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# Compassion Fatigue and Compassion Satisfaction among Critical Care Nurses

## Mazriyana Md Kasim[1], Tuminah Sabar[2], Siti Munirah Abdul Wahab[1], Muhammad Amin Ahmad Zaki[1], Rusnani Ab Latif[1], Norasma Bakar[1]

[1]Nursing Programme, Faculty of Health Sciences, Universiti Teknologi MARA, Cawangan Pulau Pinang, Kampus Bertam, 13200 Kepala Batas, Pulau Pinang, Malaysia, [2]Nursing Department, Faculty of Medicine, Royal College of Medicine Perak, Universiti Kuala Lumpur, 31400, Ipoh, Perak, Malaysia

**Abstract**
Critical care nursing is an area specifically dealing with patients experiencing high-dependency and life –threatening conditions. Their role was complex as they were the essential partner in conjunction with the Intensive Care Unit (ICU) multidisciplinary team and the need to undertake family liaison duties, such as providing support and education to both the patient and the patient's family. These circumstances expose to high risk of compassion fatigue (CF) which will affect their job performance and satisfaction, harm emotional and physical health not only to themselves but to the patients. Therefore, this study was conducted to identify the level of CF and compassion satisfaction (CS) among critical care nurses. A total of 106 critical care nurses at public hospital were surveyed by using Professional Quality of Life (ProQOL) scale. The nurses had moderate burnout (BO), secondary traumatic stress (STS) and CS. Nurses who worked in Pediatric Intensive Care Unit (PICU) had high STS compared to those worked in other units. The presence of compassion fatigue among nurses in critical care requires strategies which prevent, identify and mitigate compassion fatigue among these nurses.
**Keywords:** Compassion Fatigue, Compassion Satisfaction, Critical Care Nurses, Burnout, Stress Traumatic Syndrome.

**Introduction**
        Critical care nurses provide specialised nursing care to critically ill patients who require careful assessment as they are in critical condition and can deteriorate rapidly. This situation may become a source of stress as they have to witness the patient suffering (Lachman, 2016), dying or facing death (Bao & Taliaferro, 2015) and longer exposure to grief of patient and families on a daily basis (Wentzel, 2014). Nurses in critical care unit always work with multidisciplinary teams including doctors, specialists, physiotherapist, pharmacists, and others in order to ensure that the patients receive optimal care. They have longer exposure to trauma of patients, death, grief of patients and family. Therefore, due to the nature of working situations, the critical care nurses are at high risk to experience compassion fatigue

(CF) which is exhaustion of emotional, physical, social and spiritual (Slocum-Gori et al., 2013). This situation can affect the quality of care given to patient and may lead to patient dissatisfaction (Mason et al., 2014; Sacco et al., 2015).

CF is related to prolonged exposure to trauma or difficult situations (Coetzee & Klopper, 2010). CF contains two elements which are burnout (BO) and secondary traumatic stress (STS). These negative elements in CF will be balanced with compassion satisfaction (CS) as the positive coping mechanism.

Compassion Satisfaction (CS) is referred as the pleasure developed from being able to do work well and helping others, able to give contribution to the working setting or the society (Stamm, 2010). These feelings help defend the negative effect of traumatic events and provide motivation and purpose for nurses to continue their profession (Wu, 2016).

CF is present if BO and STS is high and CS is low (Stamm, 2010). CF happens when the act of caring has been impeded (Ledoux, 2015) and occurs more abruptly than BO as it is a direct result of exposure to another person's trauma (El-bar et al., 2013) and it will progress when strategies to rescue the patients are unsuccessful caused by the healthcare professionals feeling stressed and guilt (Boyle, 2011) leading to moral distress (Ledoux, 2015) and CF occurs.

CF is giving an impact to the nurses, profession, and the organization in terms of safety, quality and patients' satisfaction (Bao & Taliaferro, 2015) as the nurses are being exhausted emotionally, physically, and spiritually (Slocum-Gori et al., 2013). Prolonged current situation may cause them to have poor nursing performance and judgement leading to medical error (Harris & Griffin, 2015), less empathy and compassion (Henson, 2017), increased in sick leaves (Matey, 2016), moral distress (Ledoux, 2015), increase in absenteeism and staff turnover (Hooper et al., 2010). As a result, the nurses have leave the profession due to job dissatisfaction and spiritual emptiness (Fahey & Glasofer, 2016b; Harris & Griffin, 2015) and leading to shortage of nurses in the country.

