Design a Model for the Association among Transition Shock, Empathy, Resilience, and Coping Strategies with Professional Quality of Life

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Abstracts: Background: Many newly graduated nurses left nursing careers within the first year of practice. So, the high turnover rate of new nurses exacerbates the nursing shortage and causes a serious waste of nursing education resources and the financial costs of hospitals. Aims: To design a model for the association among transition shock, empathy, resilience, and coping strategies with professional quality of life among newly graduated nurses. Design: a predictive correlational study design was used. Setting: The study was conducted at Assiut University Hospitals, (General Medical Surgical, Pediatric, Obstetrics and Gynecology, Urology, Neurology and Psychiatry, EL- Rajhi-Liver, and Cardiology hospitals). Subject and Method: A convenient sample was used with a total numbers of 256 newly graduated nurses (within the first year of employment) working at the mentioned hospitals. The data collected through self-administered questionnaires includes socio-demographic data, a transition shock scale, an empathy scale, a resilience scale, a coping strategies questionnaire, and a professional quality of life scale. Results: There was a statistically significant positive correlation between empathy, resilience, coping strategies, and professional quality of life, except between transition shock and professional quality of life. Conclusion: More than one third (40.6%) of the studied participants suffer from moderate levels of transition shock.

Keywords: Newly Graduated Nurses, Transition Shock, Empathy, Resilience, Coping Strategies, Professional Quality of Life.

1. INTRODUCTION

Coping with a new practice environment as quickly as possible is a challenge faced by newly graduated nurses (NGN). The majority of them go through a lot of stress in the beginning of their professions because of issues like trouble following medical orders, not having enough capacity, insufficient technical skills, and having a lot of patients to take care of. These problems can also lead to transition shock [1].

Transition shock is described as an emotional burden. These emotions include exhaustion from trying to control the emotional roller coaster, fear of being exposed as incompetent, fear of giving unsafe care and unintentionally harming patients, and fear of being unable to handle their responsibilities, so they should navigate transition shock and become highly qualified practitioners in clinical practice [2].

To effectively navigate transition shock, NGN should receive a sufficient amount of empathy from nursing personnel, the nursing director, and their colleagues [3].

So, empathy is defined by **Stone** [4] as the capacity to understand patients' feelings in order to facilitate a more accurate diagnosis and more compassionate treatment, so empathy is considered very important to develop good resilience in the first year of newly graduated nurses clinical practice.

The availability of resilience among NGN has the potential to protect their health and welfare, provide workforce sustainability, and ensure high-quality care [5].

Alannah, et. al. [6] defined resilience as an individual process of growth that happens as a result of using personal safeguarding characteristics to effectively deal with stress and adversity. Successes over time result in improved coping and adaptive skills and wellbeing.

Starting a career in the health profession is more stressful than starting a career in any other field, especially for nurses [7]. So, **Hezaveh, et. al.** [8] hypothesize that recently graduated nurses are likely underprepared to handle difficult working situations, so their coping strategies appear to be very important to deal with these issues.

Coping strategies among NGN are defined by **Sajadi, et. al.** [9] as unique behavioural and psychological strategies that newly graduated nurses use to control, tolerate, reduce, or minimize stressful situations.

The previous variables were considered very important for NGN professional quality of life and to successfully cope with a new profession [3].

Professional quality of life (PQoL) refers to both the positive and negative feelings that NGN has about their job as assistants, as well as how much they are able to satisfy significant personal needs as a result of their experiences in their workplace while achieving the objectives of the workplace [10].

1.1. Significance of the study

Nursing administration department is responsible for practical supervision of nursing internship students, and the researcher noticed during the residence period that newly graduated nurses are very scared and exhausted due to their transition from theory to practice, so the researcher found that studying transition shock, empathy, resilience, and coping strategies with PQoL among NGN is very important today.

1.2. Aims of the study

- To examine NGN' transition shock, empathetic qualities, resilience, coping strategies, and PQoL.

- To explore the correlation among these mentioned variables through the design of a model.

1.3. Research hypotheses

Is there a correlation between NGN' transition shock, empathy, resilience, coping strategies, and PQoL?

