

Work Engagement, Moral Distress and Critical Reflective Practice among Nursing Personnel in Intensive Care Units at Zagazig University Hospitals

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Abstract:

Background: Work engagement is the key to hospitals efforts to retain nurses and mitigate future nursing shortages through reducing moral distress and applying critical reflective practice to enhance nursing career. **Aim of the study:** was to assess nurses' work engagement, moral distress and critical reflective practice among nursing personnel in intensive care units at Zagazig University Hospitals. **Subjects & methods: Research design:** A descriptive correlation design carried out this study. **Setting:** The present study was conducted in the Emergency Hospital with an Intensive Care Casualty Unit of 15 beds; and the New Surgical Hospital with a surgical Intensive Care Unit with 24 beds, at Zagazig University Hospitals. **Subjects:** the present study includes convenience staff nurses (n=124), 70 of staff nurses were from surgical intensive care unit, and 54 of them from the intensive casualty unit. **Tools of data collection:** by using a questionnaire sheet for nurses composed of four parts, Personnel characteristics sheet, The Utrecht work engagement scale, Moral distress scale of nurses and Critical Reflective Practice Questionnaire. **Results:** The majority of nurses (83.9%) were having high level of work engagement while most of them (96.8%) were level of they have higher critical reflective practice and most of them (92.7%) were having low level of moral distress with their work. **Conclusion:** There was a statistically significant relation between nurses' work engagement and their critical reflective practice, while there was no statistically significant relation between nurses' work engagement and their moral distress. As well, there was no statistically significant relation between nurses' critical reflective practice and their moral distress. **Recommendations:** Develop job description for nurses work in intensive care units and new performance appraisal tool, establish guidelines/protocols to address ethical issues, involve staff members in the development of organizational policies and guidelines, establish a journal for nurses and advocate for increased nursing education funding

Key words: Nurses' work engagement – Moral distress- Critical reflective practice

Introduction:

Today's critical care environment needs to apply critical reflective practice among nurses which enhances their creative ability as well as creates effective learning environment this provides optimal functioning and happiness for nurses and increase nurses engagement with their work. This is a very important issue in order to retain nurses, decrease nursing shortage and reduce moral distress. Nurses put their energy into interaction with patient while their positive approach motivates other staff to create a more engaged work place.⁽¹⁾

Work engagement is an energetic, deep involvement with work and includes energy, involvement, and

professional efficacy. Engagement confirms to an individual that they are good at doing important work. Also, work engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption.^(2, 3) Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work, and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties

with detaching oneself from work. ⁽⁴⁾

Nurses may experience negative feelings such as burnout, moral distress and depression. Moreover, nurses' occupational settings will always surround with elements of stressful, traumatic situations, and episodes of hardship. Nurses with higher work engagement are believed to be able to combat these adverse affects efficiently, which in turn, will lead to better service quality. ⁽⁵⁾

Moral distress is a major problem for nurses, leading to physical and emotional problems, as well as affecting job retention, job satisfaction, and quality of care. Increased levels of moral distress have been found to lead to medical errors, nurse burnout, attrition, compassion fatigue, feelings of powerlessness, and patient avoidance. Furthermore, high frustration and job dissatisfaction may lead to lateral violence and an overall unhealthy work environment. Moral distress consists of negative stress symptoms that occur in situations that involve ethical dimensions and where the nurse feels he is not able to preserve all interests and values at stake. ^(6,7)

Moral distress must be noted and named when and where it happens. Interestingly, moral distress, itself, actually represents a component within a reflective process, e.g., a moral reckoning process. When professional nurses are within moral distress, and by extension within the moral reckoning process, they are already critically and emotionally reflecting on choices, actions and consequences of particularly troubling patient care situations. ⁽⁸⁾

Critical reflective practice involves what we like to refer to as critical depth and breadth. Critical depth involves looking at underlying assumptions or biases that can be affecting our thinking and our actions—in other words, it entails using our critical analysis skills. Critical breadth involves being able to look more holistically at situations, going beyond looking simply at individuals. Reflective

practice is a process of reviewing one's repertoire of clinical experience and knowledge to invent novel approaches to complex clinical problems. Reflection also provides data for self evaluation and increases learning from experience. ^(9, 10)

Significance of the study:

Engagement is an important factor influencing nursing motivation and critical thinking skill essential to safe practice and quality patient outcomes. So, that rapid changing in health care environment needs to increase what we know about nurses' affective and motivational response at work, understood as engagement at work and the relationship between nurses' work engagement and psychological work reaction such as moral distress and critical reflective practice. ⁽¹¹⁾

Aim of the study:

Assess nurses' work engagement, moral distress and critical reflective practice among nursing personnel in intensive care units at Zagazig University Hospitals.

