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# Burnout Syndrome Among Staff of Emergency and Trauma Department Hospital Tuanku Fauziah, Kangar, Perlis

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## ABSTRACT

Burnout Syndrome (BOS) is a complex chronic occupational stressor, defined by Maslach and Jackson (1981) as a Syndrome of Emotional Exhaustion (EE), Depersonalisation (DP) and reduced Personal Accomplishment (PA) among workers in human service environment, towards job demand that is beyond their mental, emotional and physical capacity. The Emergency and Trauma Department (ETD) were regarded as the busiest human service environment, in local and international literature. Cross-sectional mixed method study, which involved 122 operational staff of ETD HTF and a total of 12 ETD operational supervisors and administrators from HTF and Hospital Sultanah Bahiyah (HSB). The objective of this study is to confirm the existence and measure the current level and risk to develop BOS among staff of ETD HTF, determine significant work stressor and develop an interventional manual based on the pre-intervention Maslach Burnout Inventory-Human Service Survey Medical Personnel (MBI-HSS MP) scores. The SPSS Version 24 and Thematic analysis was performed in this study. Result from the semi-structured interviews, established human resource insufficiency as the main work stressor. The Mind Refresher was developed as a primary intervention through Participatory Action Research. The Mind Refresher had strengthened the personal resources and created mindfulness towards the job demands in ETD HTD, which was statistically proven significant by Paired t Test during the study period.This study concludes that, there were no significant BOS among the staff of ETD HTF and it is hoped that this study will contribute some knowledge for policy makers in the government and private sector to formulate a preventive BOS framework towards their employee job demands.

**Contribution/Originality:** This study is a pioneering study, estimating the risk to develop Burnout Syndrome (BOS) among all category healthcare workers in Emergency and Trauma (ETD) Department in Malaysia. The developed Primary Interventional Package had indeed further reduced the risk to develop BOS among ETD staff as proven via statistical analysis.

## 1. Introduction

Hospital Tuanku Fauziah (HTF), was established in 1909, it is the only one hospital in Perlis. Initially it was known as Hospital Besar Kangar. In 1995 it was named as Hospital Kangar, and finally Hospital Tuanku Fauziah in 2007. Currently it has 508 inpatient beds and approximately 2,400 staff consisting of various categories for a population of 250 thousand (Hospital Tuanku Fauziah, 2014/2015). It has various clinical and allied healthcare departments. One of the most important department is the Emergency and Trauma Department (ETD). Several literatures have identified the Emergency and Trauma Department as one of the busiest human service departments in the world (Boutou et al., 2019). The emotional toll of service is immense, with unforeseen acute pathologies and an uncertain working environment (Moukarzel, 2019). The number of outpatient category cases seeking treatment after office hours at ETD, HTF had increased about 11% from 2014 to 2018 and critical cases resuscitated had also increased about 16% from 2014 to 2018.

The role of External Environmental factors such as the usage of smart gadgets, unpredictable job demands, economic slowdown, political influence and high healthcare awareness amongst citizens could presumably contribute to low physical, emotional and mental performances of staff of HTF in the environment of ETD.

Furthermore internally, the pitfalls in work processes within ETD and the increasing healthcare demands from the stakeholders could jeopardize the team factors, leading towards consequences of poor clinical performances and at times compromising the safety of the staff and patient during the clinical procedures due to their lost in focus and not following the layout of Standard Operating Process mainly as a result of emotional and physical energy drain from coping to the ever demanding critical situation in the Emergency and Trauma Department. Looking at the latter discussed scenario, the researcher being the most senior personnel of ETD HTF, had intended to investigate the existence of Burnout Syndrome and its level among the staff. Significant stressors will be also identified. Ultimately the journey of this research will end with the formulation of an Interventional framework to withstand the unpredictable job demands in ETD HTF.

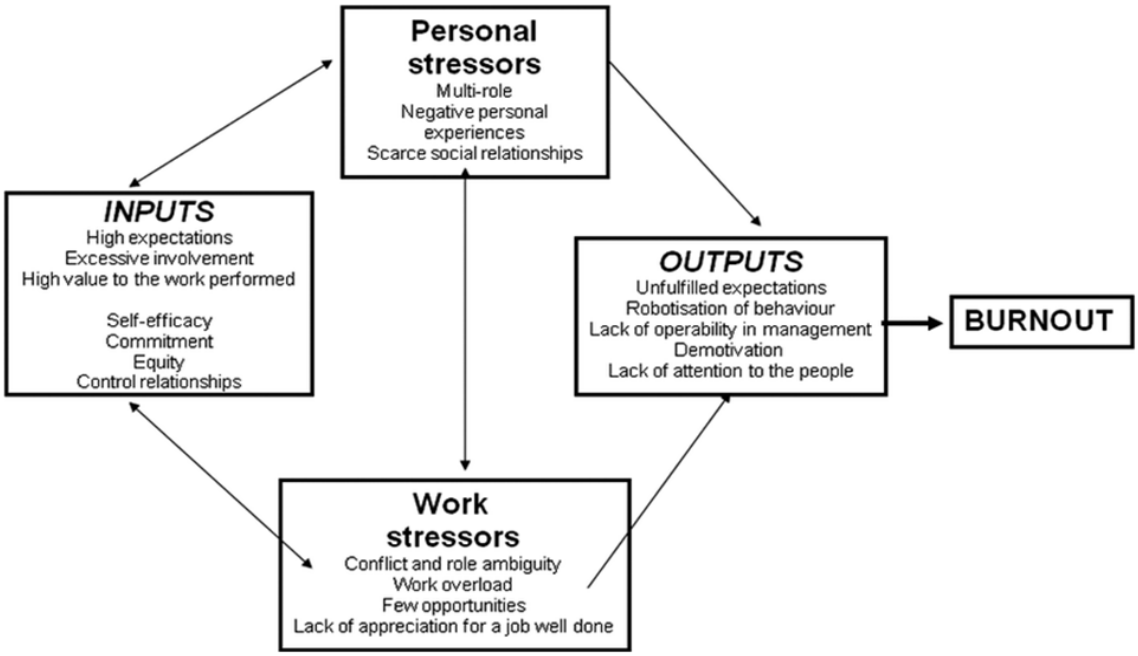
## 2. Research Method

This mixed method cross-sectional with pragmatism approach study was conducted within Jun 2020 to July 2021. In this study, purposive sampling was used. 122 operational staff of ETD HTF were selected for the survey (quantitative) data and 12 middle level interviewees from HTF and HSB (Hospital Sultanah Bahiyah) for the qualitative data. The data collection was initiated after receiving Medical Research Ethical Committee (MREC) approval. The objective of this study is to confirm the existence and measure the current level and risk to develop BOS among staff of ETD HTF, determine significant work stressor and develop an interventional manual based on the pre-intervention Maslach Burnout Inventory-Human Service Survey Medical Personnel (MBI-HSS MP) scores.