2. METHODS

2.1. Design

A Predictive correlational design was used.

2.2. Study Setting

The study was conducted at Assiut University Hospitals No.= (7 hospitals), which includes General Medical Surgical Hospital (bed No.=1700), Pediatric Hospital (bed No.=400), Obstetrics and Gynecology Hospital (bed No.=316), Urology Hospital (bed No.=175), Neurology and Psychiatry Hospital (bed No.=354), EL- Rajhi Liver Hospital (bed No.=200), and Cardiology Hospital (bed No.=240).

2.3. Study Subject

A convenient sample was used, with total numbers (256) of NGN (within the first year of employment, November 2021) distributed as shown in the following table:

Hospital	No. of newly Graduated Nurses
General Medical Surgical hospital	174
Pediatric hospital	29
Obstetrics and Gynecology hospital	11
Urology hospital	8
Neurology and Psychiatry hospital	10
Rajhi- Liver hospital	12
Cardiology hospital	12
Total	256

2.4. Tools Of the Study:

Tool I: A structured, self-administrated questionnaire sheet that consists of two parts:

Part (1): **Socio-demographic Data Sheet:** It was designed to collect data about NGN' gender, age, marital status, and hospital name.

Part (2): **Transition `shock scale**, which was developed by **Young, et. al.** [11] and modified by **Qian, et. al.** [12] and consists of 18 items and six subscales: mismatch between theory and practice (3 subitems), overwhelming workload (4 subitems), lack of social support (3 subitems), shrinking relationships with colleagues (2 subitems), confusion in professional nursing values (3 subitems), and work-life imbalance (3 subitems). Items rank on a 5-point Likert scale, from 1 "not true at all" to 5 "true all the time. Score interpretation will vary according to the 18 items and the total score, which equals 90. Scores from 90 to 60 indicate higher transition shock, scores from 59 to 30 indicate moderate transition shock, and scores from 29 to 18 indicate low transition shock.

Tool (II): **Jefferson Empathy Scale**, which was developed by **Hojat, et. al.** [13] and modified by **Julia, et. al.** [14] and consists of 20 items and 3 subscales: standing in the patient's shoes (3 subitems), compassionate care (6 subitems), and perspective taking (11 subitems). Items rank on a 5-point Likert scale, from 1 "not true at all" to 5 "true all the time". Score interpretation will vary according to the 20 items and the total score, which equals 100. Scores from 100 to 66 indicate higher empathic qualities, scores from 65 to 33 indicate moderate empathic qualities, and scores from 32 to 20 indicate low empathic qualities.

Tool (III): **Resilience Scale,** which was developed by **Connor and Davidson** [15] and modified by **Scali, et. al.** [16] and consists of 25 items. Items rank on a five-point Likert scale, from 1 for "not true at all" to 5 "true all the time". Score interpretation will vary according to the 25 items and the total score, which equals 125. Scores from 125 to 83 reflect high resilience, scores from 82 to 41 reflect moderate resilience, and scores from 40 to 25 reflect low resilience.

Tool (IV): **Coping Strategies Questionnaire**, It was created by **Addison, et. al.** [17] and consists of two domains and 16 items in total. Problem-focused engagement and emotion-focused engagement are two subdomains of positive coping, while problem-focused disengagement and emotion-focused disengagement are two subdomains of negative coping. Each of the four subdomains contained four items. Items are graded on a Likert scale of 1 to 5, with 1 denoting "never" and 5 denoting "almost always". Score interpretation will vary according to 16 items, resulting in a total score of 80. Scores from 80 to 54 indicate high coping strategies, scores from 53 to 33 indicate moderate coping strategies, and scores from 32 to 16 indicate low coping strategies.

Tool (V): **Professional Quality of Life Scale**, which was developed by **Zhang and Yang** [18] and modified by **Cao, et. al.** [3] and comprises 40 items. Items rank on a 5-point Likert scale, from 1 "not true at all" to 5 "true all the time". Score interpretation will vary according to 40 items, resulting in a total score of 200. Scores from 200 to 133 indicate high-level PQoL, scores from 132 to 67 indicate moderate-level PQoL, and scores from 66 to 40 indicate low-level PQoL.

