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## STRESS IN TRIAGE NURSES IN EMERGENCY DEPARTMENTS: A CONCEPT ANALYSIS

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# Stress in Triage Nurses in Emergency Departments: A Concept Analysis

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## Abstract

With hospitals increasingly incorporating triage nurses into Emergency Departments, the need for improved prioritization of the treatment order of patients is especially critical. Highly skilled triage nurses are therefore needed; however, a clear definition and description of the stressors experienced by nurses has not been documented. This study therefore attempted to define, categorize and analyze the preconditions and outcome of stress in triage nurses involved in Emergency Departments. Based on five articles specializing on stress of triage nurses, the following attribution stressors in triage nurses were identified: (i) complaints and violence from patients and families; (ii) elements required while performing two or more tasks simultaneously; (iii) poor coordination with physicians; (iv) lack of confidence in triage ability/skills; (v) need for situation assessments for various scenarios; and (vi) heavy responsibility in performing triage. The analysis results of triage nursing revealed that another stressor of making life-or death decision exerted on nurses was further added to the aforesaid six stressors.

**Keywords:** emergency departments, triage nurses, stress

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## 1. Introduction

In recent years, the number of hospitals that have incorporated triage nurses into emergency departments has increased in Japan. This is due to the increased number of out-patients visiting the hospital during working hours, inadequate physicians and nurses, insufficient budgets for Emergency Departments, and the issue of higher incidences of diagnostic services for patients with merely mild or moderate conditions. The need for improved prioritization of the treatment order of patients in primary and secondary emergency medical institutions in terms of risk imposed on patients' survival are especially critical.<sup>1,2</sup> The definition of Emergency Department nurses is

“Nurses providing care for emergency outpatients encompassing overall duties regardless of the function and scale of the hospital”. The definition of Triage is “In Emergency Departments, the act of deciding the preferential order of treatment based on the type and severity of emergency patient’s condition, and according to which patients are to be transferred and treated thereof”. The definition of Triage Nurses is “Nurses who perform triage care, and have knowledge and skills related to triage in Emergency Departments”. According to Watanabe (2011),<sup>3</sup> the clinical significance of incorporating triage nurses in Emergency Departments is associated with the quality of medical care by providing for: (1) patients with life-threatening conditions to receive prior consideration and treatment to obviate the risk of clinical exacerbation; (2) the effective utilization of medical resources for diagnosis; (3) the clinical status of patients to be reassessed using triage categorization; and (4) satisfactory outcomes for patients and families. Furthermore, triage can reduce the actual time required to locate a bed for an incoming patient needing hospitalization, rendering waiting times for other emergency outpatients to be reduced as well.<sup>4,5</sup>

It is known that nurses are subject to higher levels of stress than other professions, and stress responses and stressors have been investigated extensively and intensively.<sup>6,7</sup> The Japanese language NIOSH professional stress survey and Nursing Stressor Inventory (NSI) have been used extensively in Japan for assessing stress levels in nurses; however, evaluating life-and-death situations is said to be particularly stressful for Emergency Department nurses.<sup>8</sup> Some of the stressors involved in the work of triage nurses include: conducting the medical history interview, physical assessment, outpatient management, and responding to the needs of patients’ families beside attending to administrative requirements such as recording the name, gender, nationality (for foreigners), as well as noting the medical condition, medical history and other relevant information of patients for Emergency Department diagnosis prior to physicians performing their diagnoses. In this manner, highly skilled triage nurses are needed; however, a clear definition and description of the stressors experienced by nurses has not been documented. As such, the present study attempted to define, categorize and analyze the preconditions and outcome of stress in triage nurses involved in Emergency Departments.

## **2. Methods**

### **2.1 Concept analysis**

According to the concept analysis of Walker and Avant (2005),<sup>9</sup> the analytical procedure is as follows: 1) application of the concept has to be clarified, defined and attributed; 2) case setup using concept attribution; and 3) clarifying the priority emergence/prerequisite and outcome using concept attribution.

