

Preparedness of University Personnel on the Management of Common Medical Emergencies

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ABSTRACT

Preparation before an emergency is critical in ensuring that employers and workers have the necessary knowledge and skills on where to go and how to keep themselves safe. This study determined the level of preparedness of UNP personnel on the management of common medical emergencies and its relationship with selected socio-demographic factors. The study used the descriptive-correlational research method using the G power. 202 teaching and non-teaching personnel of the University of Northern Philippines were determined using the purposive sampling technique. The study findings were: A great number of the respondents are 40-44 years old, master's graduates with a monthly income of below Php30,000, 15-19 years in service, and male; a great majority are married. The majority of the respondent's sources of information are television, doctors, and newspapers. The respondents are highly prepared for the management of common medical emergencies. They are prepared to manage wounds, burns, nose bleeding, fainting, difficulty breathing, choking, bites, and fractures. The sex, educational attainment, and level of preparedness of the respondents have a significant relationship with their preparedness for the management of common medical emergencies. The male and those who have attained a higher education degree are well prepared to manage common medical emergencies. Although they have a high level of preparedness, their seminars and expertise must be improved.

Keywords: Teaching, non-teaching, difference, male, training

INTRODUCTION

A person's life must be protected and managed during a medical emergency. It requires the assistance of health services, including individuals with training in such situations. Thus, being prepared is essential. Preparedness focuses on altering people's behavior to lower risk and improve preparedness for the management of common medical emergencies. According to Humanitarian Response (2016), preparedness is the capacity of governments, professional response groups, communities, and individuals to anticipate and effectively respond to the effects of likely, looming, or actual dangers, events, or situations.

To be prepared, one must know basic first aid. According to Safeopedia (2021), first aid is the initial response or treatment given to someone who has been injured. It is provided to them before they are transferred to proper medical care. First aid does not constitute complete medical treatment. Instead, it is intended to stabilize the injured person so they can transfer them to a hospital or other medical facility. When used correctly, first aid can save lives.

Being ready and prepared is the most essential in managing common medical emergencies. Öhman & Mineka (2001), the theory of preparedness states that organisms that learned to fear environmental threats faster had a survival and reproductive advantage. Consequently, the innate predisposition to fear these threats became an adaptive human trait.

In any medical emergency, the administration of first aid is crucial in saving lives. It is essential that people, including laypersons, must be appropriately equipped with practical first-aid knowledge. A lack of preparation could be detrimental to victims and even result in death. It is vital to be aware of the emergencies that could occur in any institution and be able to respond promptly to them. Hence, it would require the staff and volunteers to be equipped with correct and accepted fundamental knowledge in handling such medical emergencies.

Indeed, first aid can spell the difference between life and death in real-life applications. While we may not wish this to happen to anyone, it is good to know that tertiary education staff are knowledgeable and certified in handling situations that require first aid service. One critical factor in the preparedness of schools for emergencies is medical, nonmedical, faculty, and student training. School medical emergencies can involve students, adults, staff members, or attendees of special events. Because injuries are the most common life-threatening emergencies encountered by children and adolescents inside or outside schools, faculty members, school nurses, physicians, athletic trainers, coaches, and students should know the general principles of first aid and cardiopulmonary resuscitation (CPR).

Training on first aid is of utmost importance for employees, especially in academic institutions, wherein they will become capable and dependable to provide first aid for students and colleagues who may require such. The training does not just provide holistic education to its students but ensures that its faculty and personnel are well-equipped. The goal is to determine the responsiveness of the employees and faculty in preparing for and responding to individual student emergencies. The management of individual emergencies is linked to the preparation for large-scale community emergencies; resources, linkages with EMS, and staff training are all vital to emergency preparedness.

As such, employees should realize the importance of first aid, the do's and don'ts when it comes to giving first aid, the relationship between first aid and the law, and common knowledge on the correct first aid practices and preventions. Employees encounter specific health conditions: wounds, burns, nose bleeding, difficulty breathing, fainting, bites, and fractures. It is then deemed necessary for faculty and non-faculty to be prepared for medical emergencies because they can happen at a school at any given time.

This study determined the University personnel's preparedness level on common medical emergencies. Specifically, it determined the respondents' socio-demographic profile, source of information, training, and expertise. It also determined the level of preparedness on the management of common medical emergencies and its relationship to the profile of the respondents.