2.5. Validity and Reliability of study tools:

After reading the available literature concerning the subject of the study, and Arabic translation of the study tools was complete. The face validity of the study tools was checked by five experts in the same specialty at the same faculty.

Reliability was tested by using Crombach's Alpha Coefficient Test, they were **(α = 0.821)** for the Transition Shock Scale, **(α = 0.858)** for the Jefferson Empathy Scale, **(α = 0.799)** for the Resilience Scale, **(α = 0.832)** for the Coping Strategies Questionnaire, and (**α = 0.812)** for the PQoL Scale.

3. PROCEDURE

The preparatory phase, pilot study, and field work are three sections included in the procedure of this study. The total data collection period lasted about one year, from December 2021 to November 2022.

3.1. Preparatory Phase

This phase lasted about 90 days, from August to October 2021. It includes reading available literature related to the topics of the study in scientific journals and textbooks.

3.2. Pilot Study

A pilot study on 25 nurses, which represent 10% of the total study subjects working at Assiut University Hospitals, was taken based on **Rufus** [19]. If the sample size is 100, then 10% must be taken for the pilot study (1/10th), and this sample is not excluded from the study sample.

3.3. Work field

The researcher stays with each NGN in the study to discuss the purpose of the study and ask for involvement. The study tools were handed to each nurse to be completed through self-administered questionnaires to assess NGN's response to study variables. Each nurse takes 50 minutes to complete the questionnaires. Data collection takes one year, from December 2021 to November 2022.

3.4. Ethical Approval

The Assiut University Faculty of Nursing's Ethics Committee evaluated and accepted the study request under the number (IRB no. 1120230296). All participants were made aware of the purpose and objective of the study before data collection began, and the confidentiality of their information was ensured. The study's contributors were informed of their right to privacy and that they might participate or withdraw at any moment. Then their permission was acquired. It confirmed their free and voluntary consent.

3.5. Statistical analysis

Statistical Package for Social Sciences (SPSS) V.22 was used to organize, categorize, code, tabulate, and analyze the acquired data. Numbers, percentages, means, and standard deviations were used to portray data in tables and figures. A t-test was used to compare the means of variables. Pearson correlation was used to measure the correlation between quantitative variables. A P-value of 0.05 was declared statistically significant.

4. RESULTS

Table (1): Socio-demographic data of study participants (n= 256).

Socio- demographic data	No. (256)	%
Hospitals:		
General Medical Surgical	**174**	**68.0%**
Pediatrics	29	11.3%
Cardiology	12	4.7%
Liver	12	4.7%
Obstetrics and gynecology	11	4.3%
Psychiatry	10	3.9%
Urology	8	3.1%
Age: (years)		
20 - < 24	120	46.9%
24 – 26	**136**	**53.1%**
Mean ± SD (Range)	23.62 ± 1.22 (20.0-26.0)	
Sex:		
Male	91	35.5%
Female	**165**	**64.5%**
Marital status:		
Single	**190**	**74.2%**
Married	66	25.8%

Table (2): Mean score of Transition shock, Empathy, and Coping Strategies dimensions of study participants.

