

Compassion Fatigue, Burnout and Work Related- Stress among Pediatric Nurses: A Comparative Study

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Abstract: Working directly with children receiving health-care services exposes pediatric nurses to patients'/families' pain and suffering. Repeated exposure to children's pain and suffering can lead to compassion fatigue, stress and burnout. This study aimed to explore compassion fatigue, compassion satisfaction, burnout and work related stress among pediatric nurses in oncology departments and ICU. A descriptive comparative design was utilized in this study. Three tools were utilized; the socio-demographic data sheet, PROQOL Scale and work related stress scale. A simple random sample of 60 pediatric nurses (30 ICU pediatric nurses and 30 oncology pediatric nurses) was recruited for current study. The study was carried out Abou El-Reesh pediatric Hospital – Cairo University Hospitals and the National Cancer Institute- Cairo University Hospitals. The study revealed that both groups of nurses suffer from compassion fatigue and low level of compassion satisfaction, moderate to severe level of work related stress. Mean while the level of burnout was higher among ICU pediatric nurses more than oncology pediatric nurses. The study concluded that, most of nurses who are working with pediatric patients suffer from compassion fatigue and moderate to severe level of work related stress which results in burnout. The study recommended that nurses need to identify and assess signs of compassion fatigue and work related stress and provide them with management program to deal with them.

Key words: Compassion Fatigue • Burnout • Work Related Stress • Pediatric Nurses

INTRODUCTION

Direct care and work with children in health-care services exposes pediatric nurses to patients'/parents' agony and enduring. Repeated exposure to children's pain and suffering can produce psychological distress and lead to compassion fatigue and burnout [1]. The first introduction of the term compassion fatigue in nursing literature was two decades ago [2]. Figley [3] defined compassion as "A state of physical, physiological and emotional exhaustion produced from cumulative exposure to the pain and suffering of others and resulting in to the loss of ability to provide the same level of compassion and care to subsequent people in need of compassion and care".

Compassion fatigue is a negative result and affects those who are working with individuals who have encountered a great degree distressing occasions [4].

Stamm [4] further defines compassion fatigue as including two main aspects: burnout and secondary traumatic stress. Coetzee and Klopper [5] concluded the definition of the concept compassion fatigue in their concept analysis as "The final result of a progressive and cumulative process that is caused by prolonged, continuous and intense contact with patients, the use of self and exposure to stress".

Compassion fatigue evolves from a state of compassion discomfort, which if not effaced through adequate rest, leads to compassion stress and exceeds nurses' perseverance levels and at last outcomes in compassion fatigue. Compassion fatigue is a state where the compassionate energy that is expended by nurses has surpassed their restorative processes, with recovery power being lost. All these states manifest with marked physical, social, emotional, spiritual and intellectual changes that increase in intensity with each progressive state [5].

Gloud [6] revealed that the physician Charels Figly observed the symptoms of burnout among physicians who left the profession. Thus, Figly [3] conducted a study about burnout among pediatric nurses in critical care setting which showed a significant turnover of nursing staff however, those who utilize preventive self-care activities showed reducing effect of burnout.

Caring for people who are suffering from cancer affects carers in various ways and compassion satisfaction—a positive outcome of caring work [4]. Stamm, [4] has been contemplated as an idiosyncratic mechanism that may account for individuals' varying responses. Compassion satisfaction is a concept defined by Stamm [7] "As the pleasure one derives from being able to do work well".

Those who are subjected to an roundabout repetitive exposure to trauma such as nursing staff who are working in the field of oncology and ICU who are regularly exposed to death and dying, grieving families, traumatic stories, severe physical pain and strong emotional states, such as anger and depression in patients and family members. Being a witness to these situations may subsequently result in personal grief—and emotional and physical exhaustion of the nurse [7].

The term burnout may have familiar consequences of any psychological distress [8]. However, Meadors and Lamson [9] explained that, in spite of the fact that exploration has exhibited that, those terms cover, vital contrasts exist in the etiology, frequency, predominance and clinical picture identified with each and they are clearly distinguishable from compassion fatigue and psychological distress.

Burnout for the most part grows bit by bit and escalates by time, coming full circle in passionate depletion and debilitation. Nevertheless compassion fatigue and psychological distress can develop acutely. Burnout is a defensive resulting from long-lasting dissatisfaction with work-related issues such as lack of support, short staffing, high workload, insufficient resources and frustration with system issues. These demands \and stressors eventually lead to feelings of hopelessness and powerlessness to make a difference in the lives of those being served. Burnout may be a precursor to compassion fatigue and psychological distress [10].

Nurses drawn to the specialty of oncology and ICU are generally compassionate people. This empathic engagement is what contributes to job satisfaction, but it can also manifest as blurring of the boundaries between provider and patient and can leave the oncology and ICU

nurse at risk for negative emotional and physical outcomes [4].

Significance of the Study: Compassion fatigue, compassion satisfaction and burnout particularly among pediatric nurses, is not thoroughly described in the nursing literature in Egypt. Moreover, it was noted that the content of the nursing curricula that prepare nurses to take care of is limited regarding the nurse' self-care is. In addition, there is limited information in the literature about continuing education programs for nurses that address the preventive measures of compassion fatigue or make provisions for integration of compassion fatigue intervention strategies into employee health management programs at the organizational level. As a result, pediatric nurses may not be equipped enough to manage the exposure to pain and suffering engendered by their caring work—thus placing them at risk for compassion fatigue.