Research questions:

- What are the levels of the variables; work engagement, moral distress, and critical reflective practice among nurses working in intensive care units at Zagazig University Hospitals?
- What are the relationships among moral distress, critical reflective practice, and work engagement?

Subjects and methods:

Research design:

A descriptive correlational design has been used to conduct for this study.

Setting:

The present study was conducted in the Emergency Hospital with a total capacity of 189 beds, with an Intensive Care Casualty Unit of 15 beds; and the New Surgical Hospital with a total capacity of 508 beds, with a surgical Intensive Care Unit with 24 beds, at Zagazig University Hospitals.

Sample:

The sample of the present study includes convenience staff nurses (n=124), 70 of staff nurses were from surgical intensive care unit, and 54 of them from the intensive casualty unit. The inclusion criteria included all staff nurses who provide direct and indirect care to patients and have at least one year of experience working at the previously mentioned settings.

Tools of data collection:

Questionnaires sheets were used to determine nurses' work engagement, moral distress and critical reflective practice in intensive care units at Zagazig University Hospitals. This tool includes 4 parts:

- **Part I:** Demographic Characteristics Sheet: It includes data about age, type of unit, educational qualification, years of experience in nursing, and years of experience in current job, marital status and nurse' monthly income.
- **Part II:** The Utrecht Work Engagement Scale: To assess work engagement. Developed by Schaufeli et al.⁽¹²⁾ and modified by the researcher, it included 32 items divided into three dimensions as following:
 - A. Vigor 11 items that refer to high levels of energy and resilience, the willingness to invest effort e.g., during work, I feel full of energy.
 - B. Dedication 11 items that refer to deriving a sense of significance from one's work e.g., my work inspires me.
 - C. Absorption 10 items that refer to being happily immersed in one's work and having difficulties detaching oneself from it so that time passes quickly and one forgets everything else that is around e.g., time flies when I'm at work.
- **Part III:** Moral Distress Scale of Nurses: To assess moral distress level. Designed by Corley et al.⁽¹³⁾, and adapted by Glasberg et al. and Sprrong et al.^(14, 15), it was modified

by the researcher. It included 43 items and divided into four dimensions as following:

- A. Moral distress related to physician practice dimension (16 items).
- B. Moral distress related to nursing practice dimension (15 items). Moral distress related to hospitals policies (5 items).
- C. Moral distress related to futile care (7 items).

Scoring system:

Work engagement and moral distress: Items were scored 1,2,3,4 and 5 for the responses "never", "rarely", "sometimes", "often", and "always", respectively. For each domain, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. For presentation, the scale was trichotomized into: "never/rare", "sometimes" and "often/always." The domain was considered to be high if the percent score was 60% or more, and low if less than 60%.⁽¹⁶⁾

- **Part IV:** Critical Reflective Practice Questionnaire: Developed by Lawrence⁽¹⁷⁾, it was modified by the researcher and included 29 items, e.g. my conversation with patients and families give me new insights regarding how I might conduct my nursing practice.

Scoring system:

Items were scored 1,2,3,4 and 5 for the responses "strongly agree", "agree", "neutral", "disagree", and "strongly disagree," respectively. The scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. For presentation, the scale was trichotomized into: "Strongly/agree, "Neutral" and "Strongly disagree/disagree."The reflective practice was considered to be high if the percent score was 60% or more, and low if less than 60%.⁽¹⁷⁾

Content validity and reliability:

The English formats of the tools were translated into Arabic. After translation, face and content validity were established by a group of seven experts from faculties of nursing at Cairo University, Ain Shams University and Zagazig University, who revised the tools for clarity, relevancy, applicability, comprehensiveness, understanding, and ease for implementation and according to their opinions minor modifications were performed. The opinions of the experts for each item were recorded on a two point scale: agree, disagree.