This study follows the Kurt Lewin Action Research Model. Two theory model was used to understand the phenomena and in formulating the interview questions and planning the relevant intervention. The theory models are, Multicausal integral model (Manzano-García & Ayala-Calvo, 2013) (Figure 1) and Model of proactive burnout prevention process (Parker et al. 2010) (Figure 2). Figure 3 summarizes the study process of Burnout Syndrome among staff of ETD HTF.

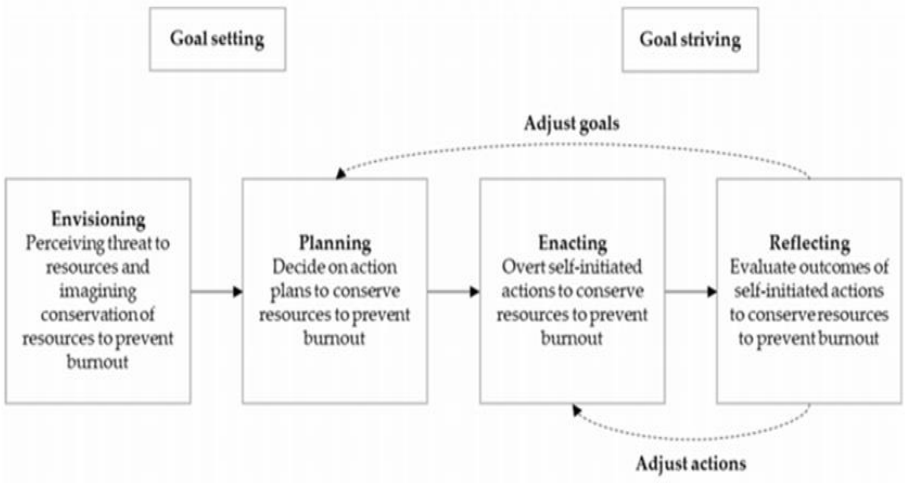
In this study the validated Maslach Burnout Inventory- Human Service Survey [Medical Personnel] (MBI-HSS MP) with a Cronbach α of 0.70 to 0.80 range (Wheeler et al., 2011) was the main research tool for the survey to establish the risk level of BOS among staff of ETD HTF.

Figure 1: Multi-causal integral model: Burnout Syndrome in the workplace



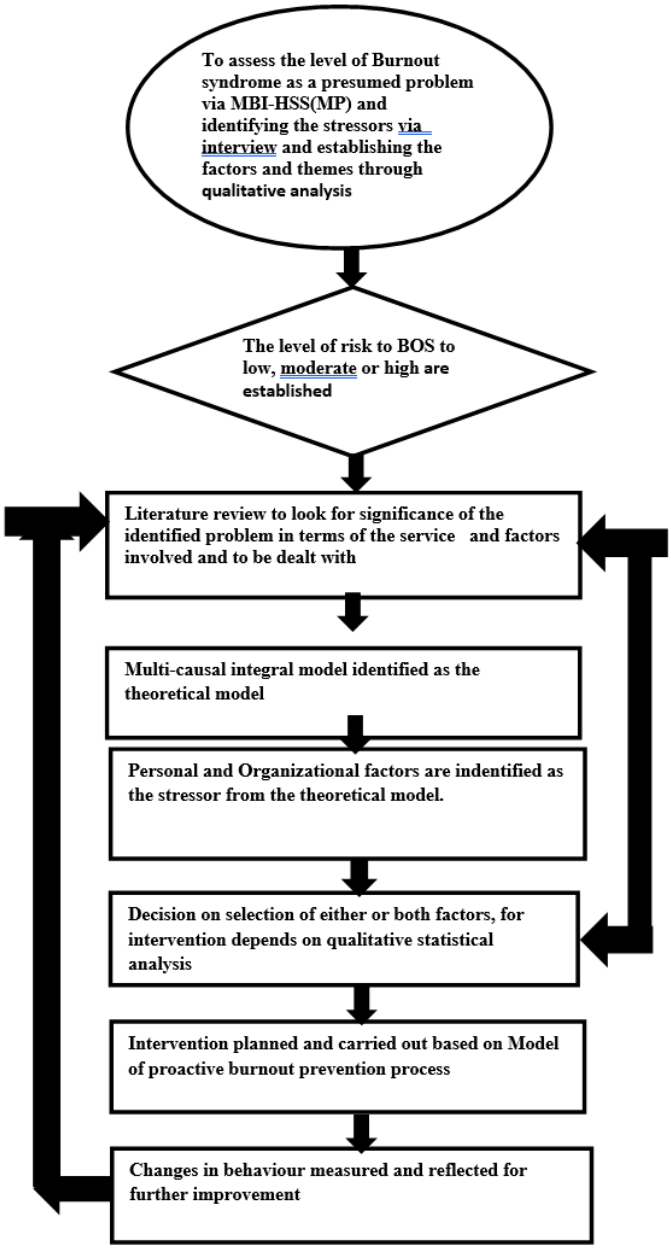

Source: Manzano-García and Ayala-Calvo (2013)

Figure **Error! No text of specified style in document.**: Model of proactive burnout prevention process




Source: Parker et al. (2010)

Figure 3: Study process of Burnout Syndrome among staff of ETD HTF




Source: McCormack and Cotter (2013)

## 4. Results

### 4.1. Input

This is the first phase in the Action Research process. In this planning phase insight on the problematic situation were gathered via available documents in ETD (Table 1), literature search and most importantly from interviewing the middle level managers of ETD and the MBI-HSS MP, towards the operational staff. Evidence derived, will be analysed to look at the impact of job demand in ETD HTF and the significant existing stressor towards the

risk level of BOS among the operational staff. Ultimately, unfreezing the pitfalls in attitude and behavioural changes towards improving the work processes in ETD HTF.