Routinely oncology pediatric nurses face enormous physical, emotional, spiritual and existential pain and suffering in their patients and/or their parents or caregivers. Recurrent exposure to trauma and suffering can be a repeated regular stressor for the caregiver and can lead to compassion fatigue/secondary traumatic stress. Early detection and understanding the symptoms of compassion fatigue, burnout and psychological distress and knowing how to manage and prevent the negative consequences can be critical to the personal and professional health of the nurse. The challenge for nurses and those who employ them is to understand the work hazards associated with exposure to pain and suffering. Recognition of compassion fatigue and creation of readily accessible compassion fatigue-related interventions are integral to the safety and quality of the health-care staff and the health-care environment, thus; this current research has the potential to impact positively both the health and the retention of pediatric and psychiatric nurses.

Accordingly, the psychiatric nurse plays an important role in orienting the other health personnel in different specialties in general and pediatric nurses who are working in risky areas like oncology department and ICU about what is the compassion fatigue and psychological distress and their consequences on the level of burnout, the signs and symptoms, risk factors and the preventive measures for those nurses such stress management, psychological self-care measures. This research is a multidisciplinary research as it will add to the nursing body of knowledge in both specialties psychiatric and pediatric nursing.

Aim of the Study: The aim of this study was to explore compassion fatigue, compassion satisfaction & burnout and work related stress among pediatric nurses in oncology departments and ICU.

Research Questions:

Q1- Is there a difference between oncology and ICU pediatric nurses in relation to compassion fatigue?

Q2- Is there a difference between oncology and ICU pediatric nurses in relation to compassion satisfaction?

Q3- Is there a difference between oncology and ICU pediatric nurses in relation to burnout?

Q4- Is there a difference between oncology and ICU pediatric nurses in relation to work related stress?

MATERIALS AND METHODS

Research Design: A descriptive comparative design was utilized in this study. This type of research design involves one or more group of subjects observed in comparing of each other [11].

Sample: A simple random sample of 60 pediatric nurses (30 ICU pediatric nurses and 30 oncology pediatric nurses) was recruited in the current study. The sample size was calculated using G-power version 3.3.1 with a power of ($\beta=1-.95$) with significance level of .05 (Two tails) and high effect size of (0.5).

After obtaining a whole list of the all nurses enrolled both settings which was (90) nurse, the researchers used the simple random table available in Burns and Grove [12] to select the estimated sample size. The researchers used yellow cards to select those from the ICU pediatric unit and red cards for those are working in the oncology pediatric department.

Exclusion Criteria: Those who are working in pediatric departments for more than 20 years and those who are suffering from any psychological disorders.

Setting: The study was carried out at ICU Departments in Abou Al-Reesh Pediatric University Hospital- Cairo University and Pediatric Oncology Department in the National Cancer Institute - University Hospitals- Cairo University.

Tools of Data Collection: Three tools were utilized in this study;

- Socio-demographic data sheet – This included age, gender, marital status, education, monthly income, years of experience of working with pediatric patients.
- PROQOL Scale (Professional Quality of Life Scale) [4, 13]. The PROQOL in the present study was used to measure compassion fatigue, burnout and compassion satisfaction. It consists of 30 items, which are rated numerically on a 5-point Likert Scale, ranging from 0 (Never) to 5 (Very often). The alpha reliabilities for the scales have been reported as follows: in relation to compassion satisfaction/fatigue scores higher scores on the scale represent a greater satisfaction. The average score is 37 (Alpha scale reliability 87), score below 33 is driving from satisfaction. Regarding to burnout higher scores on this scale mean that the subject is at higher risk for burnout, the average score on the burnout is 22 (Alpha scale reliability 72). Regarding compassion fatigue, the average score on this scale is 13 (Alpha scale reliability 80) [4, 13].
- Work Related Stress Scale: this scale was developed by the investigators based on the Management Standards Indicator Tool produced by the HSE [14]. The developed scale is a self reported questionnaire which covers the primary sources of stress at work during the last six months; it includes 10 items which are rated numerically on a 5-point Likert Scale, ranging from 0 (Never) to 5 (Very often). The higher the score of the scale the higher the level of stress in work

Tools Translation: All of the study research tools were translated and back translated into Arabic done by the researchers and two bilingual experts in psychiatric and pediatric nursing.

Procedure: The researchers met with the eligible nurses in the selected hospitals and the purpose of the study was explained to obtain their cooperation. The questionnaires were self-reported and due to the participants nature of work; the researchers gave them enough time to fill the scales based on their available time. However, the researchers were available to explain any unclear questions and made sure that each nurse has filled the scales completely and there are no missing data. The data was collected in five months.

Pilot Study: The questionnaire was pretested on a sample equal to 10 % of the total sample size that were not part of the main study. No further modifications were done to the scale.

Ethical Considerations: A written approval was obtained from the Abou Al-Reesh Pediatric University Hospital-Cairo University and the National Oncology pediatric nurses - University Hospitals- Cairo University to conduct the current study. All subjects were informed that participation in the current study is voluntary and the data collected will be used only for research purpose and anonymity and confidentiality of each participant was protected by allocation of a code number for each response. The participants were informed that they can withdraw at any time during the study without giving reasons; confidentiality was assured and subjects were informed that the content of the tools will be used for the research purposes.

Statistical Design: Statistical analysis was done with the help of software 'SPSS 22' Statistical Package for the Social Sciences (Windows version 22.0). Descriptive statistics including number and percentages were used for qualitative variables and mean and standard deviations were used for quantitative data. For difference between qualitative data Chi-square test (X^2) was used and difference between quantitative data t-test was used. Relationship between different quantitative measures was computed via Pearson's correlation coefficient. The level of significance in this study was (<0.05) and (<0.01) considered highly significant.

RESULTS

Fig. (1) shows that, almost three quarters (72.40%) of ICU pediatric nurses were in the age group of (30-<40 years) and almost half (46.70%) of Oncology pediatric nurses were in the same age group. While minority of both ICU pediatric nurses and Oncology pediatric nurses (10.30 and 16.60% respectively) fall in the age group (≥ 40 years).

