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## First aid knowledge, attitude and awareness among nursing students: Relevance to nursing education

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### Abstract

**Background:** First aid is a primary, initial, immediate and temporary care treatment to an injured person in a life-threatening situation to preserve life and minimise consequences of injuries until help from emergency medical services is obtained. Students who are expected to be working in the hospital settings should be exclusively trained regarding first aid skills that include choking, bleeding, fracture, shock, drowning, electrocution, spinal injuries, burns and scalds.

**Purpose:** To identify the knowledge, practice, and awareness of first aid skills among first-year diploma nursing students in a private institution.

**Method:** A quantitative cross-sectional study was conducted at one private Healthcare University College in Negeri Sembilan, Malaysia. The quantitative cross-sectional study was conducted using an adapted questionnaire. Later on, the acquired data was entered into Statistical Package for the Social Sciences (SPSS) version 25 for data analysis as adapted from the original article. Descriptive statistical tests were used to analyse data for demographic section, knowledge, attitude and awareness of first aid skills based on the items asked. Chi-square test was then used to analyse the relationship between level of knowledge and attitude regarding first aid among the respondents. There were 126 respondents obtained by using convenience sampling which consists of first-year diploma nursing students.

**Results:** The result showed that majority of the respondents (67.5%) had only intermediate level of knowledge while majority of the respondents (81.7%) had good attitudes regarding first aid. The majority of the respondents (67.5%) had intermediate level of awareness regarding first aid.

**Conclusion:** From this study, the value of Chi-Square ( $\chi^2$ ) for this analysis was 0.600 with the significant level of 0.963 ( $p < 0.05$ ) showing there is no relationship between the level of knowledge regarding first aid and the level of attitude towards first aid. Thus meaning, the level of knowledge does not influence by attitude of respondents towards first aid.

**Keywords:** Knowledge; Attitude; Awareness; First Aid; Nursing Students; Emergency

### INTRODUCTION

First aid is a primary, initial, immediate and temporary care treatment to an injured person in a life-threatening situation to preserve life and minimise consequences of injuries until help from

emergency medical services is obtained (Mathew, Salman, Khurshid, & Alexander, 2016; Franke, Bieler, Friemert, Schwab, Kollig, & GÜsgen, 2017). As students that are studying in nursing field, they

are expected to have basic first aid skills that can help the victims and save their lives. This is because the students are taught on how to handle emergencies in hospital settings in the early stage of their study. Students who are expected to be working in the hospital settings should be exclusively trained regarding first aid skills that include choking, bleeding, fracture, shock, drowning, electrocution, spinal injuries, burns and scalds. This study aimed to assess the knowledge, practice, and awareness of first aid skills among first-year diploma nursing students in a private institution.

## RESEARCH METHOD

A quantitative cross-sectional study was conducted by obtained questionnaire from a research that have been done at International Islamic University Malaysia (IIUM), Kuantan (Jamalludin, Zakaria, Saidi, & Chong Mei, 2018). This research also used the questionnaire adapted by research done to assess the level of awareness of undergraduate students in providing first aid care (Mathew et al, 2016).

The target population in this study was nursing students studying in a private healthcare University in Negeri Sembilan, Malaysia, who was in the first year of doing a diploma in nursing. A non-probability sampling method was used to determine the sample by using convenience sampling. Total of 126 respondents participated in this study.

This instrument was divided into four sections. Section A was regarding socio-demographic which were age, family income status, and two items regarding respondents' background regarding first aid.

Meanwhile Section B of the questionnaire was regarding respondents' knowledge of first aid. This section consisted of 10 closed-ended items and the respondents chose the best choice answer for each of the items. In terms of knowledge scores, the respondents were classified as having high

levels of first aid knowledge if their scores were 70% or higher. Meanwhile the respondents were classified as having intermediate levels of knowledge if their scores were between 50% and 70% and classified as having low levels of first aid knowledge if their scores were below 50%.

Section C of this instrument was regarding respondents' attitudes towards first aid. These 5 items were using a 5 point Likert scale to assess the attitudes of the respondents towards first aid skills. The Likert scale started with strongly agree to strongly disagree in an ascending manner. In the manner of attitude scoring, the respondents were classified as having good attitudes if their scores were between 5 and 14. The respondents were classified as having fair attitudes if their scores were 15. However, if their scores fall between 16 and 25, they will be classified as having poor attitudes towards first aid.

Section D of the data collection tool assessed students' awareness regarding first aid skills. Nine items of best choice answer based on various common encountered emergency situations were distributed to the respondents. In manner of attitude scoring, the respondents were classified as having high levels of awareness if their scores were between 70% and higher. The respondents were classified as having intermediate levels of awareness if their scores were between 50% and 70%. However, if their scores fall 50% and below, they were classified as having low levels of awareness towards first aid skills.

Ethical approval was obtained from the Research Management Centre (RMC) prior to commence this study. Inform consent sheet was distributed first to the respondent's prior data collection session, and the information given kept in confidential manner and used only for the purpose of this study. The purpose and significance of the study were explained beforehand to the participants and nature of the study also were maintained so that the participants can respond with ease.