Currently, Malaysia is facing shortage of nurses with specialization in critical care and it happens as there is active hiring nurses by Singapore, Brunei and Saudi Arabia (Pillay, 2017). It has been reported that about ten government nurses in Johor tender resignation letters every month for the past three years as they received better offer in overseas. It is believed CF is one of the factors that contributed to the shortage of nurses in this country.

CF is found to be influenced by poor nurse staffing, unhealthy working environment, increasing workload, and increasing care complexity (Aiken et al., 2013). It also found that low level of managerial support (Hunsaker et al., 2015), lack of understanding from peers and other nurses from other discipline and administrators, unable to provide quality care to patients due to time constraint (Perry et al., 2011) and low adapting coping style are the factors leading to CF.

Nurses and healthcare professionals should understand and recognize the signs and symptoms of CF in order for them to look for the support when they are at risk. It is important to recognize the early symptoms of CF as it will help the nurses to maintain their ability to experience work fulfilment and contribute to patients' satisfaction (Hunsaker et al., 2015).

Generally nurses are unaware and unsure on how to prevent and cope with the symptoms of CF (Harris & Griffin, 2015). Having an understanding on the issue, the organization should be able to develop an intervention in handling CF and may help the nurses to continue providing compassionate care for the patients because patients should receive effective care as they are not supposed to become a victim due to poor nursing performance and judgement as the consequence of CF.

## Methodology

The study was conducted at intensive care unit (ICU), cardiac care unit (CCU), pediatric intensive care unit (PICU) and neonatal intensive care unit (NICU) of Hospital Raja Permaisuri Bainun, Ipoh, Perak. Hospital Raja Permaisuri Bainun is the largest hospital in Perak with the capacity of 990 beds and is the third largest in Malaysia.

The design of this study was non-experimental, descriptive study aimed to determine the level of CF and CS and the different levels of CF among critical care nurses at four critical care units. This design approach is appropriate for this study as it allowed for statistical comparison of the experience within groups of nurses at four critical care units.

The target population of this study was the Registered Nurses (RN) who worked in ICU, CCU, PICU and NICU of Hospital Raja Permaisuri Bainun Ipoh. The total registered nurses in ICU were 116, 16 nurses in CCU, 49 nurses in PICU and 42 nurses in NICU, making the total population of nurses to be 223(N=223). However, the total population of nurses during data collection reduced due to resignation, further study, confinement leave and transferred to other area. A total of 117 questionnaires were distributed to the participants and all the questionnaires (100% response) were returned to the researcher. However, 106 (91%) were completed and taken for analysis and another 11 (9%) were rejected as incomplete responses.

The convenience sampling was used in collecting the data as it allows to gather information from the participants easily. It is a non-probability sampling technique where the subjects are selected because of their convenient accessibility and proximity to the researcher.

This study used a self-administered questionnaire and divided into two parts. Part 1 consisted of demographic data and part 2 consists of professional Quality of Life instruments (ProQOL, version 5) to measure CF and CS. Part 1 included the standard question to gather respondent's general information. Part 2 is a ProQOL version 5 was adapted from Stamm (2010) and it is the most commonly used instrument in research on CF and CS.

The ProQOL survey consists of 3 subscales which are BO, STS and CS. Out of the 3 subscales, BO and STS are components of CF and CS is stand-alone measure. The instrument contains 30 items of self-score instrument that reflect how frequently a person experiences the situation in the last 30 days. Each subscale consists of 10 items rated using a 5-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often).

The first subscale to measuring CF is BO, the second subscale of CF is STS and the third element measured in the scale is CS. Each subscale consisting of 10 items in the scale and the average score of all the three subscales are 50 points. The cut scores to indicate relative risks or protective factors of the measurements are set at the 25th and 75th percentiles. The scores

of the three subscales are rated as low, average, and high. The total score is equal to or less than 43 indicating low risk, scores around 50 (between 44 to 56) indicating average risk and total score equals to or greater than 57 indicating high risk (Stamm, 2010).

As per instructed by Stamm (2010), the results can be interpreted individually or in combination of: 1) high compassion satisfaction, moderate to low burnout and secondary traumatic stress; 2) high burnout, moderate to low compassion satisfaction and secondary traumatic stress; 3) high secondary traumatic stress with low burnout and low compassion satisfaction; 4) high secondary traumatic stress and high compassion satisfaction with low burnout; and 5) high secondary traumatic stress and high burnout with low compassion satisfaction.

An envelope containing questionnaires with information sheet explaining the purpose of the study and a informed consent for the voluntary of participation form was distributed by researcher to nurses in four critical care units (ICU, CCU, PICU and NICU). Each participant was assigned with a numerical code to ensure confidentiality and to aid in data analysis.