Fig. (2) illustrates that all (100%) of the oncology pediatric nurses and the majority (80%) of ICU pediatric hospital were females.

Fig. (3) indicates that, slightly more than three quarters of the oncology pediatric nurses and ICU pediatric nurses (76.7% and 80% respectively) are graduates from the technical nursing institute, whereas, only (10%) of the oncology pediatric nurses have undergraduate nursing diploma.

Fig. (4) shows that, almost half of the oncology pediatric nurses (46.7%) and more than half of ICU pediatric nurses (60%) have more than (11 years) of experience in nursing profession, at the same time as less than one third of oncology pediatric nurses and ICU pediatric nurses (30 and 10% respectively) have (1-5 years) of experience in nursing profession.

Figure (5) indicates that, near two thirds of ICU pediatric nurses (60%) and less than half of oncology pediatric nurses (40%) have more than (11 years) of experience working in a hospital. While, only (10%) of ICU pediatric nurses and (30%) of the oncology pediatric nurses have (1-5) years of experience working in a hospital.

Tables (1-a, 1-b and 1-c) show that, there were statistically significant differences between oncology pediatric nurses and ICU pediatric nurses in relation to the majority of the PRQOL scale items.

Table (2) show that, there were statistically significant differences between oncology pediatric nurses and ICU pediatric nurses in relation to the majority of the work stress scale items.

Fig. (6) shows that, almost two thirds of ICU pediatric nurses and Oncology pediatric nurses had low compassion satisfaction and there was no statistically significant difference between Oncology pediatric nurses and ICU pediatric nurses as ($X^2 = .287$, $p = .594$).

Fig. (7) illustrates that, all of ICU pediatric nurses had high burnout while; almost three quarters of oncology pediatric nurses had high level of burnout. The results revealed that, there was statistically significant difference between oncology pediatric nurses and ICU pediatric nurses as ($X^2 = 9.231$, $p = .002$).

Fig. (8) indicates that, all of ICU pediatric nurses had and Oncology pediatric nurses had high level of compassion fatigue.

Fig. (9) shows that, almost three quarters of ICU pediatric nurses and oncology pediatric nurses (70%, 73.3%, respectively) had moderate levels of work related stress, while; (20%) of ICU nurses had severe level of work related stress compared to none of oncology nurses. The results revealed that, there was statistically significant difference between oncology pediatric nurses and ICU pediatric nurses as ($X^2 = 8.296$, $p = .016$).

Table (3) shows that, there were no statistically significant differences between age categories and total compassion fatigue subscores, total burnout subscores, total traumatic stress subscores for both hospitals, however, ICU pediatric nurses showed significant difference between age and total work stress scores ($F = 4.421$, $p = .022$) while the oncology pediatric nurses did not show any significant differences.

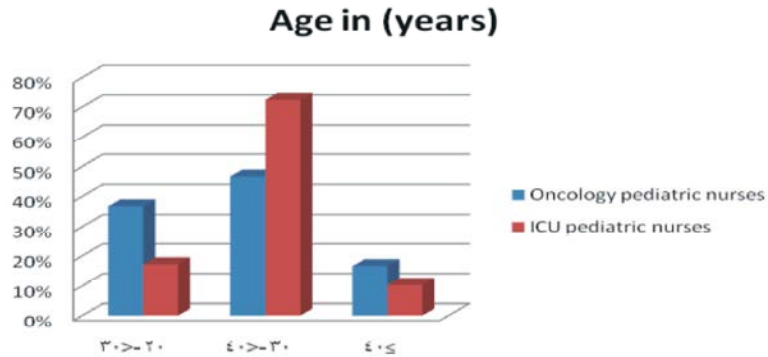


Fig. 1: Frequency distribution of the sample according to the age

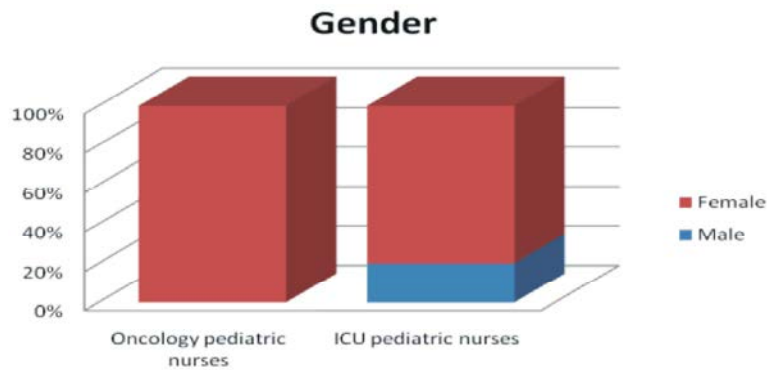


Fig. 2: Frequency distribution of the sample according to their gender

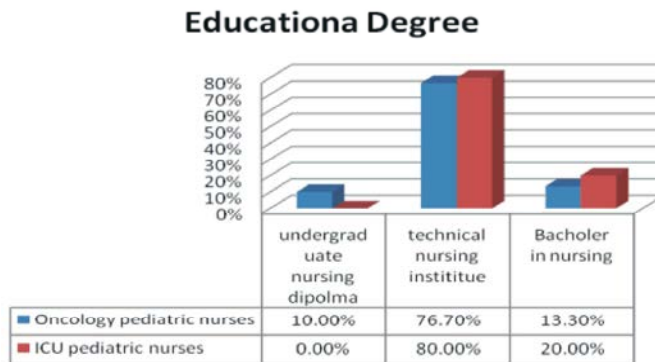


Fig. 3: Frequency distribution of the sample according to their educational level

