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Awareness and Practices On Disaster Management Of Healthcare Workers of Sorsogon Provincial Hospital

Genevieve Fulay Rojas[1], Errol G. De Castro, PhD[2]
[1]*Graduate School, Sorsogon State University*
[2]*Faculty of Graduate School, Sorsogon State University*

Abstract: This descriptive study aimed to determine awareness and practices on disaster management of the healthcare workers at Sorsogon Provincial Hospital. Survey questionnaires were used to gather data fromrandomly selected 49 non-medical and 184 medical personnel of the hospital. Findings show that the healthcare workersare aware and very often practice disaster management. The challengesencountered in the disaster management includeinsufficient equipment and facilities for effective disaster preparedness and response and lack of adequate manpower resource during a disaster response. Hence, it is recommended toconsider the creation of plantilla positions for non-medical personnel to further improve the organizational staffing of the hospital, procurement of necessary equipment, and upgrading of facilities. Capacity building may be conducted regularly to sustain existing disaster management practices.

Keywords*-disaster management awareness, healthcare workers, hospital disaster management, disaster management implementation, disaster preparedness*

I. Introduction

The concerns over disasters are increasing globally during the last two decades. Disaster events, both natural and man-made, cause serious disruption in the functional and operational flow and system of a community or a society. They come from the interaction of risks, vulnerabilities, and the inability to mitigate their potential negative effects ("Disaster Management," n.d.). It suggests that the communities must be empowered in order to be prepared, reduce the risks, and become more resilient.

1.1 Disaster management in the Philippines

Most countries in the world including the Philippines have made great improvement in terms of preparedness during a disaster and the vast investment has greatly ameliorated the community in terms of lives saved. However, economic and asset loss has yet to be contained because of the lack of coordination, insufficiency, and difficulty in the implementation of relevant programs.

Based from the framework on Disaster Planning with emergency management by the National Disaster Risk Reduction and Management, there are 4 priority areas: Prevention and Mitigation, Preparedness, Response, and Recovery and Rehabilitation. Recently, with the recurrent losses that the Philippines experienced with disasters, much attention has been focused on response and recovery. The success of this priority area relies heavily on completing the activities under both the prevention and mitigation and preparedness aspects, including the coordination and communication mechanisms to be developed.

However, with regard to Hospital Disaster Management, there is an urgent need to amplify health resiliency through the integration of all the priority areas in disaster management into community disaster planning.Although human lives have been saved, this situation has continued to harm and impoverish people. People were caught off guard and unprepared by the lack of a warning system. Because of the general lack of readiness, there have been several cases where forecasts were made and typhoon warnings were sent early. The locals either disregarded the warnings or did not take them seriously, which resulted in extraordinary levels of destruction and fatalities (Guillermo, 2017). This scenario is intensified by diverse reasons like uncontrolled population growth, settlement in hazard-prone areas, poor economic status, failure in the implementation of building codes and construction standards, and/or degradation of forests and coastal resources (Santos, 2016).

The pressure on the medical field increases during adversities since it is not only expected to give assistance to external incidents, but it also needs to give attention to its normal patient inflow (Hendrickx,

D'Hoker, Michiels, &Sabbe, 2016). Hence, an effective hospital risk management program is vital in order to save lives, reduce damage to hospital properties and assure the continuity of hospital services.

Corollary to this, the government passed Republic Act No. 10121 otherwise known as the Philippine Disaster Risk Reduction and Management (PDRRM) Act of 2010 which mandates to strengthen disaster management in the country. It places more emphasis on enhancing people's and communities' capacity to prepare for, respond to, and recover from disasters.

1.2 Recent findings

The role of health care workers is often called upon to respond to emergencies and provide substantial care to communities. They must be well-versed in all necessary precautions for individual protection, disaster awareness, and relocations, as well as how to reduce the impact of risks in society by improving health and nutrition, offering vaccination, and providing health education (Bonito, 2017).

Studies conducted on the perceptions of healthcare works in their preparedness and practices vary in findings. A study on Jordanian nursesshowed that knowledge, skills, and disaster preparedness need continual reinforcement to improve self-efficacy for disaster management (Al Khalaileh, Bond, &Alasad, 2012). Meanwhile, a case study on house surgeons in a dental college and hospital in Chennai, India revealed that the house surgeons had a favorable outlook on the public health problem in question despite their lack of understanding (Indiran, 2017). On the other hand, a quantitative descriptive cross-sectional study on nurses from Children Hospital & Institute Of Child Health Lahore and General Hospital Lahore showed that nurses are well-versed in disaster management, but practices were poor in the hospital setting (Shabbir, Afzal, Sarwer, Gilani, & Waqas, 2017).