It was measured using the internal consistency method. They proved of high degree of reliability, with high Cronbach alpha coefficients were 0.92, 0.83 and 0.80 for nurses work engagement, moral distress and critical reflective practice, respectively.

Pilot study:

A pilot study was carried out on 13 of the study sample to test the applicability and clarity of language of the questionnaire. It helped in identifying potential obstacles and problems that may be encountered during the period of data collection, and to determine the time needed to fill-in questions, the time spent with each to be completed ranged from 20 – 30 minutes. No modification was made after analysis of the answered sheets by nurses. The pilot sample was excluded from the main study sample.

Field work:

The field work of this study was executed in two months started from beginning of April, 2012. The researcher met the nurses in each unite in the morning and afternoon shifts after finishing their work to distribute the questionnaire after clarifying the purpose of the study. Felling in filled in the questionnaires took from 20-30 minutes.

Administrative and ethical considerations:

Approval to conduct the study was

obtained from the medical and nursing directors of the hospital and the head nurses of the units after explaining the aim of the study. The participants were informed that their participation in the study is completely voluntary and there is no harm if they choose not to participate and no individual information is shared outside of the researcher.

Statistical design:

Data entry and statistical analysis were done using the statistical package for social science (SPSS) version 16.0. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Qualitative variables were compared using chi-square test. Pearson correlation analysis was used for assessment of the inter-relationships among quantitative variables. To identify the independent predictors of the work engagement, distress, and critical reflective practice, multiple linear regression analysis was used after testing for normal distribution, normality, and analysis of variance for the full regression models were done. Statistical significance was considered at p-value <0.05.

Results:

Table (1): revealed that the highest percentage (42.8%) of the participants' age ranged from 20 - < 30 years. More than half (56.5%) of the sample were working in surgical intensive care unit. Less than three fifths (58.1%) of them were diploma school nurses. The highest percentages of the sample (49.1% & 43.5%) had 10 years or more of experience in nursing and experience in current job respectively. The majority (87.9%) of them were married. Half of them had \geq 700 pound monthly income.

Figure (1): Illustrates that the

most (96.8%) of nurses had high level of critical reflective practice, followed by 83.9% of nurses had high level of work engagement, while most of nurses (92.7%) had low level of moral distress.

Table (2): Indicates that there was statistically significant a positive correlation between the work engagement and critical reflective practice, while there was no statistically significant correlation between work engagement and moral distress. As well there was no statistically significant correlation between critical reflective practice and moral distress.

Table (3): indicates that there was a statistically significant relationship between nurses' work engagement and their age.

Table (4): shows that there were negative statistically significant correlations between nurses' moral distress and their years of experience in nursing and years of experience in current job which means the oldest and most experienced groups of nurses were having the least moral distress level.

Table (5): Reveals that was a statistically significant relationship between critical reflective practice level and their monthly income.

Discussion:

Work engagement represents a motivational process that is driven by the availability of resources. It considers a very important challenge in nursing field. This is because it is applied to critical reflective practice which contributes to optimal functioning, and happiness of nurses reduces moral distress; finally, it increases nurses self esteem and enhances their creative ability. It also creates an effective learning environment which gives safe and quality patient care.⁽¹⁸⁾

The majority of nurses included in the study were having high level of work engagement. This could be related to that intensive care nurses feel more comfortable in dealing with

their physicians, supervisors and their peers, also nurses feel autonomy in making decision about patient care, the atmosphere of intensive care unit helps nurses every day to learn new skills and motivates them to perform at the highest level. The previous finding was supported by Rivera et al.⁽¹⁹⁾, who conducted a study in USA to close the professional nurses' engagement gap, found that professional nurses had a high level of work engagement. Likewise, in a study carried out in Spain by Jenaro et al.⁽²⁰⁾ revealed that nurses, who expressed more satisfaction with their jobs showed high work engagement. As well, Palmer et al.⁽²¹⁾ conducted a study, in USA, and found that nurses' working in acute care units, their level of work engagement was at the high end of the average range. On the contrary, in USA, Simpson⁽²²⁾ reported that nurses working in surgical and medical units had low level of work engagement with their work. This contradiction might be due to workload; lack of autonomy, shortage of staffing or it might be due to decrease in the nurses' cultures of engagement.