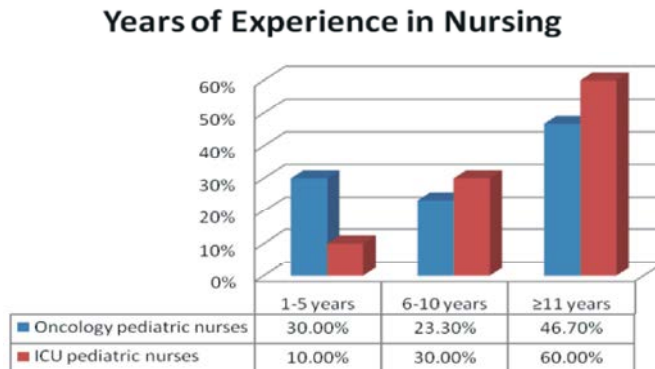


Fig. 4: Frequency distribution of the sample according to their years of experience in nursing

Years of Experience in the Hospital

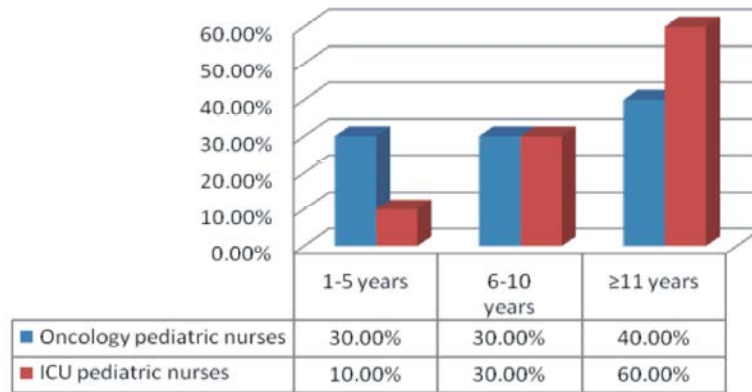


Fig. 5: Frequency distribution of the sample according to their years of experience in the hospital

Table 1a: Frequency distribution of the sample according to the burnout subscale (n=60)

Variables	Never	Rarely	Sometimes	Often	Always	X ²	p
	N(%)	N(%)	N(%)	N(%)	N(%)		
1. I'm happy							
A	0 (0)	10(33.3)	10 (33.3)	10(33.3)	0 (0)	19.048	.000*
B	0 (0)	0 (0)	10 (33.3)	11 (36.7)	9(30)		
2. I feel connected to others.							
A	0 (0)	10(33.3)	8(26.7)	9(30)	3(10)	14.249	.003*
B	0 (0)	0 (0)	13(43.3)	8(26.7)	9(30)		
3. I am not as productive at work because I am losing sleep over traumatic experiences of a person I [help].							
A	0 (0)	8(26.7)	14(46.7)	8(26.7)	0(0)	16.392	.001*
B	0 (0)	0 (0)	20(66.7)	4(13.3)	6(20)		
4. I feel trapped by my job as a [helper].							
A	0 (0)	8(26.7)	8(26.7)	14(46.7)	0(0)	8.339	.039*
B	0 (0)	3(10)	7(23.3)	14(46.7)	6(20)		
5. I have beliefs that sustain me.							
A	0(0)	8(26.7)	10(33.3)	9(30)	3(10)	11.949	.008*
B	0(0)	0(0)	8(26.7)	13(43.3)	9(30)		
6-I am the person I always wanted to be.							
A	0(0)	9(30)	15(50)	6(20)	0(0)	7.292	.063
B	0(0)	6(20)	11(36.7)	7(23.3)	6(20)		
7.I feel worn out because of my work as a [helper].							
A	0(0)	8(26.7)	10(33.3)	11(36.7)	1(3.3)	15.411	.001*
B	0(0)	0(0)	10(33.3)	10(33.3)	10(33.3)		
8-I feel "boggled down" by the system.							
A	0(0)	0(0)	9(30)	13(43.3)	8(26.7)	22.937	.000*
B	0(0)	0(0)	20(66.7)	4(13.3)	6(20)		
9- I am a very caring person							
A	0(0)	8(26.7)	11(36.7)	11(36.7)	0(0)	10.574	.014*
B	0(0)	5(16.7)	15(50)	4(13.3)	6(20)		
10- I feel weak and my physical and emotional powers are drained							
A	0(0)	8(26.7)	12(40)	10(33.3)	0(0)	14.435	.002*
B	0(0)	0(0)	11(36.7)	13(43.3)	6(20)		

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

Table 1b: Frequency distribution of the sample according to the compassion fatigue subscale (n=60)

Variables	Never	Rarely	Sometimes	Often	Always	X ²	p
	N(%)	N(%)	N(%)	N(%)	N(%)		
1. I am preoccupied with more than one person I [help].							
A	0 (0)	10(33.3)	8(26.7)	9(30)	3(10)	14.249	.003*
B	0 (0)	0 (0)	13(43.3)	8(26.7)	9(30)		
2. I jump or am startled by unexpected sounds.							
A	0 (0)	11(36.7)	12(40)	6(20)	1(3.3)	26.693	.000*
B	0 (0)	0(0)	11(36.7)	4(13.3)	15(50)		
3. I find it difficult to separate my personal life from my life as a [helper].							
A	0 (0)	8(26.7)	14(46.7)	8(26.7)	0(0)	16.392	.001*
B	0 (0)	0 (0)	20(66.7)	4(13.3)	6(20)		
4. I think that I might have been affected by the traumatic stress of those I [help].							
A	0 (0)	8(26.7)	14(46.7)	8(26.7)	0(0)	16.392	.001*
B	0 (0)	0 (0)	20(66.7)	4(13.3)	6(20)		
5. Because of my [helping], I have felt "on edge" about various things							
A	0(0)	8(26.7)	8(26.7)	13(43.3)	1(3.3)	18.354	.000*
B	0(0)	0(0)	13(43.3)	7(23.3)	10(33.3)		
6. I feel depressed because of the traumatic experiences of the people I [help].							
A	0(0)	8(26.7)	12(40)	10(33.3)	0(0)	18.857	.001*
B	8(26.7)	6(20)	6(20)	4(13.3)	6(20)		
7. I feel as though I am experiencing the trauma of someone I have [helped].							
A	0(0)	12(40)	10(33.3)	8(26.7)	0(0)	19.556	.001*
B	8(26.7)	4(13.3)	8(26.7)	4(13.3)	6(20)		
8. I avoid certain activities or situations because they remind me of frightening experiences of the people I [help].							
A	4(13.3)	8(26.7)	8(26.7)	10(33.3)	0(0)	9.723	.045*
B	6(20)	9(30)	5(16.7)	6(20)	4(13.3)		
9. As a result of my [helping], I have intrusive, frightening thoughts							
A	0(0)	8(26.7)	8(26.7)	10(33.3)	4(13.3)	11.473	.022*
B	9(30)	6(20)	6(20)	4(13.3)	5(16.7)		
10. I can't recall important parts of my work with trauma victims.							
A	0(0)	9(30)	10(33.3)	8(26.7)	3(10)	10.984	.027*
B	0(0)	12(40)	8(26.7)	6(20)	4(13.3)		