With the above scenario, the researchers wanted to determine the level of preparedness among the teaching and non-teaching personnel of the University of Northern Philippines on the management of common emergencies. The study results serve as the cornerstone for the administration to formulate a plan of activities for staff development

and training on CPR and first aid, which is essential in responding to a medical emergency. The results can also be the basis for the Department of Health and the local government unit to formulate policies for new employees to undergo first aid and other related training courses relative to emergency care. Through the medical and dental office, the University may come up with annual activities emphasizing emergency care and basic first aid to students, faculty, and non-teaching personnel.

Review of Related Literature

According to Li (2022), effective public health emergency response requires qualified leaders fluent in emergency management functions and specialized technical disciplines and practices. The study showed that effective organizational planning and training strategies are crucial for producing public health emergency response leaders. A systematic training program enhances leadership development.

For the leaders to improve, more training, seminars, and experience will enhance their capability to handle emergencies. According to Khan et al. (2018), the practice was essential for developing response capacity through simulations, exercises, or actual event experience. Practice is a mechanism for testing plans, identifying gaps, and fine-tuning processes. Two dimensions of experience emerged: workforce knowledge, skills, training, and the application of the skills or training. The latter focuses on developing experiential learning for staff and practicing.

Regarding the preparedness for handling medical emergencies, according to Rinaldi (2016), most participants believed they were underprepared. Further, he mentioned that the educators' perceptions documented that many feel ill-prepared to face school emergencies due to little or no training. The study by Groves (2013) revealed that overall preparedness could have been higher, indicating that the sample population needs to be more motivated to action. Smereka et al. (2019) also stated that many dentists need help handling medical emergencies. Sumithra & Dhanalakshmi's (2019) study found a significant association between demographic variables, sex, residence, teaching experiences, and knowledge on common medical emergencies. Furthermore, the study conducted by Alyahya et al. (2019) found that there is a relation between years of experience and the score of preparedness for first aid management. The result of the study conducted by Kala Barathi & Manisha (2019) found that there was a significant association between age, gender, religion, education, occupation, class, past experiences, communication, and previous exposure to information with the level of preparedness among school teachers regarding first aid measures for common injuries.

Objectives of the study

This study determined the respondents' socio-demographic profile, source of information, training, and expertise. It also determined the level of preparedness on the management of common medical emergencies and its relationship to the profile of the respondents.

METHODOLOGY

Research Design. The researchers used the descriptive-correlational method of research to describe the profile of the respondents and the level of preparedness on the management of common emergencies. This method was also used by Fabre & Pacpaco (2020). The correlational method was utilized to determine the relationship between the level of preparedness on the management of common emergencies and the profile of the respondents.

Population and Sample. The 202 respondents were the regular teaching and non-teaching personnel of the University of Northern Philippines. G Power and purposive sampling were utilized in selecting the respondents. However, some questionnaires were not retrieved because some target respondents opted not to answer.

Data Gathering Instrument. This study utilized a questionnaire checklist as a tool for gathering the data. The researchers formulated the instrument based on their knowledge and skills as professional nurses and emergency medical technicians, and a pool of experts validated the content. Part I deals with the socio-demographic factors such as age, sex, civil status, educational attainment, monthly family income, and length of service, and sources of information such as print media, mass media, and humans. Part II deals with the training and expertise of the respondents. Part III deals with the level of preparedness of the respondents.

Data Gathering Procedure. The researchers first asked permission from UNP President and the Dean of the colleges involved in the conduct of the data gathering. The researchers personally administered the questionnaire to the respondents.

Ethical Considerations. Before the conduct of the study, the researchers sought approval (A-0279) from the Ethics Review Committee (ERC) of the University (application number 279). The researchers strictly maintained privacy, confidentiality, and anonymity of the respondents.

Statistical Treatment of Data. The statistical tools employed to treat and interpret the data gathered were frequency and percentage, mean, and simple correlation analysis. These are stated measures under descriptive statistics (Cadorna & Cadorna, 2019).

RESULTS AND DISCUSSION

Profile of the Respondents in terms of Socio-Demographic Factors

A great number (40 or 19.8%) of the respondents are aged 40 - 44 years old, master's graduate (64 or 31.68) with a monthly income of below Php30,000, and 15-19 years length of service (43 or 21.29%). Half of the respondents are male (102 or 50.50). A great majority (144 or 71.29%) of the respondents are married.

Profile of the Respondents in terms of Sources of Information

The majority of the respondents' sources of information on common medical emergencies are TV (150 or 74.26%), doctors (141 or 69.80), and newspapers (137 or 67.82).