Table 1: 5 years trending in ETD HTF Workload and Staff Absenteeism

| Documents | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Sick Certificate | 22 | 32 | 51 | 54 | 54 |
| Total ETD patient attendance trend | 103,732 | 103,340 | 99,584 | 95,089 | 99,902 |
| Resuscitated critical cases in ETD | 2,640 | 3,988 | 3,749 | 3,647 | 3,789 |
| After office hours non-critical cases | 24,846 | 21,789 | 23,568 | 25,690 | 27,850 |

Table 2 shows the socio-demographic variables of the 122 operational ETD HTF. The socio-demographic characteristic shows that the majority of the participant are male 69.7% compared to female 30.3% and majority 58.2% are within 26-35 years old. 95.1% of the participants are Malays. 54.1% of the participants had at least a STPM/DIPLOMA qualification. 35.2% had been working in ETD for nearly 10 years. 74.6% of the participants are married. Table 3 shows qualitative and quantitative study staff profiling.

Table 2: Socio-demographic characteristics of participants

| | *n* | (%) |
|---|---|---|
| Gender | | |
| Male | 85 | (69.7) |
| Female | 37 | (30.3) |
| Age Category | | |
| ≤ 25 years old | 6 | (4.9) |
| 26 -35 years old | 71 | (58.2) |
| 36 – 45 years old | 32 | (26.2) |
| 46 – 55 years old | 12 | (9.8) |
| ≥ 56 years old | 1 | (0.8) |
| Ethnicity | | |
| Malay | 116 | (95.1) |
| Chinese | 3 | (2.5) |
| Indian | 1 | (0.8) |
| Others | 2 | (1.6) |
| Education | | |
| PMR/SRP | 2 | (1.6) |
| SPM | 16 | (13.1) |
| Sijil | 3 | (2.5) |
| STPM/Diploma | 66 | (54.1) |
| Bachelor Degree | 30 | (24.6) |
| Others | 5 | (4.1) |
| Occupation | | |
| Government | 122 | (100.0) |
| Non-Government | 0 | (0.0) |
| Working Years | | |
| < 5 years | 31 | (25.4) |

| | | |
|---|---|---|
| 6 - 10 years | 43 | (35.2) |
| 11 - 15 years | 21 | (17.2) |
| 16 - 20 years | 15 | (12.3) |
| ≥ 21 years | 12 | (9.8) |
| Marital Status | | |
| Single | 30 | (24.6) |
| Married | 91 | (74.6) |
| Divorced | 1 | (0.8) |

Table 3: Study Staff Profiling

| **Qualitative Participant Profiling** | | |
|---|---|---|
| No | Participant | Position |
| 1. | Consultant Emergency Physician | ETD HTF Head of Department |
| 2. | Emergency Physician | ETD HTF Clinical Specialist |
| 3. | Medical Assistant U36 | ETD HTF Deputy Chief Paramedic Supervisor |
| 4. | Medical Assistant U32 | ETD HTF Paramedic Shift Supervisor |
| 5. | Sister U32 | ETD HTF Nursing Supervisor |
| 6. | Medical Attendant U14 | ETD HTF Medical Attendant Supervisor |
| 7. | Human Resource officer U48 | Chief Deputy Director HTF |
| 8. | Medical Assistant U41 | ETD HSB Chief Paramedic |
| 9. | Medical Assistant U36 | ETD HSB Deputy Chief Paramedic |
| 10. | Medical Assistant U32 | ETD HSB Paramedic Shift Supervisor |
| 11. | Sister U32 | ETD HSB Nursing Shift Supervisor |
| 12. | Medical Assistant U29 | ETD HSB Operational Medical Assistant |
| Quantitative Participant Profiling | | |
| No | Participant | Position |
| 1. | Consultant Emergency Physician | ETD HTF Head Of Department |
| 2-3 | Emergency Physician UD 56 | ETD HTF Clinical Specialist |
| 4. | Emergency Physician UD 52 | |
| 5. | Medical Officer UD 52 | ETD HTF Assistant Medical Officer In-charge |
| 6-10. | Medical Officer UD 48 | ETD HTF Clinical Shift Medical Officer |
| 11-25. | Medical Officer UD 44 | ETD HTF Clinical Shift Medical Officer |
| 26-30. | Medical Officer UD 41 | ETD HTF Clinical Shift Medical Officer |
| 31. | Medical Assistant U42 | ETD HTF Chief Paramedic |
| 32-33. | Medical Assistant U36 | ETD HTF Deputy Chief Paramedic Supervisor |
| 34-49. | Medical Assistant U32 | ETD HTF Paramedic Shift Supervisor |
| 50-91. | Medical Assistant U29 | ETD HTF Operational Medical Assistant |
| 92. | Sister U32 | ETD HTF Nursing Supervisor |
| 93-108 | Staff Nurse U29 | ETD HTF Clinical Shift Staff Nurse |
| 109. | Medical Attendant 14 | ETD HTF Medical Attendant Supervisor |
| 110-112 | Medical Attendant 14 | ETD HTF Medical Attendant Operational |
| 113-122 | Medical Attendant | ETD HTF Clinical Shift Support Officer |
| Interventional Participant Profiling | | |
| No. | Participant | Position |
| 1. | Medical Officer UD48 | ETD HTF Senior Clinical Shift Medical Officer |
| 2-5. | Medical Officer UD44 | ETD HTF Clinical Shift Medical Officer |
| 6. | Medical Assistant U32 | ETD HTF Paramedic Shift Supervisor |
| 7-10 | Medical Assistant U29 | ETD HTF Operational Medical Assistant |
| 11. | Sister U32 | ETD HTF Nursing Supervisor |
| 12-15 | Staff Nurse U29 | ETD HTF Clinical Shift Staff Nurse |
| 16. | Medical Attendant U14 | ETD HTF Medical Assistant Supervisor |

| | | |
|---|---|---|
| 17. | Medical Attendant U14 | ETD HTF Medical Assistant Operational |
| 18-20 | Medical Attendant U11 | ETD HTF Clinical Shift Support Officer |