Statistical Package for Social Sciences (SPSS) version 21.0 was used for data processing and analysis purposes. Before analysing the scales, summing the items for each subscale was required. Reverse coding was done first to 5 items (items no 1, 4, 15, 17 and 29) belonging to BO in ProQOL scale as per instructed in the ProQOL manual. Sum of the items for each subscale was done in order to get raw data. Summed items for CS were questions 3, 6, 12, 16, 18, 20, 22, 24, 27 and 30. Summed items for BO were questions 1 (recode), 4 (recode), 8, 10 15 (recode), 17 (recode), 19, 21, 26 and 29 (recode). Summed items for STS were questions 2, 5, 7, 9, 11, 13, 14, 23, 25 and 28. The raw data were converted to z-scores and the z-scores were converted into t-scores as recommended by Stamm (2010). t-scores of CS, BO and STS were used to meet the mean equalled 50, and standard deviation 10 was used in analysing the ProQOL scales.

A descriptive statistic was computed for frequency, standard deviation, and percentage to determine the respondents' characteristics. To identify the level of CF and CS in critical care nurses using ProQOL version 5, descriptive analysis and percentage were used to analyse the data. To compare the level of CF and CS among critical care units, descriptive analysis and percentage and ANOVA were used to analyse the data.

Internal consistency reliability has been test using Cronbach Alpha and the result showed CS = 0.77, BO = 0.65 and STS = 0.64. The obtained Cronbach's alpha result for BO and STS were above 0.6, therefore, the instrument is considered reliable as a general rule that Cronbach's alpha 0.6 – 0.7 indicates an acceptable level of reliability (Manerikar & Manerikar, 2015; Ursachi et al., 2015).

## Results

Demographic data that have been asked in the early part of the questionnaire were analyzed using descriptive statistic tests. As presented in table 1, the participant's age was within range of 25 to 59 years old (M = 32.85, SD = 5.98) in which 35 (33%) of them were below 29 years old, 60 (56.6%) participants aged between 30 to 39 years old, 11 (10.4%) participants were above 40 years old and majority of the participants were 25 years old

(9.4%). Most of the participants were married 85 (80.2%), followed by single 20 (18.9%) and widowed 1 (0.9%).

Currently, 55 (51.9%) participants are working in ICU, 8 (7.9%) participants working in CCU, 24 (22.6%) participants working in PICU, and 19 (17.9%) participants working in NICU (17.9%). The highest level of education among participants was diploma 99 (93.4%), degree 6 (5.7%), and master 1 (0.9%). Out of 106 participants, 48 (45.3%) of them had post basic certificate, and 58 (54.7%) of them did not have any. Years in nursing profession was ranging between 2 to 29 years (M = 9.77, SD = 5.75) with 32 of them (30.2%) working less than 5 years, 29 (27.4%) working between 6 to 10 years, 45 (42.5%) with experience more than 11 years in nursing profession and majority of the participants had 13 years (10.4%) in nursing profession. Whereas years in critical care nursing was between 1 to 21 years (M = 7.84, SD = 5.01) with 30 (28.3%) of them working for 3 years and less in critical care nursing, 18 (17%) working between 4 to 6 years, 16 (15.0 Car%) working between 7 to 9 years, 42 (39.7%) with experience more than 10 years in critical care nursing and majority of the participants had 3 years (11.3%) experience in critical care nursing.

Table 1
*Socio-demographic data of respondents*

| Demographic data | Range | Mean (SD) | n (%) |
|---|---|---|---|
| Age (Years) | | | |
| Below 29 | 25 – 59 years | 32.85 (5.98) | 35 (33) |
| 30 - 39 | | | 60 (56.6) |
| Above 40 | | | 11 (10.4) |
| Marital status | | | |
| Single | | | 20 (18.9) |
| Married | | | 85 (80.2) |
| Widowed | | | 1 (0.9) |
| Type of critical care unit | | | |
| ICU | | | 55 (51.9) |
| CCU | | | 8 (7.5) |
| PICU | | | 24 (22.6) |
| NICU | | | 19 (17.9) |
| Highest level of education | | | |
| Diploma | | | 99(93.4) |
| Degree and above | | | 7 (6.6) |
| Certificate in Post Basic | | | |
| None | | | 58 (54.7) |
| ICU | | | 21 (19.8) |
| CCU | | | 5 (4.7) |
| Paediatric | | | 8 (7.5) |
| NICU | | | 13 (12.3) |

| | | | |
|---|---|---|---|
| Midwifery | | | 1 (0.9) |
| **Years in nursing profession** | | | |
| Less than 5 years | 2 -29 years | 9.77 (5.75) | 32 (30.2) |
| 6 – 10 years | | | 29 (27.4) |
| More than 11 years | | | 45 (42.5) |
| **Years in Critical Care Nursing** | | | |
| Less than 3 years | 1 – 21 years | 7.84 (5.01) | 30 (28.3) |
| 4 – 6 years | | | 18 (17) |
| 7 – 9 years | | | 16 (15.1) |
| 10 – 12 years | | | 42 (39.7) |

