Burnout Syndrome analysis among hospital nurses using Maslach Burnout Inventory - Human Service Survey (MBI-HSS): a case study

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Abstract. Burnout is a psychology syndrome which experienced by any professions throughout their careers. This study analyses burnout syndrome encountered by hospitals’ nurses based on the Maslach Burnout Inventory-Human Service Survey (MBI-HSS) and provides findings by looking at the dimension of burnout and demographic factors which consist of sex, age, marital status, level of education, years of career, and duty station. This study reveals that; the overall value of burnout experienced by hospitals’ nurses is categorized into level 1 with the highest value presented by dimension 1 (physical exhaustion), and burnout generally experienced by man, nurses younger than 30 years old, married nurses, lower degree nurses, nurses whose less than 20 years in career, and nurses whose responsible in terminal care and emergency unit. In addition, data obtained from the survey is utilized to determine burnout causative factors using fishbone and pareto diagram.

1. Introduction
Burnout is a psychology syndrome to define a situation in which someone feels extremely exhausted emotionally, experience depersonalization and low personal accomplishment. The term was first introduced by a psychiatrist named Herbert Freundenberger following his observation on young and idealistically motivated volunteers in a trauma research centre for drug addicts. Freundenberger employed the term of burnout to explain a situation in which someone experienced "a gradual energy depletion and loss of motivation and commitment, accompanied by a wide array of mental and physical symptoms." At about the same time, a social psychological researcher named Christina Maslach observed health care professionals in coping with their emotional arousal at work and revealed that many of them experienced emotional exhaustion and a crisis in their professional competence as well as developed negative perceptions towards their patients, in which Maslach defined as burnout.

Burnout experienced by nurses shows a significant value, the highest and exceed 40% among other health care professionals, particularly those working in the Intensive Care Unit (ICU), emergency, or terminal care (UGD). To analyse and assess burnout that occurs, Maslach and Jackson developed a Maslach Burnout Inventory-Human Service Survey (MBI-HSS) in 1981, focusing on health and
community service [2]. The MBI-HSS is the most popular and effective measurement tool used for measuring burnout in the health profession and has been validated through extensive research conducted more than 25 years since its introduction. MBI-HSS has been adopted to analyse burnout that occurs in many professions such as teacher, factory labour, librarian, employees at profit and non-profit organizations, and also working students. MBI-HSS has also been collaborated with other methods to obtain relevant analysis based on the chosen case studies. For example, [3] has conducted a study of burnout among nurses using Work Characteristic Survey and Nordic Musculoskeletal Symptom Survey, and revealed that work-related factors have a contribution to musculoskeletal problems experienced by nurses and potentially lead to burnout.

This study aims at determining the level of burnout experienced by hospitals’ nurses in Banda Aceh. Nurses are often faced with non-nursing tasks such as completing patient administration, sending prescriptions and taking drugs or medical devices to the pharmaceutical department, taking patients to radiology and laboratories, accompanying doctor visits to patients, and others. Although additional staff members have been provided, non-nursing tasks remain a workload that cannot be avoided by nurses. These excessive workloads may have a negative influence on workers [4].

2. Research method
This study employs MBI-HSS to obtain information about burnout that occurs among hospitals nurses in Banda Aceh. The MBI-HSS contains 22 items, which are divided into three dimensions of burnout namely emotional exhaustion, depersonalization and low personal accomplishment. Table 1 shows the MBI-HSS developed by Maslach in determining burnout levels among services workers. Furthermore, the MBI-HSS was distributed to 100 nurses in three public hospitals in Banda Aceh: RSUDZA (Rumah Sakit Umum Daerah Zainal Abidin), BLUD RSIA (Balai Layanan Umum Daerah Rumah Sakit Ibu dan Anak) and RSUD Meuraxa (Rumah Sakit Umum Daerah Meuraxa).

| Burnout dimension | Variable No. | Burnout factors |
|-------------------|--------------|-----------------|
| Emotional exhaustion (dimension 1) | 1 | I feel emotionally drained from my work. |
|                    | 2 | I feel used up at the end of the workday. |
|                    | 3 | I feel fatigued when I get up in the morning and have to face another day on the job. |
|                    | 4 | I feel I’m working too hard on my job. |
|                    | 5 | I feel like my work is breaking me down. |
|                    | 6 | I experience musculoskeletal problems after finishing my work. |
| Depersonalization (dimension 2) | 7 | Working with people all day is really a strain for me. |
|                    | 8 | I feel burned out from my work. |
|                    | 9 | I fell frustrated by my job. |
|                    | 10 | I feel I’m at the end of my rope. |
|                    | 11 | I feel I treat some recipients as if they were impersonal objects. |
|                    | 12 | I have become more insensitive to people since I’ve been working. |
|                    | 13 | I feel recipients blame me for some of their problems. |
|                    | 14 | I don’t really care what happens to some recipients. |
Table 1. Burnout factors (cont.)