As regards the distribution of total moral distress level among the staff nurses, the current study findings confirmed that the majority of staff nurses were having low moral distress. This finding answers the second part of first research question. These results could be interpreted as the intensive care unit hadn't any instructions or booklet about patient's rights and ethics that could make nurses and patient's family not knowing their patient rights. This finding is consistent with that of Parsons et al.⁽⁶⁾, who conducted a study on emergency nurses working in North Carolina USA and found that the level of nurses' moral distress was low.

The previous findings were consistent with Silén et al.,⁽²³⁾ in their study on moral distress and ethical climate on Swedish nurses working at 16 different departments in a university hospital in Sweden. Results showed that the nurses experienced low level

of moral distress. On the same line, Aft⁽²⁴⁾ conducted a study in Western Carolina University, USA and found that the medical/surgical nurses were having low level of moral distress. In this respect, Ohnishi et al.⁽²⁵⁾ performed a study in Japan and found that nurses show low level of moral distress.

Incongruent with the previous findings, Elpern et al.⁽²⁶⁾ who conducted a study in Chicago USA reported that staff nurses in a medical intensive care unit have a moderate level of moral distress. As well, in Europe, Papathanassoglou et al.,⁽²⁷⁾ conducted a study entitled "Professional autonomy, collaboration with physicians and moral distress among European intensive care nurses", they revealed that nurses from different settings have a moderate level of moral distress. In Jordan, Allari & Abu - Moghli⁽²⁸⁾ found that moral distress among Jordanian critical care nurses was moderate level. In a very recent study, carried out in California, Browning⁽²⁹⁾ mentioned that the nurses caring for adults at end of life experienced moderate level of moral distress.

Concerning the distribution of total critical reflective practice level among nurses, the findings of the present study indicated that most of nurses had high level of critical reflective practice. This finding answers the third part of first research question. This might be related to the characteristics of ICU nurses' staff where they usually endowed with great professional competence, besides complexity of equipment and medication used in ICUs that require differentiated technical knowledge, in addition to professional expertise appropriate to everyday situations, which include risk of death, terminality, and ethical conflicts. This might also be attributed to difficulties that nurses face in terms of the contradictions that exist within ICU, these learnt aspects develop overtime and face nurses with current challenges of which they may have no knowledge or experience to increase

their ability, and improve their nursing care. The previous finding was consistent with Lawrence⁽¹⁾, who conducted a study in Arizona, USA and reported that critical reflective practice level is higher among nurses in ICU.

Concerning the relationship between nurses' work engagement and their critical reflective practice, according to the present study findings there was statistically significant positive correlation between nurses' work engagement and their critical reflective practice. This might be due to that critical reflective practice promotes greater self-awareness and an integration of theoretical concepts to practice, enhances self-esteem, empower nurses and improves nurses and contributes to their optimal functioning, and happiness and these lead to engagement with work. In the same line, Lawrence⁽¹⁾ asserted that there was a positive direct relationship between critical reflective practice and work engagement and this is due to that critical reflective practice is associated with positive work outcomes which lead to increase work engagement.

On the other hand, the study findings revealed that there was no statistically significant relationship between total nurses' work engagement and their total moral distress. This finding answers the second part of the second research question of this study. On the contrary, in USA, Lawrence⁽¹⁷⁾ reported that nurses working in different intensive care units at magnet-designated hospital had a negative direct relationship between nurses' moral distress and their work engagement.

Finally, the current study findings confirmed that there was no statistically significant relationship between nurses' moral distress and their critical reflective practice. This finding answers the third part of the second research question of this study. In the same line, Lawrence⁽¹⁾ asserted that there was no significant difference between critical reflective

practice and moral distress.