The list of questionnaires belonging to CS in ProQOL version 5 scale is as in Table 2, whereas, Table 3 is the questionnaires for BO and Table 4 shows the distribution of the questionnaires used to assess STS in this study. Reverse coding was done for questions 1, 4, 15, 17 and 29 in the BO scale before analysis was performed. Summed items for each subscale were done in order to get the total scores. Overall, of the three subscales in the ProQOL instrument, the mean score is 50 (SD=10). The scores of the 3 subscales are rated as low, moderate, and high. The total score equal to or less than 43 indicating low risk, score around 50 (between 44 to 56) indicating moderate risk, and total score equal to or greater than 57 indicating high risk.

Table 2
*Statements and Mean scores of CS in ProQOL Scale*

| Item no | Statement for CS | Mean t scores | Median | SD |
|---|---|---|---|---|
| 3 | I get satisfaction from being able to help people. | 50 | 49.18 | 10 |
| 6 | I feel invigorated after working with those I help. | | | |
| 12 | I like my work as a nurse. | | | |
| 16 | I am pleased with how I am able to keep up with nursing techniques and protocols. | | | |
| 18 | My work makes me feel satisfied. | | | |
| 20 | I have happy thoughts and feelings about those I help and how I could help them. | | | |
| 22 | I believe I can make a difference through my work | | | |
| 24 | I am proud of what I can do to help. | | | |
| 27 | I have thoughts that I am a "success" as a nurse. | | | |
| 30 | I am happy that I chose to do this work. | | | |

Table 3
*Statements and Mean scores of BO in ProQOL Scale*

| Item no | Statement for BO | Mean t scores | Median | SD |
|---|---|---|---|---|
| 1* | I am happy. | 50 | 48.92 | 10 |
| 4* | I feel connected to others. | | | |
| 8 | I am not as productive at work because I am losing sleep over traumatic experiences of a person I helped. | | | |
| 10 | I feel trapped by my job as a nurse. | | | |
| 15* | I have beliefs that sustain me. | | | |
| 17* | I am the person I always wanted to be. | | | |
| 19 | I feel worn out because of my work as a nurse. | | | |
| 21 | I feel overwhelmed because my workload seems endless. | | | |
| 26 | I feel "bogged down" by the system. | | | |
| 29* | I am a very caring person. | | | |

*Items for reverse coding

Table 4
*Statements and Mean scores of STS in ProQOL Scale*

| Item no | Statement for STS | Mean t scores | Median | SD |
|---|---|---|---|---|
| 2 | I am preoccupied with more than one person I help. | 50 | 50.4 | 10 |
| 5 | I jump or am startled by unexpected sounds. | | | |
| 7 | I find it difficult to separate my personal life from my life as a nurse. | | | |
| 9 | I think that I might have been affected by traumatic stress of those I helped. | | | |
| 11 | Because of my nursing, I have felt "on edge" about various things. | | | |
| 13 | I feel depressed because of the traumatic experiences of the people I help. | | | |
| 14 | I feel as though I am experiencing the trauma of someone I have helped. | | | |
| 23 | I avoid certain activities or situations because they remind me of frightening experiences of the people I help. | | | |
| 25 | As a result of my nursing, I have intrusive, frightening thoughts. | | | |
| 28 | I can't recall important parts of my work with patients and families. | | | |

Table 5 presented the level of CF (BO and STS) and CS among critical care nurses. Generally, the participants in this study scored average on CS, BO, and STS. The results indicate that from 106 participants, 24 (22.6%) of the participants experienced low BO, 51

(48.1%) had moderate BO and 31 (29.2%) had high risk of BO. For STS, 26 (24.5%) participants experienced low STS, 64 (60.4%) had moderate STS and 16 (15.1%) had high risk of STS. For CS, 27 (25.5%) of them had low CS, 54 (50.9%) had moderate CS and 25 (23.6%) had high CS.