With regards to the challenges healthcare workers face, results of a study which aimed to provide a collection of sound practices on DRR actions at the local level showed that challenges in disaster management include a lack of political will- some of which are due to financial constraints; human resource constraints; lack of knowledge and awareness; different priorities; lack of mandates for DRR; and unclear roles and responsibilities- and budgetary constraints. All these issues adversely affect the process of learning from sound practices. It is recommended that specific budgets need to be allocated for DRR to improve implementation (Amaratunga, Malalgoda, Haigh, Panda, &Rahayu, 2018). Regarding disaster nursing, results of a literature review using scoping approaches and the Joanna Briggs Institute methodology revealed that the main challenges that nurses face are:the notion of disaster nursing as a relatively new specialty; lack of preparedness; lack of formal education; lack of research; ethical and legal concerns; and concerns about nurses' roles in disasters.

1. 3 Disaster Management in Sorsogon Province

The passage of Republic Act No. 10121 paved way for the establishment of DRRM in the province of Sorsogon. The province is situated in the Bicol region that is prone to natural disasters. Super typhoons that originate in the Pacific Ocean frequently pass through this region. It is also bordered by active volcanoes, which inflict damage on the region from time to time. Landslides and flash floods are also regular tragedies that cause havoc in the area. Statistics show that the typhoons frequently visited the area caused widespread damage to the city along agriculture, infrastructure, and personal properties including the lives of the people from the year 2006 to 2010 (Einsiedel, 2020).

To reduce the impact of disasters, the Sorsogon Provincial Hospital (SPH) has to play itsrole in addressing the effects of these events. The SPH being a Department of Health (DOH)-licensed level 2 General Hospital and PhilHealth-accredited has 120 authorized bed capacity and 180 implementing bed capacity ("Dr. Fernando B. Duran Sr. Memorial Hospital - Sorsogon Provincial Government," n.d.). Aspects of readiness and preparedness of this hospital are fundamental such as education on disaster response, surge capacity, systematic cascade of emergency response plan, facility emergencyresponse, or medical emergency response ready and promptly activated.

Communication strategies, disaster plans, managing the hospital resources, managing the clinical service including alternative care facilities and identification of hospital employees' roles are deemed important. The institution should establish efficient and effective safety and healthcare management systems preparing all personnel in handling emergencies before, during and after they arise.

This endeavor was brought out to strengthen resilience and promote disaster risk reduction at the local level. In doing so, the researchersare looking into the awareness/knowledge, attitude and practices of the personnel on disaster preparedness of the institution. Various works on the best practices in disaster preparedness, response and recovery have surfaced. However, exploration on the knowledge and attitude of the community in disaster may have remained overlooked.

With the frequency and intensity of disasters in the Philippines, specifically in Sorsogon; there is a need to address this scenario across the disaster cycle, particularly mitigating disaster risks alongside preparedness. Best practices must then be translated into policy and decisions with regards to this be made with a committed implementation for it matches the initiatives on sustainable development.

II. Statement of the Problem

Generally, this study aimed to determine awareness and practices on disaster management of the health care workers of Sorsogon Provincial Hospital for fiscal year 2021.Specifically, it intended to determine the profile of the respondents in terms of age, sex, civil status, employment status, length of service and educational attainment. Moreover, it sought to identify the level of awareness of the respondents on disastermanagement along Risk Reduction, Disease Prevention, and Health Promotion;Policy Development and Planning; Ethical Practice, Legal Practice, and Accountability; Communication and Information Sharing; and Education and Preparedness; and the extent of practice of the respondents on disaster management along Prevention and Mitigation; Preparedness;Response; andRehabilitation and Recovery. Furthermore, it aimed to determinethe challenges encountered by the respondents on disaster management.

III. Methodology

This researche utilized a descriptive research design on the assessment of the level of awareness and practices of healthcare personnel at Sorsogon Provincial Hospital on disaster preparedness and management.

Meanwhile, survey questionnaires were adapted and modified from the study done by Moabi (2008) on knowledge, attitude and practices of healthcare workers regarding disaster preparedness in Johannesburg Hospital in Gauteng Province, South Africa and the study of Bautista, et al. (2018) regarding Demographics and Disaster Risk Reduction and Management of Government Hospital Nurses in Zambales, Philippines to gather data.

These are subdivided into 3 parts. Part 1 deals with the demographic profile of the respondents. The second part focuses on the awareness on disaster management in terms of Risk Reduction, Disease Prevention, and Health Promotion, Policy Development and Planning, Ethical Practice, Legal Practice, and Accountability, Communication and Information Sharing, Education and Preparedness.Additionally, the third part puts emphasis on the extent of practice of the respondents on disaster preparedness and management along Prevention and Mitigation, Preparedness, Response, Rehabilitation, and Recovery. Finally, the last part includes the challenges encountered in disaster management.