Concerning relationship between nurses' work engagement and their personal characteristics, the current study findings showed that there was a statistically significant positive relationship between nurses' age and their work engagement level. This could be attributed to that new graduates face dramatic adjustments upon entering the world of work, particularly in today's rapid paced, and highly acute hospital settings. Their young age and limited life experience afford them fewer personal resources for handling ambiguities within practice environments, making strong structural supports particularly important for their feelings of efficacy. The finding was congruent with Warshawsky et al. ⁽³⁰⁾, who conducted a study in North Carolina University, USA and reported that nurse managers working in acute hospitals' settings showed statistically significant relationship between work engagement level and their age. On the opposite way, in Malaysia, Othman et al. ⁽⁵⁾ indicated that staff nurses' age did not make any significant difference towards the variance in work engagement among public hospital.

Concerning the relationship between nursing engagement and their qualification, the current study finding showed that no statistically significant correlation was present between nurses' educational qualification and their work engagement level. This could be attributed to that all staff nurses in critical care situations with different educational levels feel with high levels of energy and mental resilience at work that is manifested by high effort, persistence when difficulty arises and report greater absorption with their interactions with patients and co-workers. This finding goes with Giallonardo et al. ⁽³¹⁾, who stated that no statistically significant relationship between nurses' qualification and work engagement. As well, a study conducted by Wonder ⁽³²⁾; and Othman et al. ⁽⁵⁾ indicated that qualification did not make any significant difference

towards the variance in work engagement among public hospital nurses.

The results of the present study indicated that no statistically significant relationships between nurses' work engagement levels and total years of experience in nursing and years of experience in current job however the findings showed a trend all categories of years experience were highly engaged almost. This could be attributed to that experienced nurses catch the new nurses and make them involved within a team that will make them feel available to fully engage in their roles and gain self-confidence and reduce errors through monitoring performance and giving feedback to one another. This finding was consistent with, Simpson ⁽³³⁾ who conducted a study in United State on professional nurses working in medical/surgical units, within six hospitals, and found that no statistically significant relationship found between years of experience in nursing and nurses work engagement.

Concerning nurses' income, the study finding showed that no statistically significant relationship was found between nurses' work engagement and their income. Similar results were found by Giallonardo et al. ⁽³¹⁾ who mentioned that no significant relationship was found between work engagement and nurses' pay.

Investigating the correlation between the nurse' moral distress level and their age. The current study finding showed that there was a negative correlation between level of nurses' moral distress and their age that was not statistically significant. This could be attributed to that younger nurses do not have the tools to deal with situations involving inter/intra professional situations, the skills to deal with difficult patient's situation while not having developed critical communication skills to deal with physicians and others in the work place.

This finding is consistent with

Radzvin ⁽³⁴⁾, who conducted a study entitled "Moral distress in certified registered nurse anesthetists" at state of Pennsylvania, USA and reported that while the nurses' age increased, were moral distress decreased. Similar results were found, in Netherlands, De Veer et al. ⁽⁷⁾, conducted a study on nationally representative group of Dutch nursing staff members who give direct patient care and stated that nurses' age was correlated negatively and no statistically significant correlation with their moral distress level was present. However, the previous studies' findings disagreed with Elpern et al. ⁽²⁶⁾; and Rice et al. ⁽³⁵⁾, who found positive correlations between nurses' moral distress and their age.

As well, the present study finding revealed that there was a negative and no statistically significant correlation between nurses' qualification regarding their moral distress level. This might reveal that higher education prepares nurses to use critical thinking skills and these nurses may have more confidence in their decisions. On the same way, Sirilla ⁽³⁶⁾ who conducted a study entitled "Moral distress in nurses providing direct patient care on inpatient oncology units" at Ohio State University, USA reported that nurses' qualification was conversely correlated with their moral distress score.

On the other hand, the previous findings disagreed with Elpern et al., ⁽²⁶⁾ and Allari and Abu-Moghli ⁽²⁸⁾, who found no relationship between nurses' education and their moral distress. However, Radzvin ⁽³⁴⁾ indicated that doctoral prepared nurses had higher level of moral distress than nurses prepared at the diploma, associate degree, bachelor's degree and master's degree levels. This contradiction might be due to most researches on moral distress are descriptive, and still limited knowledge exists about determinants of moral distress.