Table 5
*Level of CF and CS in Critical Care Nurses (n = 106)*

|  | Low n (%) | Moderate n (%) | High n (%) | Total n (%) |
|---|---|---|---|---|
| BO | 24 (22.6) | 51 (48.1) | 31 (29.2) | 106 (100) |
| STS | 26 (24.5) | 64 (60.4) | 16 (15.1) | 106 (100) |
| CS | 27 (25.5) | 54 (50.9) | 25 (23.6) | 106 (100) |

Table 6 presented the level of CF (BO and STS) and CS among work units of critical care. The results shows that the majority of critical care nurses in four units of critical care scored within moderate level for all the 3 subscales. Even though not statistically significant, descriptive comparison for the level of CS among units shows that PICU had low CS (29.2%) compared to other units and CCU had the highest CS (25%). For BO scale, NICU had low BO (10.5%) compared to other units and PICU had high BO (29.2) compared to other units. For STS scale, NICU had low STS (10.5%) and PICU had high STS (20.8%).

Table 6
*Level of CF and CS According to Works Units (n = 106)*

| Work Unit | Level | Low n (%) | Moderate n (%) | High n (%) |
|---|---|---|---|---|
| BO | ICU | 12 (23.6) | 29 (52.7) | 13 (23.6) |
|  | CCU | 1 (12.5) | 6 (75.0) | 1 (12.5) |
|  | PICU | 6 (25.0) | 11 (45.8) | 7 (29.2) |
|  | NICU | 2 (10.5) | 15 (78.9) | 2 (10.5) |
| STS | ICU | 16 (29.1) | 30 (54.5) | 9 (16.4) |
|  | CCU | 5 (62.5) | 3 (37.5) | 0 (0.0) |
|  | PICU | 3 (12.5) | 16 (66.7) | 5 (20.8) |
|  | NICU | 2 (10.5) | 15 (78.9) | 2 (10.5) |
| CS | ICU | 12 (21.8) | 31 (56.4) | 12 (21.8) |
|  | CCU | 2 (25.0) | 4 (50.0) | 2 (25.0) |
|  | PICU | 7 (29.2) | 14 (58.3) | 3 (12.5) |
|  | NICU | 0 (0.0) | 17 (89.5) | 2 (10.5) |

A one-way analysis of variance (ANOVA) with post-hoc Scheffe test was conducted to compare the differences in CS and CF (BO and STS) within work units. Significant value used for this test was *p* value less than or equal to 0.05.

Table 7 presented the results that there is a significant difference in STS scores within work unit, $F$ (3, 102) = 3.12, $p$ = 0.03. Post-hoc comparison revealed that PICU (M = 53.72, SD = 9.23) was significantly different with CCU (M = 41.91, SD = 6.38). These results showed that 20.8% of nurses working in PICU (n = 24) had high STS compared to those who work in other units. A one-way ANOVA also was used to assess BO and CS within work units and found that there is no significant difference among units of critical care.

*Table 7*
*ANOVA for Work unit and level of CF (BO & STS) and CS (n = 106)*

| Variables | Professional Quality of Life (ProQOL) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **CS** | | | | **BO** | | | | **STS** | | |
| | n | Mean (SD) | F-stats[a] (df) | P value. | Mean (SD) | F-stats[a] (df) | P value. | Mean (SD) | F-stats[a] (df) | P value. |
| Works Units | | | | | | | | | | | |
| ICU | 55 | 49.53 (11.7) | 0.136 (3, 102) | 0.93 | 49.98 (10.61) | 0.417 (3, 102) | 0.74 | 49.38 (11.13) | 3.120 (3, 102) | **0.03**\*\* |
| CCU | 8 | 49.42 (11.01) | | | 50.83 (9.19) | | | 41.91 (6.38) | | |
| PICU | 24 | 51.03 (9.16) | | | 51.36 (11.26) | | | 53.72 (9.23) | | |
| NICU | 19 | 50.3 (3.97) | | | 47.98 (6.51) | | | 50.5 (6.15) | | |

\*\**P* – Significant according to Scheffe post-hoc comparison

**Discussion**

Compassion is the core value in providing nursing care to patients where the nurses should be able help patients to alleviate their sufferings. CF occurs when the act of caring has been inhibited due to continuous exposure to other person's trauma and the effect may progress when the strategies to rescue the patients are unsuccessful leading to distress, guilt, and anxiety of the healthcare professionals. BO occurs to any workers when they felt that their effort does not make any difference therefore it will cause them to feel hopeless and frustrated which can lead to CF. STS is an element of CF and is defined as secondary exposure to people who have experienced extremely or traumatically stressful events (Stamm, 2010) such as nurses who care for critically ill infants which may lead to moral distress (Beck et al., 2017). The level of CS, BO and STS was measured by ProQOL version 5 instrument.

In this study, generally, the participants' score are in moderate range for all the three subscales of BO, STS and CS. The results of moderate range in this study are similar to other research findings using the same ProQOL instrument.