Training and Expertise of the Respondents

A half of the respondents (101 or 50%) have attended 1-4 trainings on medical emergencies; one hundred six (52.48%) have 1-4 emergency cases encountered; ninety (44.55%) have no emergency cases attended. A great majority of the respondents (168 or 83.17%) have yet to render services as speakers/lecturers/trainers. The respondents have attended training like basic first aid, basic life support, and disaster preparedness. They have encountered and attended emergency cases such as difficulty of breathing, fainting, sprain, and wound; thus, these skills from training and experience are essential for managing emergency cases properly. Rafanan & Romo (2021) stated that the recommended course of action is to increase awareness and enforcement through readings, seminars, and training.

Table 1

Distribution of the respondents on training and expertise

Factors	<i>f</i>	%
a. number of trainings on medical emergency		
5 & above	20	9.90
1-4	101	50.00
None	81	40.10
Total	202	100.00
b. number of emergency cases encountered		
5 & above	29	14.35
1-4	106	52.48
None	67	33.17
Total	202	100.00
c. number of emergency cases attended to		
5 & above	25	12.38
1-4	87	47.07
None	90	44.55
Total	202	100.00
d. services rendered as speaker/lecturer/ Trainor on the management of emergency cases		
5 & above	7	3.47
1-4	27	13.37
None	168	83.16
Total	202	100.00

According to Khan et al. (2018), practice is essential for developing response capacity through simulations, exercises, or actual event experience. Practice is a mechanism for testing plans, identifying gaps, and fine-tuning processes. Two dimensions of experience emerged: workforce knowledge, skills, and training, and the application of the skills or training. The latter focuses on developing experiential learning for staff and practicing.

Level of Preparedness of the Respondents on Management of Common Medical Emergency

Overall, the respondents' preparedness level on the management of common medical emergencies is "High". It implies that the respondents are prepared on common medical emergencies such as but not limited to the cases of a wound, burns, nosebleeding, fainting, difficulty of breathing, choking, bites, and fractures. It also means that the respondents underwent training, advanced studies, and further readings on common medical emergencies so that in case of emergencies, they can help.

The result of the findings contrasts with the study conducted by Rinaldi (2016), wherein most participants believed they needed to be prepared. Further, he mentioned that the educators' perceptions documented that many feel ill-prepared to face school emergencies due to little or no training. The study by Groves (2013) revealed that overall preparedness could have been higher, indicating that the sample population is not motivated to action.

Table 2

Level of preparedness of the respondents on management of common medical emergency

Common Medical Emergencies	Mean	DR
a. Wound	4.49	Very High
b. Burn	3.84	High
c. Nose bleeding	3.88	High
d. Fainting	4.01	High
e. Difficulty of Breathing	4.07	High
f. Choking	3.94	High
g. Bites (Human, Animal, and Insect Bites)	4.00	High
h. Fracture	4.13	High
Overall	4.04	HIGH

Legend:

Scale	Item Descriptive Rating	Overall Descriptive Rating
4.21 – 5.00	Always	Very High
3.41 – 4.20	Often	High
2.61 – 3.40	Sometimes	Moderate
1.81 – 2.60	Rarely	Low
0.01 – 1.80	Never	Very Low

The respondents are very highly prepared on wound management. Sixty nine percent of respondents stated they had practiced wound care at some point in their career, but most do not anymore. 41.3% reported wound care was being practiced in their facilities, but only 18.3% directly practiced it (Moore et al., 2023). They always seek immediate medical attention if the bleeding will not stop, clean the wound using soap and water, cover the wound with a clean cloth or band-aid, and put pressure on it to stop bleeding.

The respondents are highly prepared on burn management. First aid is essential for burn management, as it reduces the complications of burns and the costs associated with them, reducing the need for surgical interventions. It also reduces the need for surgery to repair tissue damage (Farzan et al., 2023). They always see a doctor if the burnt area

worsens. They often put the burnt part of the body under the faucet or running water, gently remove a stuck cloth or jewelry, and cover the burnt area with a clean damp cloth.

The respondents are highly prepared on nose bleeding management. Patients presenting with a nosebleed should be evaluated for airway patency and hemodynamic stability, and pre-existing clots cleared (Schmidtman et al., 2022). Only 49.2% of teachers were prepared to deal with nosebleeds (Jindal et al., 2020). They often instruct the victim to breathe normally, gently wipe the nose with a damp cloth, cover the nose with gauze or any clean cloth, and apply an ice compress over the nostrils.

The respondents are highly preparedness on fainting management. A total of 84.7% of the participants said they can treat syncope by putting the patient in a Trendelenburg position (Hussein, 2021). They always place the victim in a comfortable position, provide enough ventilation, and loosen all tight clothing. They often put the victim in a lying/supine position and wipe the victim's face with a cloth soaked in cold water.