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## RESULTS

**Table 1. Distribution of Respondents According to The Variable of Frequency (N=126)**

| Variables              | (n/%)    |
|------------------------|----------|
| <b>Knowledge Level</b> |          |
| Low (0-4)              | 40/31.7  |
| Intermediate (5-6)     | 85/67.5  |
| High (7-10)            | 1/0.8    |
| <b>Attitude Level</b>  |          |
| Good (1-14)            | 103/81.7 |
| Fair (15)              | 11/8.7   |
| Poor (16-25)           | 12/9.5   |
| <b>Awareness Level</b> |          |
| Low (1-3)              | 40/31.7  |
| Intermediate (4-6)     | 85/67.5  |
| High (7-9)             | 1 /0.8   |

**Table 2. Relationship Between The Level of Knowledge on First Aid and The Level of Attitude (N=126)**

| Knowledge Level          | Attitude Level (n/%) |       |         |
|--------------------------|----------------------|-------|---------|
|                          | Good                 | Fair  | Poor    |
| High: 7-10 points        | 1/0.8                | 0/0.0 | 0/0.0   |
| Intermediate: 5-6 points | 64/50.8              | 5/4.0 | 16/12.7 |
| Low: 0-5 points          | 27/21.4              | 0/0.0 | 13/10.3 |

$$\chi^2=0.600, df=4, p: 0.963(p<0.05)$$

### Socio-demographic characteristics

This study included first-year diploma nursing students from the private Healthcare University. Students in Negeri Sembilan, Malaysia. A total of 126 respondents participated in the study. Majority of the respondents were female with 112 (88.9%) respondents. Meanwhile, the rest of the respondents were male, with 11 (88.9%) respondents. For the age data of the respondents, data was collected randomly and the age was categorised as; 1) less than 20, 2) 20 to 21, and 3) more than 21. The highest frequency of age among respondents is age less than 20 years old with total

number of 69 (58.4%) respondents. They were followed by respondents aged 20 to 21 years old, which was second highest in frequency with 41 (32.5%) respondents. In contrast, respondents over 21 years old were the least respondents in this study, with the frequency only 16 (12.7%) respondents. For respondents' family income status, the data collected found that 50 (39.7%) respondents came from middle-class family income. Total of 49 (38.9%) respondents came from low income family status. Meanwhile the

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remaining 27 (21.4%) respondents of the total sample came from upper class families.

### **Knowledge of first aid**

Section B of the questionnaire is regarding respondents' knowledge of first aid that the original researcher has obtained. Data obtained from the respondents show finding from the survey showed that only 1 (0.8%) respondents scored high-level knowledge, which they scored 70% and above of the total score of the section. Highest percentage was for intermediate level of knowledge constituted of 85 (67.5%) respondents, which they scored 50% to 70% of the total score from the section. Meanwhile the rest of 40 (31.7%) respondents have scored low level knowledge of first aid that they scored 50% and below in Section B.

### **The attitude of first aid**

103 (81.7%) respondents scored good attitudes toward first aid from the survey and analyzed data. Meanwhile, 11 (8.7%) respondents scored fair attitude of first aid. The remaining 12 (9.5%) respondents have scored poor attitude towards first aid.

### **Awareness of first aid**

From the data collected and further categorised into three levels, 85 (67.5%) respondents scored intermediate awareness regarding first aid. Meanwhile, 40 (31.7%) respondents scored a low level of awareness regarding first aid. The remaining 1 respondent (0.8%) scored high level of awareness, which scored.

### **Relationship between the level of knowledge on first aid and the level of attitude regarding first aid among the respondents**

For this research, the researcher chooses to analyze the relationship between level of knowledge and attitude towards first aid among the respondents. The Chi-square test was used to analyze the two variables. From the survey done, the number of respondents who had a high level of knowledge and had a good attitude towards first

aid was only 1 (0.8%) respondent. Meanwhile, majority of the respondents had intermediate level of knowledge of first aid and good attitudes towards them were 64 (50.8%) respondents. Only 5 (4.0%) respondents had intermediate level of knowledge and fair attitude towards first aid followed by 16 (12.7%) respondents who had intermediate level of knowledge and poor attitude towards first aid.

Moreover, 27 (26.2%) respondents had low level of knowledge and poor attitudes towards first aid. However, 27 (21.4%) respondents had low knowledge level and good attitude regarding first aid, followed by remaining 13 (10.3%) respondents had low level of knowledge and poor attitude towards first aid. In addition, the value of Chi-Square ( $\chi^2$ ) for this analysis was 0.600 with the significant level of 0.963 ( $p < 0.05$ ). With the p-value higher than 0.05, it shows that not statistically significant and indicates there is no relationship between the level of knowledge regarding first aid and the level of attitude towards first aid. Thus, the level of knowledge does not influence by attitude of respondents towards first aid.