The results in this study revealed that from 106 participants, 25.5% of participants have low CS, 50.9% have moderate CS and 23.6% have high CS. These finding was relatively similar to the study by Al Barmawi et al. (2019) in critical care units and emergency department in Jordan. The result demonstrated that most of the nurses had low to average of compassion satisfaction. Different results were revealed from the study by Donna & Amy (2016) in critical care nurses an adult community ICU in southern New Jersey. The result demonstrated average to high level of compassion satisfaction. Using mean as the comparison, the study by Bao & Taliaferro (2015) revealed that acute care nurses in the study had high CS. A possible

explanation is that positive working environment such as continuous mentoring by the superior, having good cooperation among colleagues, and having opportunity for personal development may cause the nurses to work happily leading them to have moderate to high levels of CS. This supported by study of Hunsaker et al., (2015) which demonstrated adequate support from manager leads to high level of CS.

Based on the finding of this study, 22.6% of the participants in this study experienced low BO, 48.1% had moderate BO and 29.2% had high risk of BO. This result was similar with study by Berger et al. (2015) found that for BO subscales, their participants scored low BO (23%), moderate BO (47.7%) and high BO (29.3%). Similar study was also found by Fahey & Glasofer (2016) where 52% of their critical care nurses scored moderate BO and 48% scored low BO. Mean obtained in the study by Bao & Taliaferro (2015) also showed that acute care nurses had moderate BO. Continuous support from the family, manager and co-workers could be the reason of the participants having low BO. However. The current result contradicts with the study done by Salimi et al. (2020) where the Iranian critical care nurses obtained high level of CF with the majority of nurses scoring in the average or higher level of BO and STS. The high prevalence of CF that could be dependent on workplace characteristic or culture (Van Mol, Kompanje, Bakker & Nujkamp, 2014).

In this study, the STS subscales found that 24.5% of the participants experienced low STS, 60.4% had moderate STS and 15.1% had high risk of STS. Similar findings were established in the study by Berger et al. (2015) where 21.8% of their participants scored low level of STS, 51% had moderate STS, and 27.2% had high level of STS. Similar results also were obtained in the study by O'Callaghan et al. (2020) among Australian Emergency Nurses which demonstrated almost one-third (31.4%) reported low level, two-thirds (68.6%) had average levels and none had a high level of STS. Low to moderate level of STS obtained in most of the study could be due to the ability of the nurses to develop resilience within themselves. Resilience may develop by frequent exposure of caring and dealing with stressful situations, therefore, the nurses are able to focus on the positive part in providing care with emotional toughness and stay emotionally separated from their patients (Hart et al., 2014). However, the current result is different with the result obtained by Sung et al. (2012) where the Korean nurses obtained very high level of STS and were significantly correlated and found to be predictive variables for turnover intention.

Another objective of this study was to examines if there is any difference in the level of CF and CS between work units in critical care. Generally, the descriptive analysis shows that the level of CS among work units is moderate. This result is similar to the finding by (Jakimowicz et al., 2018). (2018) where most of the participants (83%) scored average and 15% scored high for compassion satisfaction. However, nurses in PICU having low CS (29.2%) compared to other units. CCU has the highest CS (25%) but no significant difference found between the work units. These findings are reflective of positive work environment and it could be nurses had positive coping strategies and received support from family, friends, and co-workers. Creating a healthy work environment involves interventions that values and support nurses as empowered members of the care team, such as encouraging authentic leadership, effective communication, collaboration, appropriate staffing and meaningful recognition (Fahey & Glasofer, 2016a)

For BO scale in this study, descriptive analysis showed that the level of BO among work

units is moderate. NICU having low BO (10.5%) and PICU has high BO (29.2%) compared to other units but no significant difference found between the work units. This result is similar to the study done by Berger et al (2015) where the nurses in all paediatric working units scored moderate BO, however, there was a significant difference found between work units where nurses who worked in paediatric medical and surgical unit had high level of BO compared to other units. It could be due to the nurses in the study was frequently exposed to traumatic events such as child abuse, sudden or anticipated death and excessive work load due to shortage of staff and large number of new nurses.

For STS scale, the descriptive analysis in this study showed that the level of STS among working units is at moderate level but ANOVA test shows that there is a significant group difference in means of STS in which 20.8% of nurses working in PICU have high STS compared to those who work in other units. Possible explanation of this finding is that nurses in PICU are always dealing with critically ill children on a daily basis, involved in assisting painful procedure and dealing with death of the child and grieving of the family. This result is similar to those reported by Sacco et al (2015) where the nurses working in single unit of ICU such as adult ICU and PICU had significant high level of STS even though BO scores did not show significant difference

**Conclusion**
Providing compassionate care to patients is a fundamental value in the practice of nursing. Nurses should be familiar with the meaning and symptoms of CF and CS in order to help themselves and others. Nurses should be aware on how to prevent and cope with the symptoms of CF in order to maintain their ability in providing compassionate care for patients' satisfaction. Understanding the level of BO, STS and CS can help the nursing managers to work together with their nurses in handling the symptoms and this indirectly will improve group performance.