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

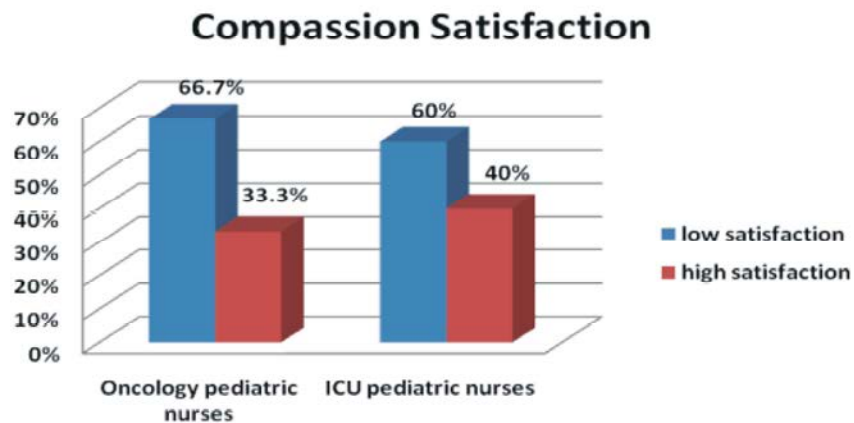


Fig. 6: Difference between Oncology pediatric nurses and ICU pediatric nurses regarding compassion satisfaction

Table 1-c: Frequency distribution of the sample according to the compassion satisfaction subscale (n=60)

Variables	Never	Rarely	Sometimes	Often	Always	X ²	P
	N(%)	N(%)	N(%)	N(%)	N(%)		
1.I get satisfaction from being able to [help] people.							
A	0 (0)	10(33.3)	8(26.7)	9(30)	3(10)	14.249	.003*
B	0 (0)	0 (0)	13(43.3)	8(26.7)	9(30)		
2.I feel invigorated after working with those I [help].							
A	0 (0)	8(26.7)	12(40)	7(23.3)	3(10)	11.905	.008*
B	0 (0)	0 (0)	16(53.3)	5(16.7)	9(30)		
3. I like my work as a [helper].							
A	0(0)	8(26.7)	9(30)	13(43.3)	0(0)	12.962	.005*
B	0(0)	5(18.5)	3(11.1)	10(37)	9(33.3)		
4.I am pleased with how I am able to keep up with [helping] techniques and protocols.							
A	0(0)	9(30)	15(50)	6(20)	0(0)	15.620	.001*
B	0(0)	1(3.3)	13(43.3)	7(23.3)	9(30)		
5. My work makes me feel satisfied.							
A	0(0)	8(26.7)	12(40)	10(33.3)	0(0)	7.222	.065
B	0(0)	5(16.7)	12(40)	7(23.3)	6(20)		
6. I have happy thoughts and feelings about those I [help] and how I could help them.							
A	0(0)	8(26.7)	8(26.7)	14(46.7)	0(0)	15.550	.001*
B	0(0)	0(0)	13(43.3)	11(36.7)	6(20)		
7.I believe I can make a difference through my work.							
A	0(0)	9(30)	10(33.3)	11(36.7)	0(0)	12.567	.006*
B	0(0)	1(3.3)	10(33.3)	13(43.3)	6(20)		
8. I am proud of what I can do to [help].							
A	0(0)	8(26.7)	12(40)	10(33.3)	0(0)	8.571	.036*
B	0(0)	8(26.7)	12(40)	4(13.3)	6(20)		
9. I have thoughts that I am a "success" as a [helper].							
A	0(0)	8(26.7)	9(30)	13(43.3)	0(0)	14.200	.003*
B	0(0)	0(0)	11(36.7)	13(43.3)	6(20)		
10.I am happy that I chose to do this work.							
A	1(3.3)	8(26.7)	10(33.3)	11(36.7)	0(0)	10.626	.031*
B	1(3.3)	5(16.7)	14(46.7)	6(20)	4(13.3)		