The results of the current study indicated that in correlation to moral

distress levels compared by years of experience in nursing and years of experience in current job, there were negative statistically significant correlations; the oldest and most experienced groups of nurses were having the least moral distress level. This could be due to that nurses may become accustomed to moral distress as they gain experience. In addition, experienced nurses have the skills to handle morally distressing situations. However, older nurses adapted to their work situations and have developed critical communication skills to deal with physicians and their colleagues. This study finding goes with Radzvin ⁽³⁴⁾, who indicated that certified registered nurse anesthetists with lesser years of experience had higher moral distress.

On the contrary, Elpern et al., ⁽²⁶⁾, and Rice et al. ⁽³⁵⁾ reported positive statistically significant relationship between years of experience in nursing and moral distress and no significant association was found with years of experience in current job. However, Ohnishi et al. ⁽²⁵⁾; Allari and Abu-Moghli, ⁽²⁸⁾ indicated that no relationships were found between years of experience in nursing and years of experience in current job with moral distress.

The present study findings indicated that there was a negative correlation between nurses' moral distress level and their income. This result could be attributed to the increase in life demands. Moreover, some nurses feel that their workload is much more than the salary and fringe benefits they receive so that, salaries are very important for any job.

Considering the relationships between nursing personal characteristics and their critical reflective practice level, none of personal variables were statistically significantly correlated to total critical reflective practice level except for income, it was statistically significant. This finding was incongruent with Lawrence ⁽¹⁾, who found that the nurses working in neonatal intensive

care units had a positive direct relationship between increased educational level and critical reflective practice.

Conclusion:

In the light of the foregoing present study results, it can be concluded that majority of nurses working in the intensive care units at Emergency Hospital and New Surgical Hospital in Zagazig University Hospitals had high level of work engagement, high level of critical reflective practice and low level of moral distress with their work. There was a statistically significant relation between nurses' work engagement and their critical reflective practice, while there was no statistically significant relation between nurses' work engagement and their moral distress. As well, there was no statistically significant relation between nurses' critical reflective practice and their moral distress.

Recommendations:

Based on the study findings, the following recommendations are suggested:

- Develop job description for nurses working in intensive care units according to needs of intensive care units.
- Develop new performance appraisal tool to improve the performance appraisal system in intensive care units to ensure fairness and make job challenging.
- Establish guidelines/protocols to address ethical issues throughout the health team collaboration in developing unit system to alleviate discrepancies in ethical practices.
- Involve staff members in the development of organizational policies and guidelines on futility and ethical decision making.
- Encourage nurses to think aloud to describe and analyze positive and

negative experiences as they surface through practice.

- Establish a journal for nurses to record and analyze events in a prescribed manner and this can be a productive strategy to foster reflective thinking.
- Advocate for increased nursing education funding to improve the capacity and resources for education of an appropriate nursing workforce from clinical practice.

Table (1): Personnel characteristics of the staff nurses (n=124)

Items	Frequency	%
Age (in years)		
▪ 17 -	46	37.1
▪ 20 -	53	42.8
▪ ≥ 31	25	20.1
Educational qualification		
▪ Bachelor degree	31	25.0
▪ Associate degree	21	16.9
▪ Diploma degree	72	58.1
Years of experience in nursing		
▪ 1-	22	17.8
▪ 5-	41	33.1
▪ ≥10	61	49.1
Years of experience in current job		
▪ 1-	30	24.2
▪ 5-	40	32.3
▪ ≥10	54	43.5
Monthly income		
▪ <700	62	50.0
▪ ≥700	62	50.0