| Burnout dimension | Variable No. | Burnout factors |
|-------------------|--------------|-----------------|
| Low personal accomplishment (dimension 3) | 15 | I cannot deal with emotional problems very calmly |
|                   | 16 | I have not accomplished may worthwhile things in this job. |
|                   | 17 | I feel unenergetic at work. |
|                   | 18 | I fell I don’t have achievements at work. |
|                   | 19 | I feel I’m influencing other people’s live negatively through my work |
|                   | 20 | I have difficulties in creating a relaxed atmosphere with my recipients. |
|                   | 21 | I couldn’t look after my patients’ problems very effectively. |
|                   | 22 | I feel I don’t have enough energy to handle my recipients. |

In addition, this study adds demographic information section at the beginning of the survey to obtain respondents’ demographic data such as sex, age, marital status, level of education, years of career, and duty station. The information will be used to relate demographic factors with burnout that occur among nurses. The overall data obtained from the MBI-HSS will determine the average value of burnout based on its three dimensions, dominant factors which generate burnout and the average value of burnout based on the demographic factors.

3. Result and discussion

The first results of MBI-HSS is the average value of burnout based on its three dimensions which shown in Figure 2. Dimension 1 has the highest average value of burnout (as of 1.98) while the lowest average value represented by dimension 2 (1.34). Based on the stage of burnout syndrome stated by [5], the average value obtained is categorized in to the first stage with range between 1 to 2. The first stage of burnout syndrome indicates a person (nurse) still has high hopes and idealism towards work which is characterized by high enthusiasm for work, shows dedication and commitment to work, shows high energy and achievement, is constructive and positive, and has good views [5].

In addition, the average value of burnout obtained is influenced by the average answers of respondents who tend to choose scale 1 (never) and scale 2 (rarely) on the MBI-HSS. The average value of burnout obtained also represents that burnout experienced by nurses is still within the limits which can be mitigated. However, in details, the highest average value of burnout which represented by dimension 1 closes to stage 2 of burnout. Thus, it needs attention to minimize the level of burnout. Stage 2 of burnout is indicated by a person (nurse) shows symptoms of initial stress and starts to be pessimistic and dissatisfied with their work, characterized by experiencing physical and mental fatigue, feels frustrated and filled with illusions, decreasing in work morale, and experiencing boredom [5].

The second result of MBI-HSS is burnout dominant factors, calculated using factor analysis. This study reveals that there are ten factors which significantly contribute to burnout that occurs amongst hospital nurses. Table 2 shows the burnout dominant factors in which 1 factor refers to dimension 1, 4 factors refer to dimension 2, and 5 factors refer to dimension 3. The highest factor value is represented by the burnout factor of “I have difficulties in creating a relaxed atmosphere with patients,” with a value of 0.920. Meanwhile, the lowest value is represented by the factor of “I feel I treat some recipients as if they were impersonal objects,” with a value of 0.802. The highest and lowest factors are related to the condition of nurses in serving the patients. There is a tendency that high workload enforces nurses to have ideal time in providing services to patients; thus, consultation needed by patients becomes a nuisance for nurses.
The average value of burnout per dimensions

![Bar chart showing average value of burnout per dimensions]

**Figure 2.** The average value of burnout per dimension

| Burnout dimension | Variable No. | Burnout dominant factors | Value |
|-------------------|--------------|--------------------------|-------|
| Dimension 1       | 1            | I feel used up at the end of the workday. | 0.858 |
|                   | 2            | I feel burned out from my work. | 0.838 |
|                   | 3            | I feel I treat some recipients as if they were impersonal objects. | 0.802 |
|                   | 4            | I feel recipients blame me for some of their problems. | 0.880 |
|                   | 5            | I don’t really care what happens to some recipients. | 0.884 |
| Dimension 2       | 6            | I have not accomplished may worthwhile things in this job. | 0.813 |
|                   | 7            | I feel I’m influencing other people’s live negatively through my work. | 0.833 |
|                   | 8            | I have difficulties in creating a relaxed atmosphere with my recipients. | 0.920 |
| Dimension 3       | 9            | I couldn’t look after my patients’ problems very effectively. | 0.875 |
|                   | 10           | I feel I don’t have enough energy to handle my recipients. | 0.862 |