### **DISCUSSION**

In this study, researchers found that majority of the respondents had moderate knowledge of first aid. This finding was similar to a study done in a public university in Malaysia as the researchers concluded that majority of the respondents had intermediate knowledge of first aid among the respondents (Jamaludin, Allif Bin Zakaria, Saidi, & Chan, 2018). Both findings may be due to the respondents who were students from health science and science-based related to the healthcare sector.

In order to improve the knowledge of students who will be working in the healthcare line, the students' knowledge should be reinforced every year. In addition, an existing curriculum of first aid should be raised so that the students are competitive enough to provide first aid independently.

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In this study, majority of the respondents scored in poor attitudes towards first aid which will become quite worrying since the respondents were nursing students. Similarly, a study done towards students in a public school in India found that their attitudes towards first aid was not sufficient ( Vyas, 2017; Ganfure, Ameya, Tamirat, Lencha, & Bikila, 2018). From these studies, first aid training should be included in curriculum regardless of major that the students are taking. Any institution needs to provide resources to increase first aid awareness among its students. This could help the students understand the importance of basic life support given to any person.

Furthermore, for this study, majority of the respondents had intermediate level of awareness regarding first aid based on questionnaire responded. A study that conducted among nursing students showed that the respondent lack of awareness regarding first aid ( Kapoor, Vyas, Mashru, Mehta, Mehta, Mehta, & Vajani, 2017). Apart from that, a study conducted among medical students in India concluded that the respondents had poor awareness regarding first aid ( Singh, Mansuri, Chaudhari, Brahmabhatt, Bhabhor, & Talsania, 2015). These studies bring out important information about lack of awareness regarding first aid among students in healthcare line implying the need for designing future programmes to train these students in the beginning of their career.

Findings of this study revealed that there was high in number of students who had intermediate level of knowledge of first aid and good attitudes towards aid. There was a study done towards university students regarding first aid and findings showed that students who received first aid training demonstrated lower score of attitudes with poor knowledge of first aid which in contrast with this study ( Pei, Liang, Sun, Wang, & Dou, 2019).

There is little published data available on association between level of knowledge and level of attitude regarding first aid in university students. Some studies internationally have been carried out on taxi drivers, school teachers and laypeople about their knowledge and role in giving first aid if

in need. However, generally from studies including this study, there was no relationship between the level of knowledge and level of attitude regarding first aid among the respondents. Hence, showing the level of knowledge does not influence by the attitude of respondents towards first aid.

#### LIMITATIONS AND RECOMMENDATIONS

This study also had its own limitations. This study used cross-sectional study design therefore it was difficult to establish causality. The limitations of this study were the inability to generalize the results of the survey to the population as a whole (McLeod, Meanwell, & Hawbaker, 2019; Ellison, Steinfield, & Lampe, 2007). Biased results can also happen when conducting this study by doing the convince sampling because some respondents are unlikely to be representative of the population studied, which is called inherent bias (Heckathorn, 2002; Khanna, & Sood, 2018). This will demoralize the ability of the researcher to generalize from the sample to the population they are studying. Furthermore, this study was conducted in campus settings, making it time-consuming to gather the students in a place for them to answer the survey.

In addition, the researcher is unable to control bias because the data was collected through a responding questionnaire, depending on the respondents' trustworthiness. There could be bias on the knowledge and awareness of first aid as they can find the answer from other sources such as internet or people beside them during the session.

Another limitation for the researcher to complete this study was the time constraint. As a full time student, researchers need to allocate their time not only to this research but the researchers also need to fulfil another responsibility as student such as clinical posting and classes.

As the finding showed that the nursing students had only intermediate knowledge of first aid making it a red flag for students that will going to work in any healthcare facility. Due to this research, it is to keep in mind that there will be a lot of students who

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are unaware of the basic first aid training for casualty.

Furthermore, in order to increase and retain the knowledge regarding first aid among the students, the institutions must play a vital role to provide a first aid course diligently and to promote the importance of first aid knowledge among their students. This should be achieved with practical training or practices that need to be refreshed at periodic intervals and a compulsory course for every student. These need to be done to increase students' experiences and confidence in helping people.

In addition, for future research into this similar context of first aid it might usefully focus in other sector such as general public, school teacher and commercial driver. This is because they also might be first line of defense that will help any emergencies while waiting for emergency response team to arrive.

## CONCLUSION

This study aimed to determine first aid's knowledge, attitude, and awareness level among first-year diploma nursing students in a private Healthcare University College in Negeri Sembilan, Malaysia. The researchers also want to identify the association between the level of knowledge and attitude of first aid among the respondents. This study showed that most of the respondents had only an intermediate level of knowledge regarding first aid. This is unsatisfactory since the respondents were all nursing students, which is crucial knowledge that nursing students must have master in their education. However, most of the respondents had good attitudes and intermediate awareness towards first aid. This study also revealed an association between the level of knowledge and the level of attitudes regarding first aid among the respondents. The finding showed that the majority of respondents who had intermediate level of knowledge and had good attitude level of first aid among the respondents. Thus showing that there is no relationship between the level of knowledge and attitude of first aid.

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