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

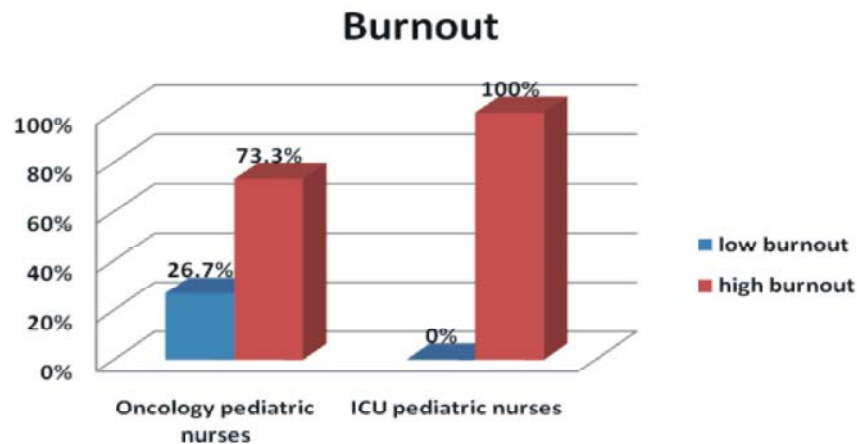


Fig. 7: Difference between Oncology pediatric nurses and ICU pediatric nurses as regards their burnout

Table 2: Frequency distribution of the sample according to the work related stress scale (n=60)

Variables	Never	Rarely	Sometimes	Often	Always	X ²	P
	N(%)	N(%)	N(%)	N(%)	N(%)		
1-I find myself thinking negatively about my job							
A	0(0)	8(26.7)	15(50)	7(23.3)	0(0)	6.949	.074
B	0(0)	6(20)	11(36.7)	5(16.7)	8(26.7)		
2-I find myself more harder and less compassionate with people more than what they deserve							
A	0(0)	12(40)	10(33.3)	8(26.7)	0(0)	9.333	.025*
B	0(0)	15(50)	5(16.7)	6(20)	4(13.3)		
3- I find myself get angry quickly from small work problems or my work colleagues							
A	0(0)	12(40)	10(33.3)	8(26.7)	0(0)	9.333	.025*
B	6(20)	15(50)	5(16.7)	4(13.3)	0(0)		
4- I feel I do not have anyone to talk to							
A	4(13.3)	8(26.7)	8(26.7)	10(33.3)	0(0)	8.571	.073
B	6(20)	8(26.7)	8(26.7)	4(13.3)	4(13.3)		
5-I feel that others misunderstand me or I'm less appreciated by my work colleagues							
A	0(0)	8(26.7)	8(26.7)	10(33.3)	4(13.3)	12.700	.013*
B	1(3.3)	14(46.7)	5(16.7)	4(13.3)	6(20)		
6-I feel I do less than what it should be done							
A	0(0)	9(30)	11(36.7)	10(33.3)	0(0)	12.321	.006*
B	0(0)	15(50)	6(20)	4(13.3)	5(16.7)		
7-I feel I'm under a lot of stress to achieve success							
A	0(0)	8(26.7)	0(0)	13(43.3)	9(30)	8.313	.040*
B	0(0)	3(10)	9(30)	12(40)	6(20)		
8-I feel I do not get what I want from my job							
A	0(0)	8(26.7)	9(30)	13(43.3)	0(0)	8.313	.040*
B	0(0)	6(20)	9(30)	12(40)	3(13.3)		
9-I feel disappointed from some sides of my job							
A	0(0)	9(30)	0(0)	13(43.3)	8(26.7)	7.963	.047*
B	0(0)	4(13.3)	8(26.7)	12(40)	6(20)		
10- I feel there is a lot to be done that is beyond my practical ability							
A	0(0)	8(26.7)	8(26.7)	14(46.7)	0(0)	9.413	.024*
B	0(0)	3(10)	11(36.7)	10(30)	6(20)		

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

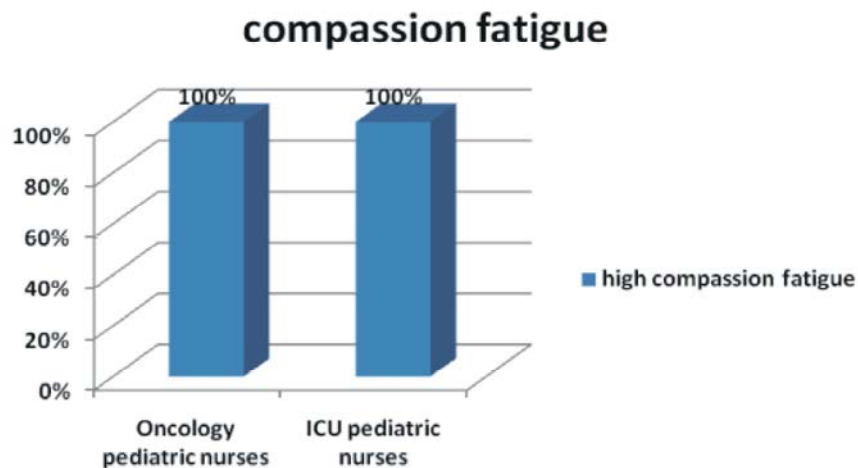


Fig. 8: Difference between Oncology pediatric nurses and ICU pediatric nurses regarding compassion fatigue

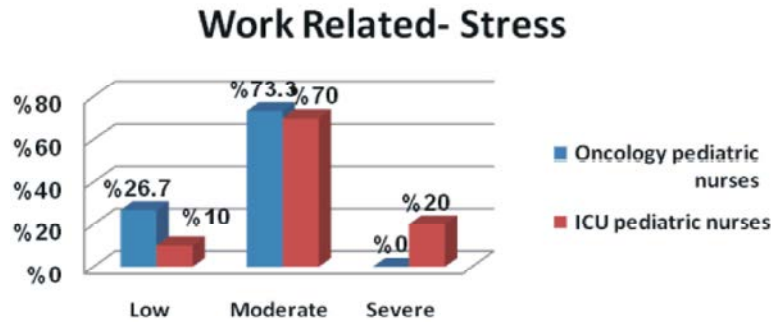


Fig. 9: Difference between Oncology pediatric nurses and ICU pediatric nurses regarding work related stress