Overall, the results of this study, reveal that the critical care nurses score moderate level of CF and CS. Critical care nurses are often exposed to stressful situation, therefore, superior support is very important by mentoring the junior nurses, providing guidance and necessary support to lessen the burden of the staff. Poor leadership skills such as ignoring and not listening to staff's work problem cause nurses' dissatisfaction (Atefi et al., 2014), therefore, positive working environment such as performance, leadership and nurse manager or superior support are very important for nurses' satisfaction especially among critical care nurses (Breau & Rheaume, 2015).

Using these findings, nursing managers and the organization can develop the strategies such as the resiliency programme in CF prevention to support all the nurses in preventing dangerous effects of CF to themselves, their co-workers, and patients (Geraghty et al., 2016). Therefore, it is important for the nursing manager and counselling unit to play a role in reducing the effect of BO and STS among nurses as the healthcare professionals who are at high risk of CF and need specific assistance with their stress, emotional exhaustion, and discouragement (Hooper et al., 2010). Through this programme, it is hopes will increase the quality of nurses in healthcare setting and at the same time will improve nurses' retention and satisfaction.

**Corresponding Author**
Mazriyana Md Kasim
Lecturer Nursing Programme, Faculty of Health Sciences, University Teknologi MARA, Cawangan Pulau Pinang, Kampus Bertam, 13200 Kepala Batas, Pulau Pinang, Malaysia.
Email: mazriyana@uitm.edu.my

**References**
Aiken, L. H., Sloane, D. M., Bruyneel, L., Van den Heede, K., & Sermeus, W. (2013). Nurses' reports of working conditions and hospital quality of care in 12 countries in Europe. *International Journal of Nursing Studies*, *50*(2), 143–153. https://doi.org/10.1016/j.ijnurstu.2012.11.009

Atefi, N., Abdullah, K. L., Wong, L. P., Mazlom, R. (2014). Factors influencing registered nurses perception of their overall job satisfaction: a qualitative study. *International Nursing Review*, *61*(3), 352–360.

Bao, S., & Taliaferro, D. (2015). Compassion fatigue and psychological capital in nurses working in acute care settings. *International Journal for Human Caring*, *19*(2), 35–41.

Beck, C. T., Cusson, R. M., & Gable, R. K. (2017). Secondary Traumatic Stress in NICU Nurses. A mixed-Methods Study. *National Association of Neonatal Nurses*, *00*(00), 1–11. https://doi.org/10.1097/ANC.0000000000000428

Boyle, D. A. (2011). Countering compassion fatigue: a requisite nursing agenda. *OJIN: The Online Journal of Issues in Nursing*, *16*(1), Manuscript 2. https://doi.org/10.3912/OJIN.Vol16No01Man02

Breau, M., & Rheaume, A. (2015). The relationship between empowerment and work environment on job satisfacti...: EBSCOhost. *Dynamics*, 16–24.

Coetzee, S. K., & Klopper, H. C. (2010). Compassion fatigue within nursing practice: A concept analysis. *Nursing and Health Sciences*, *12*(2), 235–243. https://doi.org/10.1111/j.1442-2018.2010.00526.x

El-bar, N., Levy, A., Wald, H. S., & Biderman, A. (2013). Compassion fatigue , burnout and compassion satisfaction among family physicians in the Negev area - a cross-sectional study. *Israel Journal of Health Policy Research*, 1–8.

Fahey, D. M., & Glasofer, A. (2016a). An inverse relationship: Compassion satisfaction, compassion fatigue, and critical care nurses. *Nursing Critical Care*, *11*(5), 30–35. https://doi.org/10.1097/01.CCN.0000490957.22107.50

Fahey, D. M., & Glasofer, A. (2016b). An Inverse relationship compassion satisfaction, compassion fatigue, and critical care nurse. *NursingCriticalCare*, *11*(5), 30–35.

Geraghty, S., Oliver, K., & Lauva, M. (2016). *Reconstructing compassion: should it be taught as part of the curriculum? 25*(15), 836–840.