### 4.2. Qualitative Data Analysis

Table 4, shows that the middle level managers perceive the ETD environment as good and conducive with satisfactory work engagements and team work. However, the middle level managers agree that insufficient human resource and managerial support arise due to increase in unpredictable job demands, more so during the current Covid-19 pandemic.

Table 4: Semi-structured interview questions

| | Semi-structured Question's | Final Theme |
|---|---|---|
| 1. | How do you perceive the work environment in ETD HTF? | Good and conducive environment |
| 2. | What is your opinion on the resources available for the job demand faced by the various category of staff in ETD HTF? | Insufficient human resource |
| 3. | How do you perceive team work among various category of staff in ETD HTF? | Good and acceptable team work |
| 4. | How do you explain the work engagement of staff in ETD HTF? | Good and satisfactory work engagements |
| 5. | What do you think contributes to low work performance among staff of ETD HTF? | Increase in job demand with insufficient managerial and team support |

### 4.3. Quantitative Data Analysis

The above quantitative and qualitative analysis are pertinent to understand the issues in this study, to answer the study questions and to achieve the objectives. Subsequently intervention will be developed to sustain the resources needed for the job demand.

From the interview reflection, generally it is acceptable that ETD HTF as a good and conducive environment as there was no request from staff to transfer out from ETD HTF due to job demands up to last year. Furthermore, the pre-intervention analysis (Table 5) shows 85% of staff had low level of Burnout Syndrome, which reflects that the staff are able to cope with existing job demand in this environment.

Table 5: Pre-intervention Maslach Burnout Inventory level n (%)

| Dimension of Burnout Syndrome | Risk level of Burnout Syndrome n (%) | | |
|---|---|---|---|
| | Low | Moderate | High |
| Emotional Exhaustion (EE) | 104(85.2) | 17(13.9) | 1(0.8) |
| Depersonalization (DP) | 97(79.5) | 23(18.9) | 2(1.6) |
| Personal Achievements (PA) | 41(33.6) | 27(22.1) | 54(44.3) |

Despite increase in job demands, more so as ETD is the vital frontline department managing Covid-19 Pandemic, satisfactory team work and work engagements had further eased the clinical processes reflected by a reduction of about 50% in public complaints last year compared to 2019 with no missing in actions during shift notified in 2020

(Source: ETD HTF Statistics).However, the middle level managers think that human resource is still insufficient due to increase in job demand from many clinical zones and complexity of cases leading to staff fatigue from doing frequent overtimes, reflected by an increase of about 10% from overall overtime claims last year compared to 2019(Source: Financial Unit HTF) thus managerial support is thought as a vital element in monitoring and motivating the staff.

Based on the above input a primary intervention to prevent the emergence of Burnout Syndrome will be dealt with in the transformation phase, to further improve the attitude and behaviour of the staff to be more competitive towards their working environment.

### 4.4. Transformation

This is the action phase for changing, involves seeking and exploring available resources for appropriate behavioural modification and adaptation of the new way of thinking and processing work. It essential to continuously guide and support through communication and education during this phase via emphasizing the need for change and the benefit attained once fully established.

From the literature reviews, there are various forms of intervention, focusing at different human service settings and categories. This intervention focuses on individual and organisation separately and some adapt a mix mode of focusing the individual and their organisation. According to their goal, interventions aimed at reducing stress-related issues are typically categorised as primary, secondary, or tertiary (Schaufeli & Enzmann, 1998). Primary strategies seek to reduce established risk factors for all workers, such as burnout, in order to prevent it from occurring. Secondary interventions are directed at a specific group of people who have been identified as being at high risk. Employees who are already suffering from the disease are targeted for tertiary interventions in order to avoid negative effects such as loss of job capacity. Furthermore, strategies to treat burnout may be categorised based on the content's goal.

Approaches to burnout may focus on the individual, seeking to develop psychological resources and dealing with workplace stresses; on the environment, aiming to change the professional context and reduce stress causes; or on both (a combination of these perspectives) (Schaufeli & Enzmann, 1998).