| Transition shock dimensions	Mean ± SD	Range
Conflict between theory and practice	8.75 ± 2.80	3.0-15.0
Overwhelming workload	**12.00 ± 3.48**	4.0-20.0
Loss of social support	9.50 ± 2.99	3.0-15.0
Shrinking relationship with co-workers	5.20 ± 2.50	2.0-10.0
Confusion in professional nursing values	9.49 ± 3.51	3.0-15.0
Incongruity in work and personal life	10.55 ± 2.77	3.0-15.0
Total Transition shock dimensions	**55.50 ± 12.95**	23.0-87.0
Empathy dimensions	**Mean ± SD**	**Range**
Compassionate care	23.97 ± 5.15	6.0-30.0
Perspective taking	**36.85 ± 5.12**	24.0-49.0
Standing in the patient's shoes	11.21 ± 2.46	5.0-15.0
Total Empathy dimensions	**72.03 ± 10.27**	42.0-91.0
Coping strategies dimensions	**Mean ± SD**	**Range**
Positive Coping		
Problem-focused engagement	**14.61 ± 3.69**	4.0-20.0
Emotion-focused engagement	13.97 ± 3.78	4.0-20.0
Negative Coping		
Problem-focused disengagement	**12.74 ± 3.57**	4.0-20.0
Emotion-focused disengagement	13.48 ± 3.87	4.0-20.0
Total Coping strategy dimensions	**54.80 ± 9.66**	21.0-80.0
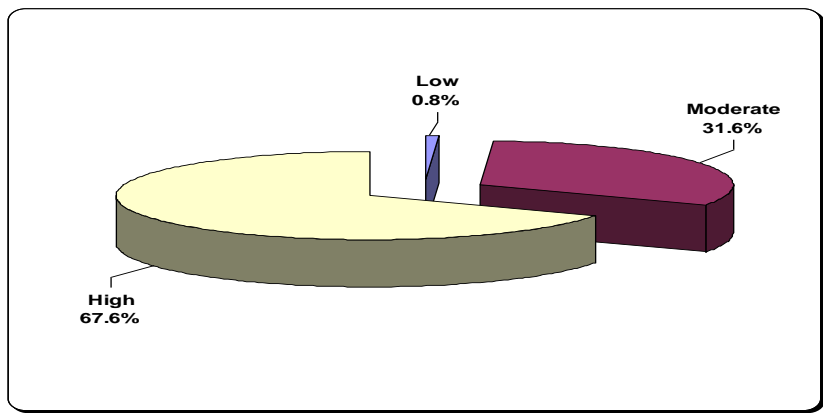
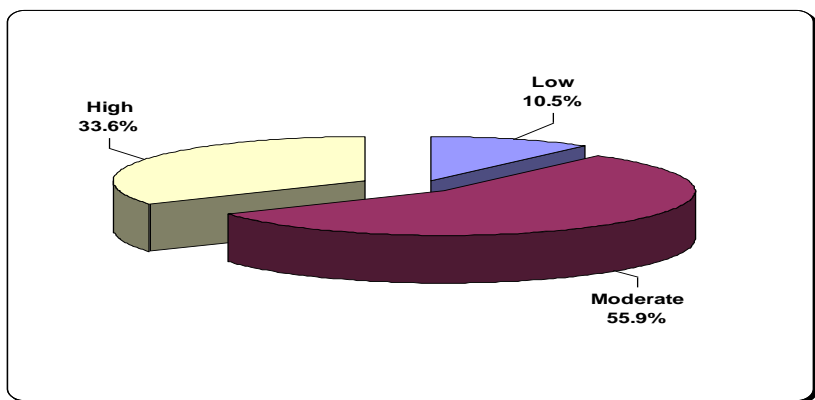**Figure (1): Resilience levels of study participants**

Figure (2): Professional quality of life levels of study participants.

Table (3): Relationship between Transition shock, empathy, resilience, coping strategy, and PQoL according to Socio-demographic data for NGN working in a study setting (n = 256).

Socio-demographic data	Transition shock scale	Empathy Scale	Resilience Scale	Coping strategy scale	Professional quality of life
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Hospitals:					
Medical Surgical hospital	55.70 ± 12.12	72.55 ± 10.31	89.80 ± 18.56	55.16 ± 10.48	119.23 ± 25.20
Other university hospitals	55.06 ± 14.64	70.94 ± 10.17	88.88 ± 16.84	54.04 ± 7.64	125.82 ± 25.98
P-value	0.713	0.244	0.702	0.386	0.054
Age: (years)					
20 - < 24	55.06 ± 13.00	73.02 ± 9.50	90.59 ± 17.02	55.63 ± 8.64	**125.06 ± 23.09**
24 – 26	55.88 ± 12.95	71.16 ± 10.87	88.55 ± 18.83	54.07 ± 10.46	118.06 ± 27.28
P-value	0.612	0.150	0.367	0.200	**0.029***
Sex:					
Male	52.41 ± 12.34	68.62 ± 10.53	87.24 ± 17.26	54.30 ± 11.21	123.63 ± 23.37
Female	57.20 ± 13.00	73.92 ± 9.66	90.76 ± 18.32	55.08 ± 8.71	120.08 ± 26.72
P-value	**0.004***	**0.000***	0.135	0.536	0.289
Marital status:					
Single	55.40 ± 12.81	72.64 ± 10.25	90.61 ± 16.98	55.17 ± 10.19	121.51 ± 24.18
Married	55.77 ± 13.45	70.27 ± 10.22	86.33 ± 20.46	53.73 ± 7.90	120.86 ± 29.48
P-value	0.841	0.107	0.096	0.296	0.861