Harris, C., & Griffin, M. T. Q. (2015). Nursing on Empty. *Journal of Christian Nursing*, *32*(2), 80–87. https://doi.org/10.1097/CNJ.0000000000000155

Hart, P. L., Brannan, J. D., & de Chesnay, M. (2014). Resilience in nurses: An integrative review. *Journal of Nursing Management*, *22*(6), 720–734. https://doi.org/10.1111/j.1365-2834.2012.01485.x

Henson, J. S. (2017). When {Compassion} {Is} {Lost}. *MEDSURG Nursing*, *26*(2), 139.

Hooper, C., Craig, J., Janvrin, D. R., Wetsel, M. A., & Reimels, E. (2010). Compassion Satisfaction, Burnout, and Compassion Fatigue Among Emergency Nurses Compared With Nurses in Other Selected Inpatient Specialties. *Journal of Emergency Nursing*, *36*(5), 420–427. https://doi.org/10.1016/j.jen.2009.11.027

Hunsaker, S., Chen, H. C., Maughan, D., & Heaston, S. (2015). Factors That Influence the Development of Compassion Fatigue, Burnout, and Compassion Satisfaction in Emergency Department Nurses. *Journal of Nursing Scholarship*, *47*(2), 186–194. https://doi.org/10.1111/jnu.12122

Jakimowicz, S., Perry, L., & Lewis, J. (2018). Compassion satisfaction and fatigue: A cross-sectional survey of Australian intensive care nurses. *Australian Critical Care*, *31*(6), 396–405. https://doi.org/10.1016/j.aucc.2017.10.003

Lachman, V. D. (2016). Compassion fatigue as a threat to ethical practice: Identification, personal and workplace prevention/management strategies. *MEDSURG Nursing*, *25*(4), 275–278.

Ledoux, K. (2015). Understanding compassion fatigue: Understanding compassion. *Journal of Advanced Nursing*, *71*(9), 2041–2050. https://doi.org/10.1111/jan.12686

Manerikar, V., & Manerikar, S. (2015). Cronbach's Alpha. *A Peer Reviewed Research Journal*, *XIX*(1), 117–119. https://doi.org/10.1007/bf02310555.Cronbach

Mason, V. M., Leslie, G., Clark, K., Lyons, P., Walke, E., Butler, C., & Griffin, M. (2014). Compassion Fatigue, Moral Distress, and Work Engagement in Surgical Intensive Care Unit Trauma Nurses. *Dimensions of Critical Care Nursing*, *33*(4), 215–225. https://doi.org/10.1097/DCC.0000000000000056

Matey, L. (2016). Compassion Fatigue Is a Safety Concern. *ONS Connect*, *31*(5), 20.

O'Callaghan, E. L., Lam, L., Cant, R., & Moss, C. (2020). Compassion satisfaction and compassion fatigue in Australian emergency nurses: A descriptive cross-sectional study. *International Emergency Nursing*, *48*(January 2019), 100785. https://doi.org/10.1016/j.ienj.2019.06.008

Perry, B., Toffner, G., Merrick, T., & Dalton, J. (2011). An exploration of the experience of compassion fatigue in clinical oncology nurses. *Canadian Oncology Nursing Journal*, *21*(2), 91–97. https://doi.org/10.5737/1181912x2129197

Pillay, S. (2017). Will Malaysia face a shortage of nurses by 2020? *New Straits Times*.

Sacco, T. L., Ciurzynski, S. M., Harvey, M. E., & Ingersoll, G. L. (2015). Compassion Satisfaction and Compassion Fatigue Among Critical Care Nurses. *Critical Care Nurses*, *35*(4), 32–43. https://doi.org/10.4037/ccn2015392

Slocum-Gori, S., Hemsworth, D., Chan, W. W., Carson, A., & Kazanjian, A. (2013). Understanding Compassion Satisfaction, Compassion Fatigue and Burnout: A survey of the hospice palliative care workforce. *Palliative Medicine*, *27*(2), 172–178. https://doi.org/10.1177/0269216311431311

Stamm, B. (2010). The Concise ProQOL Manual. *Pocatello, ID: ProQOL. Org*, 78.

Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How Reliable are Measurement Scales? External Factors with Indirect Influence on Reliability Estimators. *Procedia Economics and Finance*, *20*(15), 679–686. https://doi.org/10.1016/S2212-5671(15)00123-9

Wentzel, D. (2014). The Consequence of Caring Too Much: Compassion Fatigue and The

Trauma Nurse. *Journal of Emergency Nursing*, *40*(1), 95–97. https://doi.org/10.1016/j.jen.2013.10.009

Wu, S. (2016). Compassion Fatigue, Burnout, and Compassion Satisfaction Among Oncology Nurses Within an International Setting. *Oncology Nursing Forum.*, *43*(4).