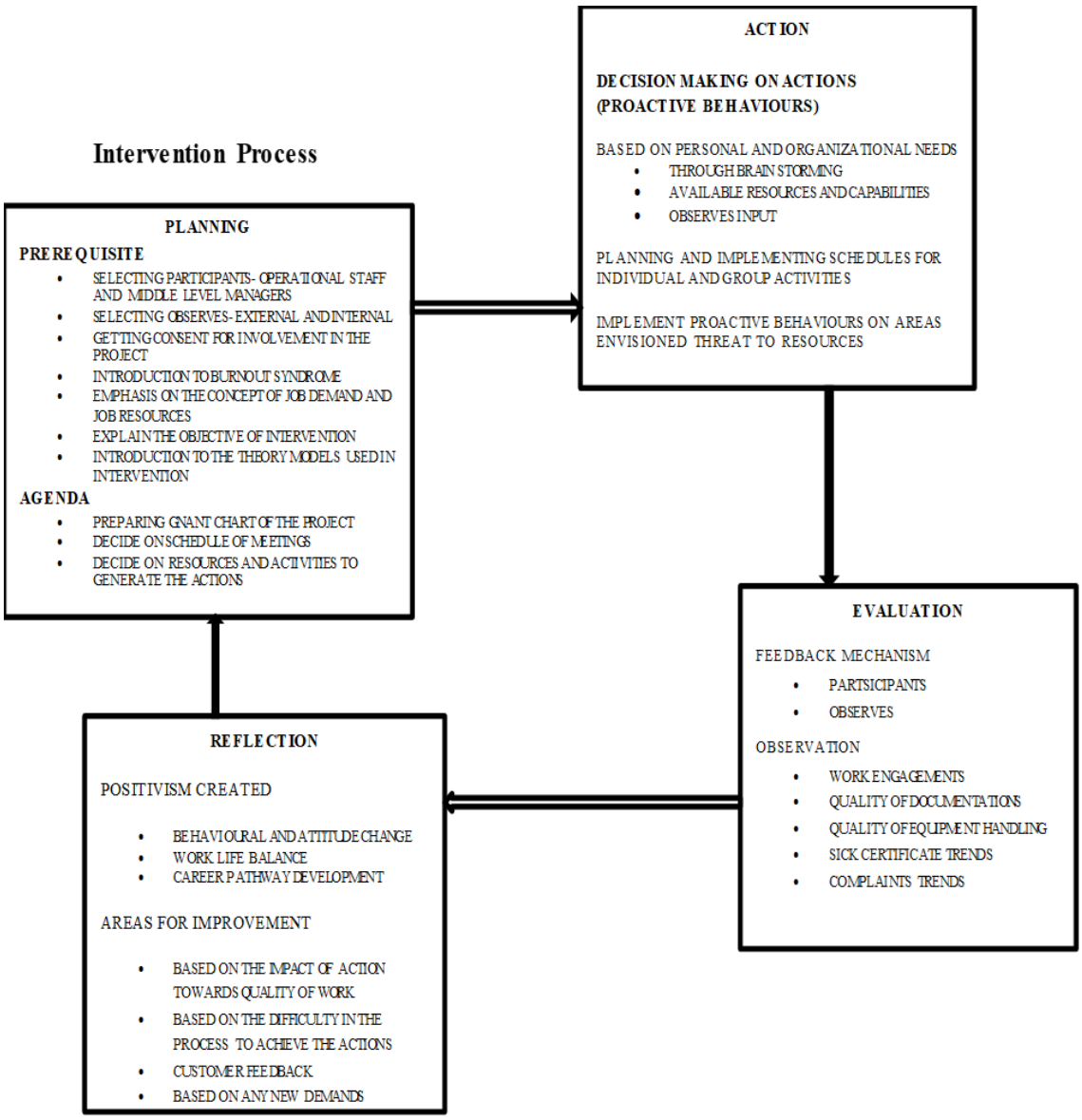
In this study, due to the low pre-intervention risk level to develop Burnout syndrome among the staff of ETD HTF, a Primary Interventional Package was developed.

Five participants from each category of operational staff (doctors, medical assistants, nurses and medical attendants) were randomly selected, including those with a higher EE or DP and lower PA from the pool of survey respondents to develop the intervention manual. The intervention process was conducted according to Figure 4.

A total of 4 session was conducted with fortnightly intervals. The first session started off with an introduction to Burnout Syndrome and the pursued study by the researcher. Subsequently HTF Psychology Counsellor Officer delivered a talk regarding stress management in acute settings such the ETD. The following three sessions were merely group discussion, interaction, literature review and presentation to reach consensus on the best sustainable method to enhance staff resilience towards the stressors in ETD HTF.

The developed primary intervention was aimed to increase staff psychological capital via improving their coping skills through proactively enhancing the necessary personal resources and managing efficiently their job specifications to overcome workplace stressors. Eventually it will be beneficial to prevent Burnout Syndrome via improving positive behavioural change towards the working environment. Intervention programs against burnout are beneficial and can be enhanced and optimized, thus institutions should recognize the need for and make burnout intervention programs available to their employees (Awa et al, 2010).

Figure 4: Intervention process to develop framework to prevent Burnout Syndrome




The developed manual was named as The Mind Refresher ETD HTF. The Mind Refresher is based on COR (conservation of resources) theory by Hobfoll (1989) and the concept of mindfulness. The COR theory suggest that burnout is the consequence of personal resources depletion process caused by prolonged exposure to stressors. Whereas mindfulness essentially means, being deliberately more alert and awake to each moment, as well as being completely engaged in what is going on in one's environment with acceptance and without judgement. Nurses have found mindfulness-based programmes

to be a promising strategy in lowering stress. Jon Kabat-Zinn described mindfulness as "paying attention on purpose, in the present moment, and nonjudgmentally, to the unfolding of experience moment by moment" in 1979 (Botha, 2015). The influence of the environment (e.g., workplace or home) on individuals' personal resources (e.g., energy or mental resilience) in job engagement has been the subject of traditional research whereby individuals may be more willing to engage in work as a way of acquiring greater resources when they have higher personal resources at their disposal or lower personal demands in the work domain owing to the assistance of personal resources at home (Chen & Fellenz, 2020). Proactive behaviours were individual own strategies used to engage, enhance and strengthen their personal resources to create a conscious mindful state, enabling them to better distinguish environmental elements from their response to them, resulting in less stress (Jon Kabat-Zinn, 1994). Ultimately, the manual will be a reminder for the staff on their job scope objectivity during shifts in ETD and indirectly stimulating, motivating and creating a positive aura around them. The developed mind refresher consists of four parts, as described below:

i. How to use the manual: Basically, guide the staff in the usage of the following three sections.

ii. Section A-Preface: Introduction on Burnout Syndrome, the related theory models of the pursued study, purpose and category of participant involved and the intended outcome

iii. Section B-Prerequisite: This section elaborates on the need to develop or strengthen the various personal resources as a psychological prerequisite measure to overcome unpredictable job demands in ETD.

iv. Section C-The Mind Booster: This final section is the most important one for the staff. In this section, firstly words of appreciation and courage was given for the staff ability to attend shifts irrespective of their current psychosocial status. Subsequently they are required to recite guided positive affirmations during every shift, to boost their mental and emotional alertness to anticipate and deliver appropriate actions during unexpected scenarios in ETD.