The third results of MBI-HSS is the level of burnout based on the demographic factors, which are sex, age, marital status, level of education, years of career, and duty station. Based on sex factor, Figure 3 shows that burnout experienced more on male nurses compared to female nurses. The condition is influenced by male internal factors such as characteristic [6]. In general, men have less emotional nature in social life and prefer to hide their feelings to public when facing a problem. Such conditions are very vulnerable to stress and may lead to burnout. Whereas, women experiencing the opposite condition and tend to involve emotionally in social life. Thus, when experiencing problems or obstacles at work, women have better ability to convey their feelings to others (for example to co-workers) and suppress excessive emotion that may lead to burnout.
Based on the age factor, Figure 4 shows that burnout was experienced more by nurses under the age of 30 compared to those with the age of 30 or older. The condition is supported by [7], i.e. the level of burnout experienced by young workers (in this case is nurses under the age of 30) is higher compared to workers aged 30-40 years. According to [1], young age is synonymous with a lack of work experience due to reality shock and an indication of an identity crisis due to unsuccessful occupational socialization. Hence, when facing problems at work, young nurses tend to feel scared and depressed of making mistakes that make their emotions uncontrollable and vulnerable, and this may lead to stress and burnout.

![Figure 3. Burnout level based on sex factor](image)

![Figure 4. Burnout level based on age factor](image)

Based on marital status, Figure 5 shows that burnout was experienced more by married nurses compared to single nurses. The results of this study imply that burnout experienced by married nurses occurred due to multiple workloads faced both at work and also at home. However, previous studies revealed that unmarried (single) nurses are more susceptible to burnout [8, 9, 10, 11] due to a lack of role and social support from the family which may help someone in overcoming emotional demands at work [6]. Also, people who have a family tend to have a more realistic view [12]. Thus they will seek support and opinions from their family members whenever they face problems at work, which may reduce the level of stress.

![Figure 5. Burnout level based on marital status](image)

![Figure 6. Burnout level based on educational degree](image)

Based on the level of education, Figure 6 shows that burnout experienced more on diploma nurses compared to bachelor nurses. The results of this study imply that diploma nurses have more technical
tasks, as a consequence, their workloads are higher than the bachelor nurses. In addition, diploma nurses serve as implementer while bachelor or higher degree nurses serve as the head of department or unit which enables diploma nurses to experience demanding and stressful job. However, the results of this study contradict from the literature and previous studies, which revealed that burnout is more vulnerable to be experienced by a professional or highly educated because of the high expectations for the quality of work to be achieved.

Based on work experience, Figure 7 shows that burnout was experienced more by nurses with less than 20 years in service compared to nurses who have been in service longer. The results of this study are supported by [7] who mentioned that burnout is vulnerable at the beginning of a career due to a lack of work experience. However, a study revealed that burnout is also experienced by senior workers due to a long period of work which leads to physical and emotional burnout [13].

Finally, based on nurses’ duty station, Figure 8 shows that burnout was experienced more by nurses responsible at the emergency department. This condition is consistent with the literature and previous studies, in which emergency or intensive care units nurses usually have higher workload with dynamic and fluctuating work conditions compared to nurses who served in polyclinics or inpatients room.

Furthermore, burnout dominant factors obtained previously is visualized using a fishbone diagram (Figure 9) to show the cause and effect of burnout that occurred among hospital nurses. The contributing factors were then sorted from the highest to the lowest to provide a priority list of factors that need to be solved immediately. The list is visualized into a pareto diagram shown in Figure 10. The tallest bar on the chart implies the most serious problems that occur among nurses, which contribute to burnout, while the lowest one implies the least problematic factor. Based on the pareto concept 80/20 (80% problems occur as a result of 20% cause), there are two priority factors which refer to 20% cause in nursing systems and need to be solved immediately to minimize the level of burnout experienced by nurses.
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Figure 9. Fishbone diagram of burnout

Figure 10. Pareto diagram of burnout
4. Summary
To conclude, based on MBI-HSS, the average value of burnout refers to level 1 which means the condition of burnout experienced by hospital nurses is still within limits and can be quelled. The condition also indicates that nurses still have dedication for work characterized by enthusiasm and commitment to work, energy and achievement, they are constructive and positive, and they have positive perception. In addition, from 22 burnout items in the MBI-HSS, 10 items were selected as dominant factors which contribute to burnout that occurs among hospitals’ nurses and serve as the contributing factors in the fishbone diagram. The contributing factors were then analysed using pareto diagram to provide a priority list of factors which need to be solved or need immediate actions to minimize burnout among nurses. Furthermore, based on the demographic aspect, MBI-HSS reveals that burnout generally experienced by male nurses under the age of 30, married nurses, lower degree nurses, nurses who are less than 20 years in career, and nurses who are responsible for terminal care and emergency unit.

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