Random sampling was done where decisions concerning the individuals to be included in the sample were taken by the researchers based on how it captures key population characteristics in the sample. Using Slovin's Formula with 5% margin of error, the researchers arrived at 233 respondents composed of 49 non-medical personnel and 184 medical personnelfrom Sorsogon Provincial Hospital. To validate their responses, unstructured interview was also conducted on a selected group of respondents both medical and non-medical personnel.

Lastly, the results were analyzed and interpreted with the use of appropriate statistical tools such as frequency count, percentage, ranking and chi-square and presented through tables.

IV. Results and Discussion

1. Profile of the Respondents

This section reveals the profile of medical and non-medical health workers. As shown in table 1, both respondents' medical and non-medical reveal the same trend of age distributions with the highest frequency observed for ages 21 to 30 and the lowest for ages 51 to 60. This implies that most of them are millennial healthcare workers. This generation was born between 1982 and 2003.

According to Piper (2012), the number of doctors, nurses, allied health professionals, administrators, and support workers in the healthcare industry has increased as a result of the entry into the workforce of generation Y, or the millennials, the youngest generation in America. There are over 70 million members of this generation, the oldest of whom are currently in their late 20s and early 30s.

Moreover, it can be gleaned from the table that the majority of the non-medical personnel are male. On the other hand, medical personnel are dominated by females. The medical personnel are composed of nurses, physicians, pharmacists, nursing attendants, dentists and midwives. The composition of the workforce in the hospital indicates that the management may have adopted the Equal Employment Opportunity Principle mandated by the Civil Service Commission. This mandate removes the barriers and discrimination during the selection process on the basis of sexual orientation, gender identity, religion, ethnicity and the like.

Table 1. Profile of the Personnel

Categories	Non-Medical Personnel		Medical Personnel	
	Frequency (f) (n=49)	Percentage (%)	Frequency (f) (n=184)	Percentage (%)

Age				
21 – 30	23	47	68	37
31 – 40	10	20	52	28
41 – 50	9	18	40	22
51 – 60	7	14	24	13
Sex				
Male	30	61	53	29
Female	19	39	131	71
Civil Status				
Single	29	59	90	49
Married	19	39	90	49
Separated	0	0	2	1
Widow	1	2	2	1
Educational Attainment				
Undergraduate	10	20	15	8
College Graduate	37	76	150	82
Master's degree holder	2	4	2	1
Doctorate degree holder	0	0	17	9
Employment Status				
Permanent	19	39	81	44
Casual	0	0	17	9
Contractual	4	8	21	11
Job Order	26	53	65	35
Length of Service				
10 and below	43	88	142	77
11 – 15	1	2	15	8
16 and above	5	10	27	15

In terms of civil status, majority of the non-medical personnel are single. Meanwhile, married and single medical personnel obtained the same frequency. Along educational attainment, most of them are college graduate for both groups. It can be noted that none of the non-medical personnel obtained graduate degree while only 17 have master's degree for medical personnel. It seems that pursuing graduate degree may not be their option for professional development.

Likewise, the table shows the employment status of the healthcare workers. It can be observed that 53% of the non-medical personnel are on job order status while only 39% are permanent. On the other hand, 44% are permanent medical personnel and only 35% are job order. It may be reasonable to have more permanent medical personnel since most of them are nurses and doctors who attend closely to the needs of the patients round the clock.

With regard to length of service, majority of the medical and non-medical personnel have 10 years and below as healthcare workers. This means that the provincial hospital may have few senior healthcare workers. As mentioned earlier, most of them belong to generation Y. The length of service may be considered one of the indicators for work competencies since knowledge and skills are further developed through the practice of the profession and actual application.

The above results are similar the findings of the study of Bautista, et al. (2018) which showed that majority of nurses have age between 31 and 40, female, single, and obtained only baccalaureate degree in nursing. Likewise, Zamanzadeh, et al. (2013) stressed that nursing is still seen as female-dominated field.

2. Level of Awareness of the Respondents on Disaster Management

This section reveals the respondents' level of awareness on disaster management in terms of Risk Reduction, Disease Prevention, and Health Promotion, Policy Development and Planning, Ethical Practice, Legal Practice, and Accountability, Communication and Information Sharing, and Education and Preparedness. Data were presented in tables.