The respondents are highly prepared on difficulty of breathing. Airway and breathing management must be addressed immediately, as patients may die if these actions are not taken. Airway maintenance without "endotracheal intubation" is one of the most important emergency airway management procedures for keeping patients alive (Nigatu, Debebe & Tuli, 2022). They always loosen constrictive clothing. They often provide oxygen to facilitate breathing, lean the victim forward, and give water to relieve discomfort.

The respondents are highly prepared on choking management. Choking knowledge among school teachers was higher (Jindal et al., 2020). They always call help immediately. If the victim becomes unconscious, they often tap the back of the victim, perform abdominal thrusts on the victim, and let the victim cough vigorously to remove foreign objects.

The respondents are highly prepared on bites. People should be taught basic first aid and other dos and don'ts after an animal bite, such as washing wounds with soap and running water (Panigrahi, 2021). Only 17.8% of school teachers were aware that an allergic reaction to a bee sting requires at least 30 minutes of washing (Jindal et al., 2020). They always wash bites with soap and running water. They often cover the affected area with gauze or clean cloth and apply cold packs or ice to reduce swelling, a tourniquet above the bitten area, or antibiotic ointment to prevent infection.

The respondents are highly prepared on fracture management. Although unintentional injuries are harder to prepare for, it is prudent for schools to prepare particularly for potential medical emergencies related to chronic conditions, such as seizures, diabetes, allergies/anaphylaxis, mental illness, substance use, or asthma, through personnel training and emergency action plans (Gereige et. al, 2022). They always calm the victim. They often immobilize the broken bone by applying a splint, do not return the protruding bone, and, if the victim has bleeding, apply pressure over the wound area to stop bleeding.

Overall, the sex ($r = 0.234$) and educational attainment ($r = 0.217$) of the respondents have a significant relationship with their level of preparedness on the management of common medical emergencies at 0.01 level.

It implies that the level of preparedness on managing common medical emergencies of male personnel is significantly higher than that of female personnel. It is primarily because

the male respondents are more inclined to read newspapers and watch TV, providing them with adequate information on the management of common emergencies, thus making them prepared in times of emergency.

Relationship between the Level of Preparedness on the Management of Common Medical Emergency and the Profile of the Respondents

Table 3

Correlation between the level of preparedness on management of common medical emergencies and the profile of the respondents

Variables	Common Medical Emergency								
	Wound	Burn	Nose Bleeding	Fainting	Difficulty of Breathing	Choking	Bites	Fractures	Overall
B. Socio-Demographic Factors									
Age	.002	-.002	.024	-.042	-.035	-.027	.027	-.030	-.012
Sex	.117	.186**	.247**	.210**	.176*	.176*	.197**	.175*	.234**
Civil Status	-.012	-.048	-.069	-.147*	-.157*	-	-.137	-.113	-.132
Educational Attainment	.150*	.212**	.179*	.242**	.260**	.149*	.109	.189**	.028
Monthly Family Income	-.040	-.076	-.110	-.080	-.118	-.043	-.094	.055	-.083
Length of Service	-.039	.025	.008	-.074	-.045	-.076	.002	-.103	-.042
B. Source of Information									
a. Print Media	.113	-.060	.049	.093	.096	.025	.131	.100	.093
b. Mass Media	.112	-.066	-.039	-.012	.018	-.074	.068	.034	.002
c. Human	.106	.018	.028	.006	.074	.009	.094	.015	.046

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Moreover, those respondents who have attained a higher level of education tend to be more prepared than those with a lower level of education. It implies that those respondents with a higher level of education are given more opportunities to attend training and seminars on the management of a common emergency. In the study of Sumithra and Dhanalakshmi (2019) found a significant association between the demographic variables, sex, residence, teaching experiences, and knowledge of common medical emergencies.

Furthermore, the study conducted by Alyahya et al. (2019) found a relationship between years of experience and the score of preparedness in first aid management. The result of the study conducted by Kala Barathi and Manisha (2019) found that there was a significant association between age, gender, religion, education, occupation, class, past

experiences, communication, and previous exposure to information with the level of preparedness among school teachers regarding first aid measures for common injuries.

CONCLUSIONS

The personnel is highly prepared to manage common medical emergencies. The male and those who have attained a level of higher education are well prepared to manage common medical emergencies. Although they have a high level of preparedness, their seminars and expertise must be improved to be considered well-prepared in emergencies.

RECOMMENDATIONS

More trainings should be conducted on the management of common medical emergencies for both males and females within the University and among the academic units and offices. Regular updates are performed for those who have the training to refresh and provide new techniques for managing a common emergency. The management of common emergencies is included as one of the topics in the syllabus for all the academic units. The same study was conducted to consider other variables.

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