The members of the interventional process agreed that staffing is challenging in ETD as the workload of the emergency department is highly variable, necessitating a high degree of agility and collaboration among the various specialties and divisions. Generally, in HTF, many other clinical departments are also understaffed. Realizing the fact that obtaining sufficient staff is impossible under the current situation, more so during the period of pandemic, the staff consented to strengthen their personal resources as outlined in The Mind Refresher ETD HTF, to withstand the challenging environment.

### 4.5. Output

After a period of 6 months, post-intervention assessment risk of Burnout via MBI-HSS[MP] was conducted on the same 122 participant to look at the impact of adapting proactive behaviours towards the three dimension of burnout scores of Emotional Exhaustion, Depersonalization and Personal Accomplishments and to see the success level of the planned intervention. Table 6 summarizes the findings. Table 7 shows the comparison in the risk within the dimension of burnout pre and post intervention.

Table 6: Post-Intervention Maslach Burnout Inventory level n (%)

| Dimension of Burnout Syndrome | Risk level of Burnout Syndrome n (%) | | |
|---|---|---|---|
| | Low | Moderate | High |
| Emotional Exhaustion (EE) | 121(99.2) | 1(0.8) | 0 |
| Depersonalization (DP) | 122(100.0) | 0 | 0 |
| Personal Achievements (PA) | 50(41.0) | 29(23.8) | 43(35.2) |

Table 7, shows that majority staff of ETD HTF had a low-level risk, to develop burnout syndrome prior to intervention. Post intervention the number of staff with low level for EE and DP further increased with more improvement in Personal Achievements reflected by a higher score for low and moderate level together with a lower score in the high level.

Statistical analysis using Paired t test via SPSS Version 24 was conducted to compare the significance in the pre-intervention and post-intervention mean of all the scores within all dimension of burnout (EE, DP, PA) as illustrated in Table 7.

Table 7: Pre-Intervention and Post-Intervention Maslach Burnout Inventory level n (%)

| | Low | | Moderate | | High | |
|---|---|---|---|---|---|---|
| | Pre | Post | Pre | Post | Pre | Post |
| Emotional Exhaustions (EE) | 104(85.2) | 121(99.2) | 17(13.9) | 1(0.8) | 1(0.8) | 0 |
| Depersonalization (DP) | 97(79.5) | 122(100.0) | 23(18.9) | 0 | 2(1.6) | 0 |
| Personal Achievements (PA) | 41(33.6) | 50(41.0) | 27(22.1) | 29(23.8) | 54(44.3) | 43(35.2) |

Table 8 shows there are significant average difference between pre-intervention and post-intervention scores for all dimension of Burnout Syndrome (EE, DP, PA), because the calculated *t* values for all dimension (EE, DP, PA) are more than critical value (1.96) at *df*121).

Table 8: Change of EE, DP and PA scores after the intervention.

| Variable | Pre-Intervention Mean | (SD) | Post-Intervention Mean | (SD) | Mean of score diff. | (95% CI) | *t* statistics*(df)* | | *p*-value [a] |
|---|---|---|---|---|---|---|---|---|---|
| EE Scores | 10.5 | (6.58) | 9.2 | (5.80) | 1.3 | (0.9, 1.7) | 6.5 | (121) | <0.001* |
| DP Scores | 3.1 | (3.05) | 2.7 | (2.44) | 0.4 | (0.2, 0.6) | 4.1 | (121) | <0.001* |
| PA Scores | 34.0 | (9.33) | 35.1 | (8.23) | -1.1 | (-1.5, -0.7) | -5.3 | (121) | <0.001* |

Note:
[a] Paired t-Test;
SD = Standard Deviation;
95% CI = 95% Confidence Interval;
df = Degree of Freedom;
*Statistically Significant.

Comparison of means using paired-sample *t*-test showed that EE scores and DP scores were significantly reduced (both $p<0.001$) and PA scores significantly increased ($p<0.001$) after the intervention.

EE scores were significantly reduced from before (Mean = 10.5, SD = 6.58) to after the intervention (Mean = 9.2, SD = 5.80), $t$ (121) = 6.5, $p<0.001$.

DP scores were significantly reduced from before (Mean = 3.1, SD = 3.05) to after the intervention (Mean = 2.7, SD = 2.44), $t$ (121) = 4.1, $p<0.001$.

PA scores were significantly increased from before (Mean = 34.0, SD = 9.33) to after the intervention (Mean = 35.1, SD = 8.23), $t$ (121) = -5.3, $p<0.001$.

The researcher concludes that despite currently there were no evidence of Burnout Syndrome statistically among staff of ETD HTF, this primary intervention had significantly reduced the level of EE and DP whilst increasing their PA.

## 5. Future recommendation

Since the aim of the developed primary intervention is to achieve and strengthen the personal resources and create mindfulness to the job demands of ETD HTF, whilst achieving a positive attitude towards the clinical work processes involved in patient care i.e. quality of clinical documentation, patient safety practise, patient assessment and timely disposition, etc. The researcher has developed a Task Performance Behaviour Monitoring form (Table 9) assessment tool for the supervisors to evaluate their sub-ordinates attitude towards patient care. Participant for this evaluation are staff who had moderate to high level of EE, DP and low to moderate level of PA during the pre-intervention survey. The intended evaluation will start after a period of 6 months from post-intervention survey. The evaluation will be conducted by the shift supervisors (Medical Assistant U32) as they are the direct personnel involved in monitoring and observing the operational staff during shifts. To reduce bias, each participant will be evaluated by two supervisors and the average scores will be taken as their task behaviour performance level which can be correlated with their achieved post-intervention level of Burnout Syndrome.