Table 3: Relationship between age and total compassion fatigue subscores, total burnout subscores, total work related stress subscores and total work stress scores (n=60)

Variables	Age			F	p
	20-<30	30-<40	≥40		
Total compassion satisfaction					
A	28.18±9.55	31.78±6.56	29.60±.54	.746	.484
B	32±5.56	37.72±10.19	32	1.101	.349
Total compassion fatigue					
A	27.63±9.20	34.14±7.29	29.20±1.1	2.439	.106
B	36.60±4.33	38.23±8.58	37	.110	.896
Total burnout					
A	28±9.42	32.92±6.70	29.60±.54	1.422	.259
B	32.40±4.97	36.76±9.51	28	1.673	.207
Total work related stress					
A	28.90±10.24	30.85±6.99	30	.187	.830
B	25±9.24	36.42±9.70	25	4.421	.022*

*significant<0.05

A Oncology pediatric nurses
B ICU pediatric nurses

Table 4: Relationship between educational degree and total compassion fatigue subscores, total compassion satisfaction subscores, total burnout subscores and total work stress scores (n=60)

Variables	Educational Degree		t	P
	Technical nursing Institute	Nursing Bachelor		
Total compassion satisfaction				
A	30.39±7.55	28.50±9.81	.107	.899
B	36.38±10.34	32.50±.54	.820	.374
Total compassion fatigue				
A	31.39±8.18	29±10.38	.168	.846
B	37.54±8.34	37.50±.54	.000	.991
Total burnout				
A	30.82±7.57	29.50±10.59	.059	.943
B	36.12±9.34	29.50±1.64	2.914	.099
Total work related stress				
A	30.26±8	28.50±9.81	.084	.920
B	34.625±10.84	27±2.19	2.863	.102

*significant<0.05

A Oncology pediatric nurses
B ICU pediatric nurses

Table 5: Relationship between years of experience in nursing and total compassion satisfaction subscores, total compassion fatigue subscores, total burnout subscores and total work related stress scores (n=60)

Variables	Years of Experience in Nursing			F	p
	1-5	6-10	≥11		
Total compassion satisfaction					
A	26.66±10	37.71±2.28	28.50±3.69	7.329	.003*
B	32	35.44±4.47	36.26±11.97	.252	.779
Total compassion fatigue					
A	26.66±10	37.14±3.62	30.57±6.24	4.424	.025*
B	38	37.11±4.13	37.66±9.38	.021	.979
Total burnout					
A	26.66±10	38±2.76	29.35±4.28	7.769	.004*
B	32	34.77±4.96	35.27±10.82	.169	.845
Total work related stress scores					
A	26.66±10	38.85±1.34	27.71±3.66	9.892	.001*
B	19	34.11±5.60	34.94±11.1	3.844	.034*

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

Table 6: Relationship between years of experience in hospital and total compassion satisfaction subscores, total compassion fatigue subscores, total burnout subscores and total work stress scores (n=60)

Variables	Years of Experience in Hospital			F	p
	1-5	6-10	≥11		
Total compassion satisfaction					
A	26.66±10	33.77±8.1	29.91±.90	2.319	.118
B	32	35.44±4.47	36.26±11.97	.252	.779
Total compassion fatigue					
A	26.66±10	33.33±8.18	32.33±4.73	2.040	.150
B	38	37.11±4.13	37.66±9.38	.021	.979
Total burnout					
A	26.66±10	34±8.29	30.91±1.78	2.383	.111
B	32	34.77±4.96	35.27±10.87	.169	.845
Total work related stress scores					
A	26.66±10	34.66±8.39	29±1.80	2.970	.068
B	19	34.11±5.60	34.94±11.1	3.844	.034*

*significant<0.05

A Oncology pediatric nurses

B ICU pediatric nurses

Table (4) shows that, there were no statistically significant differences between educational level and total compassion fatigue subscores, total burnout subscores, total traumatic stress subscores and total work stress scores for both hospitals.

Table (5) indicates that, the oncology pediatric nurses showed statistically significant differences between years of experience in nursing and total compassion fatigue subscores, total burnout subscores, total traumatic stress subscores and total work stress

scores as (F=7.329, p=.003; F=4.424, p=.025; F=7.769, p=.004 and F=9.892, p=.001 respectively). While, ICU pediatric nurses did not show any statistically significant differences between years of experience in nursing and total compassion fatigue subscores, total burnout subscores, total traumatic stress subscores, except for total work stress scores (F=3.844, p=.034).

Table (6) shows that, there were no statistically significant differences years of experience in the hospital and total compassion fatigue subscores, total burnout

subscores, total traumatic stress sub scores and total work stress scores. However, ICU pediatric nurses showed statistically significant difference between years of experience and total work stress scores as ($F=3.844$, $p=.034$).

DISCUSSION

The current study results revealed that, almost three quarters of ICU pediatric nurses were aged between 30 years to less than 40 years as compared to almost half of Oncology pediatric nurses with no significance relation to the level of compassion fatigue, burnout and satisfaction between the two groups. These findings can be interpreted as the age has a little discriminating value for describing the prevalence of the risk for these phenomena. However, the results of the current study added that age of ICU pediatric nurses has a significant difference in relation to traumatic work stress, which may be explained as young age can be affected by work circumstances of pain and suffering of patients/ or parents which results in traumatic work stresses. This result is supported by Abendroth [15] who reported that the age has no significance relation to the compassion fatigue and satisfaction.