### **2.2 Data collection methods**

On literature retrieval using data bases of PubMed, the (Japan) Central medical Journal, CiNii, CHI-NAHL, and the Nursing Update index, the triage concept was first introduced in Emergency Departments in the United States in the first half of the 1960s, and this subsequently triggered a rippling effects of adopting the similar concept in North America, Europe, Australia, and other countries.<sup>10</sup> Therefore, the fact-finding was focused on events in 1965 – 2012. Without being restricted to certain journals and not including conference proceedings, search for terms, such as stress, stressor, emergency department, triage, and triage nurse, were executed. As numerous of the retrieved journals were involved in the study of stress of nurses involved in specialized fields of emergency nursing, those that did not focus on triage nursing or did not include stress study were omitted with reference to the title, keywords, and abstracts. As a result, five articles specializing on stress of triage nurses were used for analysis in the present study.

## **3. Results**

### **3.1 The concept of stress defined by dictionaries**

According to a major Japanese dictionary, Kojien (sixth Edition), the relevant definitions of stress include: (1) physical and mental functional changes produced as loads from various external stimuli while working; the elements from stress effects (stressors) are multifaceted, and may derived from environment (e.g. cold/hot; noise; chemical substances; physicochemical factors); physiology (e.g. hunger, infection, fatigue; sleeplessness) and psychiatry and social sources (e.g. strain, anxiety, fear, and excitation), and others (2) as commonly expressed as psychological distress. Furthermore, according to the Oxford

Advanced American Dictionary (2011 edition), stress also includes: (i) pressure and worries triggered by problems in life and livelihood; and (ii) tension due to emotional or material loss.

In the field of psychology, Lazarus shows the psychological stress model that captures the mutual relationship between the people and the environment stress. Stressor is said to be a stimulus to produce a stress full behavioral and psychological reaction.

### 3.2 Attribution of Emergency Department to stress in triage nurses

A definition of stress specifically for nurses performing Emergency Department triage does not actually exist, and factors attributed to stress are only extracted from other evidence in medical literature. The following attribution stressors in triage nurses were identified: (i) complaints and violence from patients and families; (ii) elements required while performing two or more tasks simultaneously; (iii) poor coordination with physicians; (iv) lack of confidence in triage ability/skills; (v) need for situation assessments for various scenarios; and (vi) heavy responsibility in performing triage (Table 1).<sup>11,12,13,14,15</sup>

### 3.3 Cases associated with stress of triage nurses

The advantage of observing particular cases is that one can compare and understand the inner structure of the key concepts via inner communication in investigating the relationship between the various cases and the original definition:<sup>9</sup> viz., the stress triage nurses experience with reference to a particular case is given as follows:

#### a) A model case

Here is a model case showing the major stress in triage nurses in Emergency Departments. Case A, a 26-year-old female with five-year experience as a nurse, has been working for 3 years as a triage nurse. As a result of incorporating triage nursing system by the hospital, she is stationed as a triage nurse in

Table 1: Attribution of Emergency Department to stress in triage nurses

Attribution	Literature
<b>1. Claims/violence from patients and families</b>	
i) complaints from patients and families when the triage order is not followed	Kuroda et al., 2012 <sup>13</sup> Tateno et al., 2007 <sup>14</sup>
ii) triage nurses have to bear the brunt of complaints from patients	
<b>2. Need to perform more than two tasks simultaneously</b>	
i) demands for assistance with medical care	Tateno et al., 2007 <sup>14</sup>
ii) need to perform triage while having to attend to other tasks simultaneously	Ueno et al., 2011 <sup>15</sup>
<b>3. Poor coordination with physicians</b>	
i) despite assessing situation emergency, real-time coordination with physicians is not possible	Tateno et al., 2007 <sup>14</sup>
ii) stress when feedback from physicians is negative	Irisa et al., 2006 <sup>11</sup>
iii) inability to consult with physicians	
iv) triage is affected by negative feedback from physicians	
<b>4. Lack of confidence in triage ability/skills</b>	
i) anxiety over the appropriate outcome of triage results	Tateno et al., 2007 <sup>14</sup>
ii) frequently heard anxiety from nurses if the triage assessment is correct	Ueno et al., 2011 <sup>15</sup>
iii) always feeling anxious if the triage performed by nurses is appropriate	
<b>5. Need of situation assessments for various scenarios</b>	
i) confusion as to how to assess request for reception/admission	Tateno et al., 2007 <sup>14</sup>
ii) inability to assess the patient's clinical status	
iii) inadequate assessment ability of clinical status	Irisa et al., 2006 <sup>11</sup>
<b>6. Heavy responsibility in performing triage</b>	
i) a profession dealing with life-and-death	Kizawa, 2011 <sup>12</sup> Kuroda et al., 2012 <sup>13</sup>