Table (4): Correlations between Transition shock, Empathy, Resilience, Coping strategies, and PQoL as reported by NGN working in a study setting (n = 256).

		Transition shock scale	Empathy Scale	Resilience Scale	Coping strategies scale	Professional quality of life
Transition shock scale						
Empathy scale	r-value	**0.209**				
	P-value	**0.001***				
Resilience scale	r-value	0.005	**0.494**			
	P-value	0.938	**0.000***			
Coping strategies scale	r-value	0.070	**0.325**	0.483		
	P-value	0.262	**0.000***	0.000*		
Professional quality of life	r-value	**-0.306**	0.064	0.341	0.261	
	P-value	**0.000***	0.311	0.000*	0.000*	

Model (1): Hypothesized model proposing the direct relationships of transition shock, empath, resilience, coping strategies, and PQoL among NGN working in the study setting (n= 256).
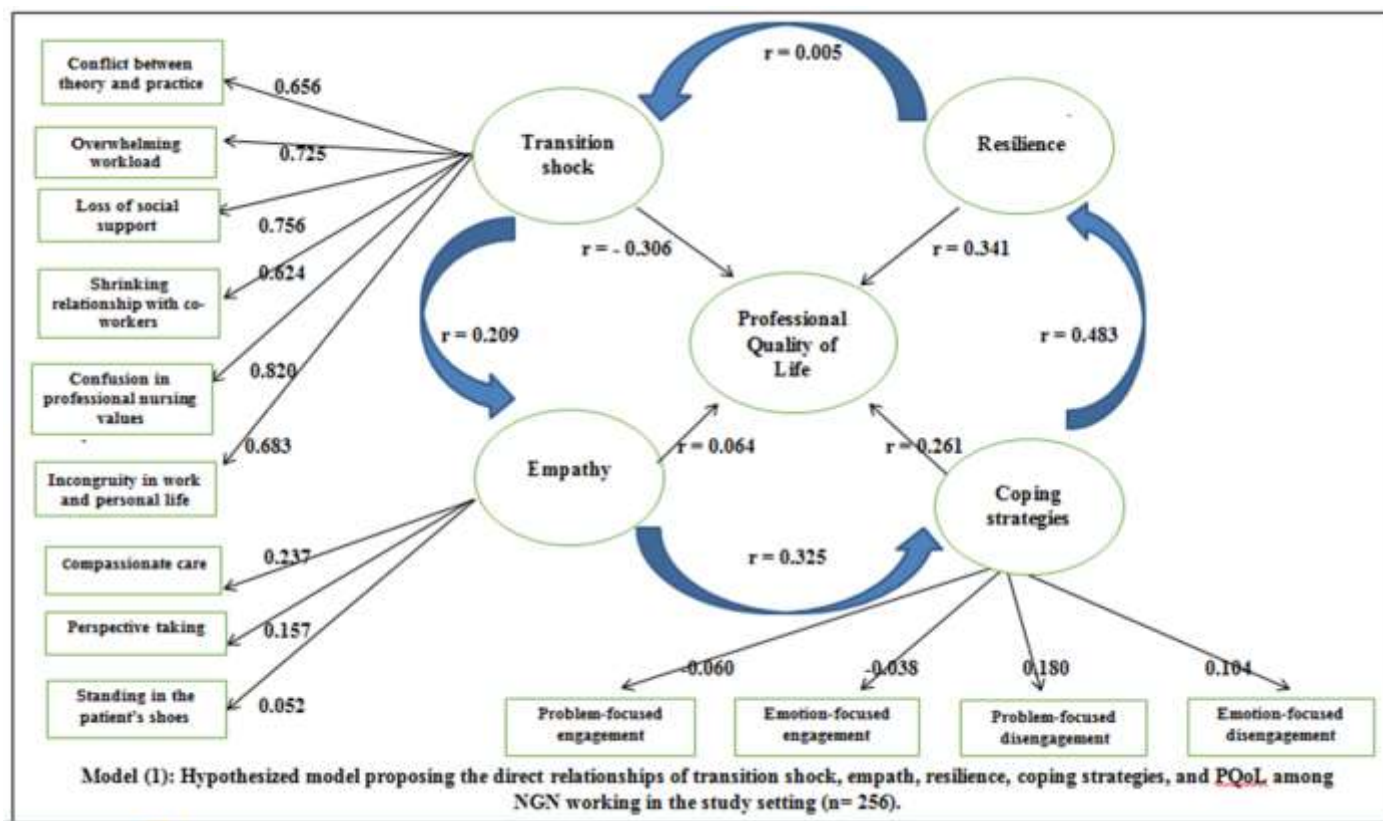
Table (1) depicts that (64.5%) of NGN are female, (68.0%), of them working at general medical surgical hospital, and (53.1%) of them aged from 24 to 26 years old.