In relation to the years of experience of the studied sample slightly more than half of ICU pediatric nurses and less than half of oncology pediatric nurses have more than (11 years) of experience working in a hospital. Also, the result revealed that there is a statistical significance relation between oncology nurses years of experience and compassion fatigue, compassion satisfaction, burnout and work related stress as compared to ICU pediatric nurses who show no statistical significant difference were between their years of experience and the study variables except the traumatic work stress which show a statistical significant difference in relation to their years of experience. This result can be interpreted as the oncology pediatric nurses in their years of experience they faced a severe traumatic work stressors (Exposure to sufferings and pain of patients/ parents) which lead to compassion fatigue, compassion satisfaction and burnout. This current result is supported by Potter *et al.* [16] who studied compassion fatigue and burnout among oncology nurses and proved that burnout is increased by the years of experience. Meanwhile, this current result is contradicted by Abendroth [15] who stated that, nurses' coping abilities may be inherent and/or may have been learned from years of nursing experience who affect negatively on both compassion fatigue and burnout.

In relation to the educational background among the two studied groups, the result of the current study showed that more than three quarters of both studied groups were graduates from the technical nursing institutes this may be due to the availability of specialized technical institutes in oncology which supply the hospitals with the required staff to work with children. This current study also added that there is no statistical differences were found between the educational background of the two studied groups in relation to study variables and this might be related to all the nurses with different educational background who are working with pediatric patients with different diagnoses are at high risk to experience compassion fatigue, work related stress and burnout.

This current study results are contradicted by Johnson [1] who revealed that, pediatric nurses who do not complete baccalaureate education may be at higher risk for the potential negative consequences of working with children in pediatric health-care settings.

As regards level of compassion fatigue among the studied groups all the both groups suffer from compassion fatigue and this might be related to working with pediatric patients who are suffering from pain or at risk of experiencing pain due to treatments or complications which reflect on nurses in form of compassion fatigue. This study result is congruent with McSteen [8] who revealed that routinely nurses observe physical, emotional, spiritual and existential suffering in their pediatric patients or their families can be a regular stressor for the caregiver and can lead to compassion fatigue. Moreover, this study result is supported by Behairy [17] who reported that most of nurses working in critical care sitting or working with vulnerable groups like children or cancer patients suffer from compassion fatigue.

In relation to the level of compassion satisfaction among the two studied groups, this current study results showed that low compassion satisfaction is experienced more in oncology pediatric nurses than ICU pediatric nurses with no statistical difference was found between the two groups. These results might be due to increasing suffering in oncology children more than ICU children with different diagnoses because of pain, type of treatment that oncology children receive (Chemo or radio therapy) which results in complications which reflect on nurses who are working with them. These results are contradicted with Behairy [17] who revealed that nurses working in ICU are most vulnerable group for compassion dissatisfaction. These results are also in disagreement with Hooper *et al.* [18] who stated that, the scores of

emergency nurses evidenced a risk for less compassion satisfaction, while intensive care nurses demonstrated a higher risk for burnout and oncology nurses reflected a risk for higher compassion fatigue. On the other hand, these study results are supported by McSteen [8] who revealed that oncology nurses are experience low to moderate level of compassion satisfaction than those nurses who are working in other inpatients departments.

Regarding level of burnout among the two studied groups this current study results revealed that all ICU pediatric nurses experience high burnout level and near three quarters of oncology pediatric nurses experience high burnout level. Moreover, the current result showed statistical significance difference between the two studied groups in relation to burnout level. These study results could be explained as ICU pediatric nurses are facing competing demands of managing the satisfaction of patients, recruitment and provision of quality and safe care customized to patients' needs and preferences while oncology pediatric nurses could provide care for the pediatric patients with the help of their accompanied relatives (Mothers of the children). These study results are contradicted with Hooper *et al.* [18] who revealed that, approximately 82% of emergency nurses had moderate to high levels of burnout and nearly 86% had moderate to high levels of compassion fatigue. Differences between emergency nurses and those working in three other specialty areas, that is, oncology, nephrology and intensive care, on the subscales for compassion satisfaction, burnout, or compassion fatigue did not reach the level of statistical significance. However, the scores of emergency nurses evidenced a risk for less compassion satisfaction, while intensive care nurses demonstrated a higher risk for burnout and oncology nurses reflected a risk for higher compassion fatigue [18]. Meanwhile, these results are supported with Potter *et al.* [16] who stated that ICU nurses experience higher level of burnout than those nurses working in other hospital departments because of staff shortage.

As regards work related stress level among the two studied groups the current study results reported that near three quarters of both groups experience moderate work related stress level while about one quarter of ICU pediatric nurse experience severe work related stress level with no statistical significance difference was found between the two studied groups. These results could be explained as nurses in both groups faced the same level of stressors and demands during caring for the pediatric patients but ICU pediatric nurses might exposed to life saving situations which resulting in severe level of stress

among ICU pediatric nurses. These study results in agreement with Johnson [1] who revealed that, nurses who are working with pediatric patients are exposed to higher level of stress due to the nature of work which continues to intensify as patient acuities escalate and the demands on nursing increase. These study findings also are supported by Potter *et al.* [16] who reported that the factors contributing to inpatient workplace stress in ICUs that differ from those of outpatient settings center around higher patient acuity, including exposure to more patient deaths; witnessing more complications of treatment and disease; and managing more severe clinical symptoms. In addition, environment conditions such as inadequate staffing and weekend and evening hours may add additional burden.

CONCLUSIONS

The study concluded working with vulnerable groups like children either in ICU settings or oncology departments result in burdens on their caring nurses. Nurses who are working with those vulnerable groups of patients suffer from compassion fatigue, burnout and moderate to severe level of work related stress.

Recommendations:

- Assessment of risk for compassion fatigue should be integrated into nursing programs in pediatric healthcare settings.
- Inclusion of curriculum related to professional boundaries and self-care should be integrated into nursing curriculum.
- Team work is recommended to minimize work related stress and burnout in pediatric health care settings
- Further research study is recommended to compare the compassion fatigue and burnout between nurses and other health care personnel who are working with vulnerable groups of patients.

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