Table 9: Task Performance Behaviour Monitoring

| **Activity** | **Level of Performance Behaviour** | | | |
|---|---|---|---|---|
| | **Poor** | **Satisfactory** | **Good** | **Excellent** |
| | **0** | **1** | **2** | **3** |
| Documentation | | | | |
| Patient monitoring | | | | |
| Patient communication | | | | |
| Team communication | | | | |
| Medical device care | | | | |
| Proactiveness | | | | |
| Total score | | | | |

Please score 0, 1, 2, 3 accordingly at level of performance behaviour for each activity.
Total score of < 6, indicates poor task performance behaviour
Total score of 6 = satisfactory task performance behaviour
Total score of > 6 to ≤ 12 = good task performance behaviour
Total score of > 12 = excellent task performance behaviour

Poor: Performance task not according to Standard Operating Procedure (SOP) with tendency for/created medical errors and poor team work effort involvement

Satisfactory: Perform all task according to Standard Operating Procedure (SOP) with minimal team work effort involvement

Good: Perform all task according to Standard Operating Procedure (SOP) more vigilantly with moderate team work effort involvement

Excellent: Perform all task according to Standard Operating Procedure (SOP), effective and efficiently, anticipating outcomes and maximal team work involvement

The researcher also aims to delineate the types of burnout, whether it is due to personal, work or client (patient) related using a reliable and validated Malay translated Copenhagen Burnout Inventory (CBI-M) (Ri et al., 2017), whereby scores of 50 to 74 on the Copenhagen Burnout Inventory are considered mild burnout, 75-99 high burnout, and 100 severe burnout (Creedy et al., 2017). A semi-structured questionnaire (Table 10) will try to further explore the personal, work or client (patient) stressors measured through CBI-M survey with the existing job demands in ETD HTF.

Table 10: Recommended Semi-structured Questionnaire to delineate types of Burnout Syndrome

| | **Semi-structured Interview Questions** |
|---|---|
| 1 | Personally, what is your opinion on the current workload/Job demands in ETD HTF? |
| 2 | Are your subordinates, coping well with the current job demands in ETD HTF? If no, why? and what are the probable factors? |
| 3 | From your observation, what could you say about their work attitude in the clinical process, i.e documentation, patient care, etc at the current ETD situation? |
| 4 | As a middle level manager/ shift supervisor were there any intention/request to leave ETD from the operating staff? |

The researcher would also recommend that burnout study should be conducted at other acute care settings in HTF. By measuring the risk level of the acute care setting staff to develop Burnout Syndrome, appropriate intervention can be formulated and implemented pre-emptively as a measure to strengthen their resilience and commitments towards the very critical situations in these settings.

## 6. Conclusion

The significance of data analysis obtained through quantitative and qualitative method, are to explore the level of Burnout Syndrome at pre-intervention state and comparing the significant change in the post- intervention scores.

The baseline scores in the pre-intervention analysis revealed that the staff of ETD HTF had low risk to develop Burnout Syndrome and the risk was further lowered significantly in the post-intervention analysis. ETD HTF was regarded as a conducive environment, with good work engagements and team work reflected by a significant reduction in complaints with no current missing in actions among staff during shifts last year. The researcher concludes that, due to increasing job demand, more so in the era of pandemic with overall increase in overtime claim from insufficient human resource in ETD HTF, had

contributed to certain level of stress and fatigue among the staff, reflected by an increase in sick certificates over the years (Table 1). Recruitment of new staff are impossible currently as all other departments in HTF are also in shortage of manpower. Thus, managerial support, in looking at work, social and personal resource needs of their subordinates whilst monitoring and improving the tolerance level among the staff are pertinent for effective and efficient patient care at ETD HTF.

From the pre-intervention quantitative data analysis, currently there is no evidence of Burnout Syndrome among the staff of ETD HTF, as majority of them(>80%) had low level(low scores) in EE and DP with about 56% having low to moderate level(high to moderate scores) for PA and not fulfilling the criteria definition which are high EE and DP scores with low PA scores (Maslach et al., 1996). In a study conducted by (Moukarzel et al., 2019), Emotional exhaustion (EE) and Depersonalization (DP), the major components of burnout, were reported, respectively, by 15.8% and 29.6% amongst an ETD healthcare workers and the Burnout prevalence was 34.6%. The latter study shows the prevalence was less than 50%. Despite a high vulnerability among ETD staff to develop Burnout Syndrome, the level of existence depends on the level of stressors within an ETD environment. The researcher concludes that, currently the job demand in the environment of ETD HTF have not predisposed the staff to develop Burnout Syndrome.

Similarly, pre-intervention data analysis shows that currently the staff of ETD HTF are in low level risk to develop Burnout Syndrome. This evidence also correlates well with the qualitative interview data whereby the staff perceive the environment of ETD as conducive and stimulating. An analysis of nurse burnout studies revealed that MBI scores in Poland and North America were comparable, while MBI scores in the UK and Ireland were lower than those in Poland and North America. These disparities are believed to be the result of ethnic differences, as well as discrepancies in job environments, stress levels, and occupational patterns between countries (Choi, 2019). Evidence from the latter studies proves that the prevalence of burnout syndrome in a similar environment varies between geographical boundaries and the staff resilience towards their job demands.

From the researcher's point of view, among the probable factors for the existing low risk to develop Burnout Syndrome in ETD HTF, are as stated below,

i. ETD HTF being in a small state of Perlis, had less critical case resuscitation compared to bigger state hospitals in Malaysia and more so since the start of Covid19 pandemic with the implementation of movement control order (MCO), the number of traumatic resuscitation due to severe motor-vehicle accident had really narrowed down.

ii. Majority of staff in ETD are within the age range of 25-35 years (71%). Being young, adds on the value of competitiveness to strive forward adapting their psychosocial needs towards the job demand in ETD. Furthermore about 60% of staff have working years of ≤ 10 years and probably with their limited working years, the accumulation of occupational stress was still insufficient for them to develop Burnout Syndrome.

iii. Perlis has a calm environment, with no traffic jams and friendly natives. The cost of living here is far more less compared to major cities. Despite increase in infrastructure development and economic transformation, there are still wide

available areas of paddy fields, creating a more greenery environment which are soothing and relaxing for the mind.

iv. The researcher being in ETD HTF for more than 20 years, feels that there was very minimal micromanagement towards the staff. Staff are given the opportunity to voice out their opinions freely to improve patient care work processes. Frequent social gathering was held to celebrate staff birthday and clinical achievements. All this avenue had created a friendly environment with increase in staff morale.