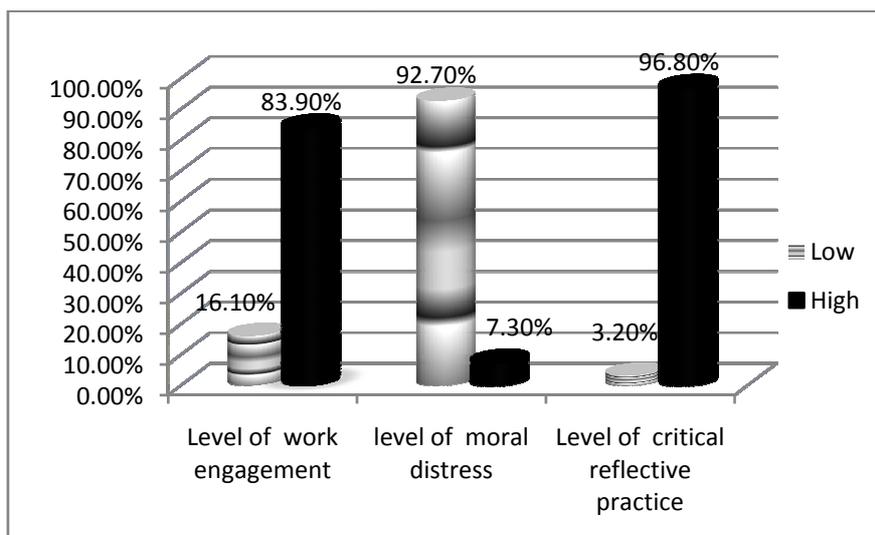


Figure (1): Frequency distribution of total levels of nurses' work engagement, moral distress and critical reflective practice.

Table (2): Correlation coefficient of nurses' scores of work engagement, moral distress and critical reflective practice (n=124)

Variables	Work Engagement		Moral Distress	
	r	p	r	P
▪ Work engagement	--	--	.049	0.596
▪ Critical reflective practice	0.256**	.004	0.169	.061

** Correlation is significant at the 0.01 level (2-tailed).

Table (3): Relationship between nurses' work engagement and their personal characteristics (n =124)

Personal Characteristics	Work Engagement Level				X ² Test	p-value
	High		Low			
	No	%	No	%		
Age (in years)						
▪ 17-	37	80.4	9	19.6	13.43	0.02*
▪ 20-	43	81.1	10	18.9		
▪ ≥ 31	24	96.0	1	4.0		
Educational qualification						
▪ Bachelor degree	30	96.8	1	3.2	5.12	0.07
▪ Associate degree	17	81.0	4	19.0		
▪ Diploma degree	57	79.2	15	20.8		
Years of experience in nursing						
▪ 1-	18	81.8	4	18.2	0.73	0.94
▪ 5-	35	85.4	1	14.6		
▪ ≥10	51	83.6	10	16.4		
Years of experience in current job						
▪ 1-	26	86.6	4	13.4	1.45	0.91
▪ 5-	33	82.5	7	17.5		
▪ ≥10	45	83.3	9	16.7		
Income						
▪ <700	48	77.4	14	22.6	5.43	0.24
▪ ≥700	56	90.3	6	9.7		

*Significant at $p < 0.05$ **Table (4): Correlations between nurses' scores of moral distress and their personal characteristics (n=124)**

Personal Characteristics	Spearman Rank Correlation Coefficient	
	Moral Distress	
	r	p
▪ Age	-.093	0.30
▪ Qualification (reference to diploma)	-.132	0.14
▪ Years of experience in nursing (total)	-.203*	0.02
▪ Years of experience in current job	-.227*	0.01
▪ Monthly income	-.065	0.47

* Correlation is significant at the 0.05 level (2-tailed).

Table (5): Relationship between nurses critical reflective practice and their personal characteristics (n = 124)

Personal Characteristics	Critical reflective Practice level				X ² Test	p-value
	High		Low			
	No	%	No	%		
Age (in years)						
▪ 17-	43	93.5	3	6.5	10.66	0.058
▪ 20-	52	98.1	1	1.9		
▪ ≥31	25	100.0	0	0.0		
Educational qualification						
▪ Bachelor degree	31	100.0	0	0.0	2.985	0.225
▪ Associate degree	21	100.0	0	0.0		
▪ Diploma degree	68	94.4	4	5.6		
Years of experience in nursing						
▪ 1-	21	95.4	1	4.6	2.429	0.657
▪ 5-	39	95.1	2	4.9		
▪ ≥10	60	98.4	1	1.6		
Years of experience in current job						
▪ 1-	29	96.6	1	3.4	2.575	0.765
▪ 5-	38	95.0	2	5.0		
▪ ≥10	53	98.1	1	1.9		
Monthly income						
▪ <700	59	95.1	3	4.9	31.46	0.000*
▪ ≥700	61	98.4	1	1.6		

*Significant at $p < 0.05$

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