Table 2: Analysis of a model case of nurse A

Attribution stressor	Contents from case study
1 Complaints/violence from the patient and family	Explanations to make the patient and family understand the situation
2 Need to perform two or more tasks simultaneously	Provide assistance to physicians on request, and have to respond to unexpected changes
3 Poor coordination with physicians	Unable to consult physicians as they are not always on site, resulting in physicians making unwanted comments after triage performance
4 Lack of confidence in triage ability/skills	Not well-versed in symptoms and diseases; at a loss at times, resulting in extreme anxiety
5 Need to perform various situation assessments	Change of triage categorization according to situation
6 Heavy responsibility in performing triage	Related with life-and-death of patients

the reception of emergency patients, and has to prioritize the treatment order of the patients. She reports the following: In performing triage, she has to assess the clinical status of patients per se before diagnosis by physicians: if her assessment of triage category is inappropriate, outcomes related to life-and-death of the patient will be affected. Therefore, she has to stay totally focused at all times under high psychological and physical pressure. She further adds that she does not know all the potential symptoms and diseases off-hand, and feels at a loss at times. A feeling of anxiety thus is always present, and the physician-on-duty may not always be available for consultation, resulting in physicians making unwanted comments on her triage quality and outcome after triage performance. Additionally, there are occasions when the triage order has to be altered: the family of patient A may then, for example, ask why patient B (who arrived after patient A) is being prioritized for treatment despite arriving later than patient A. In this and other circumstances, some form of explanation has to be provided. The number of people that can be accommodated in a place or location, such as a waiting or treatment room, has to be adjusted according to the demand to facilitate proper functioning of the treatment room. Unexpected calls by physicians for assistance are not uncommon, and responses to physician calls trigger pauses or temporary suspensions of triage. In the event of many patients arriving at the treatment room at the same time, confusion will arise in the treatment room when triage categorization is not strictly performed, while monitoring the waiting room and assessment of the clinical situation have to be performed at the same time.

When referring to the stress attribution in Emergency Department nurse A described in the model case (Table 2), the stress of nurse A in performing the triage is substantial.

#### *b) A borderline case*

Case B, a 30-year-old male nurse, has been providing emergency nursing for 8 years. He feels the purpose of life in assessing the ever-changing symptoms of patients during triage, and aspires to improve his ability through continuing individual study of daily triage performance. As he is eager to perform his duties well, he accepts all tasks given to him without hesitation, and at the same time actively engages in educating his juniors, who have been able to improve their own performance of triage as a result. However, due to his excessive engagement, he has accumulated fatigue over time.

#### *c) A contrasting case*

Case C, a 50-year-old female who has been a nurse for 29 years, performs the duties of a chief nursing officer. She affirmatively works as management personnel, possesses extensive knowledge in nursing, and has developed the ability to effectively handle patients and their families through many years of experience at the ward. In an attempt to improve working environment of staff, she endures numerous trials and difficulties; however, she overcomes the burden of these by spending time with her family and refreshing herself with her hobbies whenever she has rest days and has spare time.