Even though, currently the pre-intervention MBI-HSS(MP) survey shows the staff of ETD have low risk to develop Burnout Syndrome, which is the maximum psychological impact towards their mental and emotions from chronic work demands in an unpredictable environment such as the ETD, some level of stress is still undeniably present within them because the MBI was developed as research tool and not as a diagnostic one (Maslach & Schaufeli, 2008) thus it is important to manage the indwelling unexpressed stress, which is the vicious cycle towards developing burnout syndrome.

From the interview with various middle level managers, it is noted that insufficient in human resource, mainly within the paramedics, nurses and medical attendant are due to increasing job scope, specification and demands which had increased their overtimes and having less time to recuperate from work fatigue and creating more stress within them. Staff shortages and inability to match staff services to patient flow are just a few of the causes for ETD overcrowding.

One of the most crucial aspects of improving ETD efficiency is adequate staffing. Though human resource is the most important resource in every ED, there are many non-human resources which significantly affect the ED patient flow (Ahsan et al., 2019).Patient and healthcare worker wellbeing is jeopardised by understaffing, which results in an overburdening of jobs (Morley et al., 2018). To accommodate the operational needs of the 24 hours 365 days, dynamic ETD environment, the staff need to do frequent overtime to cover the functionality of many zones within ETD.

This leads to some degree of physical and emotional exhaustion within certain staff and occasionally leads to poor team tolerance and engagements. Managerial support, seems to be insufficient in monitoring the team dynamics within the operational staff in an effort to identify early and motivate staff with behavioural issues.

This study had contributed in the understanding of the spectrum of stress within the staff of ETD HTF via mixed method research design. The exploration of degree of Burnout Syndrome within the staff of ETD in a small state hospital such as HTF, will definitely be the first step to explore and understand further the significance of socio-demographic factors towards the ETD environment in causing Burnout Syndrome. The study also proves that the primary intervention developed through participatory action research had improved the post intervention dimension scores of Burnout Syndrome. This study could be a reflection of correlation in the level of staff stress at ETD with the rate of patient influx and the magnitude of care rendered at every ETD in Malaysia. We can see this from previous study conducted at tertiary centres, reflected about 21% of ETD staff had high level of burnout (Grace Lim & Ida Zarina, 2018).

This study will definitely add on to the body of knowledge regarding Burnout Syndrome, particularly in the perspective of an ETD from a small population state hospital. From literature reviews, the researcher had found substantial amount of study on this phenomenon conducted abroad mainly in an advanced tertiary hospital. This study will also contribute to the pool of evidence related to this silent phenomenon, mainly in the context of Southeast Asia socio-demographic factors. Finally, it will also add on to citation by other researchers both locally and abroad who are exploring the syndrome within their objectivity.

This study also contributes to the formation of a preventive manual to strengthen the personal resources of the staff from ending up with Burnout Syndrome, whilst reducing the burden of the middle level supervisors once the personal resources of their subordinates are fortified with motivations to operationalize the functionality of ETD HTF despite current insufficiency in human resource. Adhering strictly to the manual will create a team of staff with more empathetic feeling towards their patient seeking treatment at ETD HTF and increase proactiveness among team members more so during this pandemic.

As not all human service sector environment stressors are the same. Not all ETD environment is stressful despite global affirmation of ETD as a stressful environment. In numerous literatures, the Emergency and Trauma Department has been recognized as one of the busiest human service departments worldwide (Boutou et al., 2019). The emotional toll of service is considerable, with unforeseen acute disorders and an uncertain working environment (Moukarzel et al., 2019). Many studies abroad and locally revealed high level of personal burnout compared to work or client related mainly in the universities and hospital employees. However this study revealed low level of EE and DP with substantial good level of PA among the staff of ETD HTF.

Since the objectivity of this study is just to establish the risk to develop burnout among the staff of ETD HTF, there were no segregation into personal, work or client related burnout was made, which will involve the use of Copenhagen Burnout Inventory. For the researcher the essentiality of segregation is not important at this moment, as this is a premier phenomenal study in HTF and the operational activities are all team based. In the future the possibility of venturing into the segregation will be important if high level of burnout significantly exist in ETD HTF, in relation to developing secondary or tertiary interventions. The possibilities as to why the level of burnout was low among the staff of ETD HTF even during the pandemic could be multifactorial. Definitely it is wise to establish the significant probable factors, but it is not within the scope of this study.

The researcher thinks that the statistically low level and risk to develop Burnout Syndrome among the staff of ETD HTD in the pre-intervention phase and subsequent further percentage reduction to low levels in EE, DP and substantial increase in PA level in the post-intervention, will have positive implication in terms of quality of service rendered to the patient seeking treatment in this environment. The researcher's positivism for the latter possibilities is due to his own observation on the positive team dynamics shown in terms of increased enthusiasm, engagements and proactiveness within the members during the intervention phase. For the middle level manager the increased momentum within their subordinates to enrich their personal resources, will definitely need a framework to monitor and evaluate staff attitude and engagements in task performance behaviour towards patient care work processes, in order to establish

significant correlation of the statistically established values with the magnitude of positive behavioural changes towards their patient care commitments.

## Ethics Approval and Consent to Participate

The researcher used the research ethics approval provided by the Medical Research and Ethics Committee Ministry of Health Malaysia (Ref: KKM/NIHSEC/P20-825(12) dated 16 July 2020). This study was conducted in compliance with ethical principles outlines in the Declaration of Helsinki and Malaysian Good Clinical Practice (GCP) Guideline. Consent from staff was obtained only after detail explanation regarding the study and the level of staff involvement in the study processes which are clearly explained in the Participant Information Sheet and Informed Consent Form.

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## Conflict of Interests

The researcher declares no conflict of interest. However, in view of the study interview may involve sensitive issues being explored and having potential bias, the researcher had recruited interview participants from Emergency and Trauma Department outside Perlis.

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