Table (2): reveals that the highest mean score concerning transition shock dimensions belonged to overwhelming workload (12.00 ± 3.48) with a total mean score of transition shock dimensions (55.50 ± 12.95), the highest mean score concerning empathy dimensions is related to perspective taking (36.85 ± 5.12) with a total mean score of empathy dimensions (72.03 ± 10.27), and the highest mean score concerning positive coping dimensions is related to problem-focused engagement (14.61 ± 3.69), while the lowest mean score is related to problem-focused disengagement (12.74 ± 3.57) with a total mean score of coping strategy dimensions (54.80 ± 9.66).

Figure (1) demonstrates that (67.6%) of NGN have a high resilience level, while less than one-third of them (31.6%) have a moderate resilience level, and less than one percent of them (0.8%) have a low resilience level when dealing with adversity within the first year of their employment.

Figure (2) reveals that (55.9%) of NGN have a moderate level of PQoL, while (33.6%) of them have a high level of PQoL, and only (10.5%) of them have a low level of PQoL within their first year of employment.

Table (3) illustrates that the highest mean score is regarding PQoL for NGN aged from 20 to < 24 years old (125.06 ± 23.09), with statistically significant differences between PQoL and age (0.029*). Also, there are statistically significant differences between transition shock and empathy with sex (0.004* and 0.000*).

Table (4) shows that there is a positive correlation with statistical significance between transition shock and empathy (0.001*), and between empathy, resilience, and cgoping strategies (0.000*), also, between resilience, coping strategies, and PQoL (0.000*), finally, between coping strategies and PQoL (0.000*). Except one negative correlation with statistical significance between transition shock and PQoL (0.000*).

Model (1): highlights the role of both transition shock, empathy, resilience, and coping strategies and their influences on PQoL among NGN. The researcher found that NGN who experience a higher level of transition shock will experience a lower level of PQoL, and those who experience higher levels of empathy, resilience, and coping strategies will experience a higher level of PQoL.

5. DISCUSSION

The results of the study depicted that, the highest mean score concerning transition shock dimensions was belonging to overwhelming workload (table, 2). This might be due to NGN' transition from familiar university school environment to unfamiliar practice environment and unexpected workload.

These findings were in line with study conducted by Blomberg, et. al. [20] who mentioned that both NGN working in hospitals and those outside hospitals expressed frustration with their colleagues, a lack of cooperation, heavy caseloads, and time pressure.