### **3.4 Antecedents and consequence of concept**

The determinants of antecedents and consequences of a concept are useful in theoretically considering the concept. In cases where a concept often ignores the basics in the search of especially the antecedents of the concept, defining and clarifying the variables or functional correlates can be useful.<sup>9</sup> As such, the following relevant antecedents and consequences are indicated:

#### *a) Antecedents*

Antecedent is defined as an event(s) or example(s) occurring before the onset of a concept. The antecedents for stress experienced by triage nurses who are inexperienced and do not get enough education about triage performing emergency services may be expressed as determining the priority order for treatment of Emergency Department patients. In addition, a study of the anxiety levels and correlated symptoms of triage nurses has revealed that a minimum period of more than 6 months of triage experience at the Emergency Department is required for proper triage performance.<sup>16</sup>

#### *b) Consequences*

A consequence is defined as an event(s) and a prerequisite(s) occurring as an outcome of a concept. If stress in performing emergency services by triage nurses could be reduced, triage nurse can take advantage of ability cultivated in many years of experience, be private also substantial. In contrast, if the stress level was increased, It leads to the triage nurse to accumulate fatigue.

### **4. Discussion**

In the present study, a conceptual analysis of stress in triage nurses at the emergency department was conducted. Based on our results, the features of stress triage nurses were subjected to or perceived included: 1) complaints and violence from patients and families; 2) other tasks – apart from triage - had to be attended to while performing triage; 3) lack of confidence and ability to perform triage; and 4) heavy level of responsibility associated with performing triage. Hitherto, the work of nurses in the Emergency Department is known to be highly stressful due to the need to make life-and-death decisions on behalf of patients.<sup>8</sup> In the case of triage nursing, where nurses are assigned to Emergency Department, a similar stress from making life-or-death decision for patients is encountered. However, based on our analysis results of triage nursing, stress associated with the inherent demands of triage and the heavy responsibility associated with it were added to the stress of making life-or death decision exerted on nurses. If an assessment device that could monitor and assess the stress levels of nurses, stress levels experienced by nurses in not only the Emergency Department but also by triage nurses at Emergency Department could be identified, and the associated factors could also be determined. Furthermore, useful support mechanisms and the concrete education necessary for triage nurses would be adequately provided via on-the job training for nurses. However, studies focusing on stress of triage nurses at Emergency Department are limited. As issues and needs related to an increase in Emergency Department patients have become more demanding,<sup>17</sup> attention will be focused on the triage system in emergency medicine in the future. Furthermore, if the Ministry of Health, Labor and Welfare in Japan were to revise medical treatment fees and levy triage performance fees in hospitals, more health institutions would incorporate the triage system. According to results of a national survey,<sup>18</sup> Emergency Departments in hospitals with triage systems account for 42 (53%) of Japanese healthcare institutions with 71% of nurses performing triage at Emergency Department as their mainstream practice. One issue encountered by hospitals with the triage nursing system is the overburdening of triage nurses with work and responsibility,<sup>15</sup> which can eventually result in accumulated exhaustion in triage nurses. It is therefore apparent that over-exhaustion likely leads to lower-quality triage assessments. Furthermore, a support system for the triage system per se has to be established as more hospitals incorporate the triage nursing system. As such, it is necessary for future studies to refine on the concept content and consolidate research findings with regard to stresses encountered by triage nurses at the Emergency Department.

There is limitation to this study. Previous studies focusing on stress of triage nurses at Emergency Department are limited. Therefore, the result extracted by a limited literature. In the future, further to collect the literature, it is necessary to let curated the contents.

## 5. Conclusions

With regard to the concept of stress in triage experienced by Emergency Department nurses, the following attribution stressors were encountered: 1) Complaints and violence from patients and families; 2) the need to simultaneously perform other tasks in addition to triage; 3) inability to coordinate tasks/work with physicians; 4) lack of confidence in triage skills; 5) need to perform various situational assessment; and 6) a high level of responsibility accompanying triage performance. The triage system is beginning to permeate Emergency Department throughout Japan; however, a system for triage support and education has yet to be adequately established. Therefore, as the stresses perceived by triage nurses in performing their duties are due to become issues of concern in creating a better working environment for nurses and in yielding the most beneficial outcomes for patients, there is an urgent need to develop an assessment system with indexes to monitor the stresses imposed on triage nurses at Emergency Department based on the present attribution.

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