nursing students' satisfaction thorough the program phases. And finally, there was a positive statistical significant correlation between total performance of studied nursing teachers and total studied nursing students' satisfaction thorough the program phases.

Recommendations:

In the light of the findings obtained from the current study, the following recommendations were suggested

1. Continuous application of needs assessment to recognize nursing teachers professional development needs.
2. Conducting an educational program must be continuous process to improve nursing teachers level of knowledge and performance about professional development especially newly nursing teachers

Further researches:

1. Replication of the study on a larger probability sample is highly recommended to achieve generalized results.
2. Study effect of professional development program on nursing teachers' job satisfaction.

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