As shown in the current study, the highest mean score concerning empathy dimensions belonged to the perspective-taking dimension (table, 2). This might be due to the fact that one of the most important elements in the relationship between NGN and their patients and health care team is perspective taking and good interpersonal communication.

These findings were consistent with Osman [21] who reported that taking into account other people's viewpoints is one of the most crucial ways to practice empathy at the workplace. Empathy is the capacity to understand and share another person's meaning and feelings.

Ongoing on the study results, the highest mean score concerning coping strategy dimensions belonged to positive coping dimensions (problem-focused engagement) (table 2). This might be due to the fact that most NGN use problem-focused strategies to try to deal with the cause of their problem and do this by acquiring knowledge about the problem and developing innovative management techniques.

These results were in line with those of Ebstein, et. al. [22] who found that the majority of recently graduated nurses turn to problem-focused coping, particularly problem-solving techniques, and seek social support as additional stress-reduction strategies. For NGN dealing with occupational stress, this technique was thought to be more beneficial than emotion-focused coping and was linked to positive sentiments of self-fulfilment and wellbeing.

From the results of the current study, (67.6%) of NGN have a high resilience level (fig. 1). This might be attributed to the fact that all NGN had their training during their years of study in the faculty and also spent one year of internship at Assiut University Hospitals, and these years were sufficient to make them well-oriented with the

hospital environment and have good relationships with many people. They were also sufficient to make them have high resilience and coping skills to cope with new practice and a heavy patient workload during the first year of their employment.

These findings were consistent with those of Irwin & Janz [23] who found that pre- and post-resilience assessments for NGN resilience programmes indicated that the majority of them had high resilience skills during the first year of their employment.

According to the current study's findings, more than 50% of newly licenced nurses report a moderate level of PQoL (fig. 2). This may be explained by the fact that recently graduated nurses are able to meet significant personal requirements as a result of their experiences at their workplace and during their internship year, while at the same time accomplishing the objectives of the organization.

These findings were consistent with those of Eka & Tahulending [24] who illustrated that, through conducting a study in Indonesia, more than half of NGN experienced moderate levels of work satisfaction and PQoL.

These findings were inconsistent with Gemeay, et. al. [25] who mentioned that more than half of NGN experienced burnout and secondary traumatic stress; one of the causes might be a deficiency of knowledge and skills to handle unforeseen circumstances such as a demanding job and a stressful environment, and most of them experienced negative aspects of their PQoL.

Findings of the study demonstrated that the highest mean score was concerning to PQoL for NGN aged from 20 to < 24 years old, with statistically significant differences between PQoL and age (0.029*). Also, between transition shock and empathy with sex (0.004* and 0.000*), (table, 3). This might be due to the fact that most younger NGN are single and free from the burden of responsibilities and duties towards their families, so they have moderate levels of PQoL.

These findings were inconsistent with those of Wang, et. al. [26] who illustrated that, due to their extensive clinical experience and emotions of competence acquired over their years of work, elder nurses were shown to have greater levels of PQoL and compassion fulfilment, which lowers their sense of burnout.

The results of the study demonstrated that there is a positive correlation between empathy, resilience, coping strategies, and PQoL, except between transition shock and PQoL, with a statistically significant relationship between PQoL and transition shock, resilience, and coping strategies, except between PQoL and empathy (table 4 and the model). This might be attributed to the fact that NGN who experience a higher level of transition shock will experience a lower level of PQoL due to the mismatch between familiar nursing school and unfamiliar practice environments and heavy patient workloads, while those who experience higher levels of empathy, resilience, and coping strategies will experience a higher level of PQoL and be able to navigate through transition shock to new professional roles.

These findings were in line with the study by Cao, et. al. [3] who discovered that PQoL was significantly negatively impacted by transition shock and passive coping. PQoL was significantly and negatively correlated with burnout and strongly positively correlated with empathy, resilience, and adaptive coping, respectively.

CONCLUSIONS

In general, there is a positive correlation between empathy, resilience, coping strategies, and PQoL except between transition shock and PQoL, with a statistically significant relationship between PQoL, transition shock, resilience, and coping strategies except between PQoL and empathy (0.000*).

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