Risk Reduction, Disease Prevention, and Health Promotion. Table 2A shows the respondents' level of awareness on Risk Reduction, Disease Prevention, and Health Promotion. It shows that non-medical and medical respondents are aware of this component of disaster management as indicated by the weighted means of 3.91, and 4.15, respectively.

It can be asserted that both groups of respondents gave the highest rating for the item on planning to meet healthcare needs in a disaster. This means that they may be cognizant of the importance of planning in disaster management. It also implies that the healthcare staff may plan ahead and rehearse so that they are ready for emergencies when they happen. By going through an emergency operation plan before a real catastrophe, the staff can run into issues that could develop in a real disaster and can further improve their procedures.

Table 2A. Level of Awareness of the Respondents on Risk Reduction, Disease Prevention, and Health Promotion

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Planning to meet health care needs in a disaster.	4.04	Aware	4.26	Aware
2. Identifying vulnerable populations and coordinates activities to reduce risk.	3.84	Aware	4.17	Aware
3. Community education activities related to disaster preparedness.	3.82	Aware	4.02	Aware
4. Planning to meet the community's health care needs such as mass immunization and medication administration programs.	3.92	Aware	4.18	Aware
5. Strengthening the health care system's ability to respond and recover from a disaster.	3.92	Aware	4.11	Aware
Overall	**3.91**	**Aware**	**4.15**	**Aware**

Legend: WM – Weighted Mean Desc - Description

In similar manner, the second highest ratings were given on the item which involves planning to meet the community's healthcare needs such as mass immunization and medication administration programs. This suggests that they may be protective of the lives of their people in the community. Such behavior is expected in the discharge of their duties as healthcare workers since their purpose is to save lives and ensure health and safety of the people. As observed, the provincial hospital has been aggressive in implementing the COVID-19 vaccination program in the entire province to control the spread of the virus. It also established linkages with the stakeholders in the conduct of mass immunization. The active involvement of the healthcare workers in the said program may have effect on their level of awareness along Risk Reduction, Disease Prevention, and Health Promotion.

Pascapurnama, Murakami, Chagan-Yasutan, Hattori, Sasaki, &Egawa, (2018) emphasized in their study the importance of integrated health education in schools and community-based disaster risk reduction plans, including information dissemination, to create resilient communities. The community centers and schools can act as conduits for the dissemination of health promotion information, raising people's awareness of health hazards and encouraging them to follow best practices for prevention, response, and recovery.

Policy Development and Planning. Table 2B shows the respondents' level of awareness on policy development and planning. It shows that the respondents are aware of all the indicators for policy development and planning with an overall weighted mean of 3.80 and 4.07 for non-medical and non-medical personnel, respectively.

Table 2B. Level of Awareness of the Respondents on Policy Development and Planning

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Understanding of relevant disaster terminology.	3.76	Aware	4.01	Aware
2. Recognizes the disaster plan in the workplace and one's role in the workplace at the time of a disaster.	3.92	Aware	4.11	Aware
3. Development, evaluation, and modification of the community disaster plan.	3.71	Aware	4.01	Aware
4. Ensuring the needs of vulnerable populations are included in the community disaster plan (children, pregnant women, individuals with mental or physical disabilities, older people)	3.90	Aware	4.07	Aware
5. Describing the role of public health in disaster and how it relates to the nurse's role.	3.69	Aware	4.13	Aware
Overall	**3.80**	**Aware**	**4.07**	**Aware**

Legend: WM – Weighted Mean Desc - Description

It can be highlighted from the table that both groups of respondents gave the highest ratings for items such as recognizing the disaster plan in the workplace and one's role in the workplace at the time of a disaster, ensuring the needs of vulnerable populations are included in the community disaster plan and understanding of relevant disaster terminology.

This means that healthcare workers may be mindful of the importance of the disaster plan in the workplace and their role during a disaster. The disaster plan serves as a guide for them to ensure the hospital's ability to effectively resume operations after a disaster as it stipulates the management policies, procedures, and resources to be activated during emergencies. It has been the practice of the institution to orient the employees on the said plan and their duties and responsibilities as regards the hospital operation. Likewise, periodic evaluation and monitoring of personnel are done to ensure effective performance and quality services.

Moreover, the provincial hospital disaster plan considers the need of vulnerable populations as part of their response and recovery system. This is to ensure compliance with the existing laws that give significant protection to this group such as Republic Act 7277 also known as the Magna Carta for Persons with Disability and Republic Act 11310 which institutionalizes the *PantawidPamilyang Pilipino Program* (4P's) – a human development measure of the national government that provides conditional cash grants to the poorest of the poor, to improve the health, nutrition, and the education of children aged 0-18.

Nevertheless, with some limitations on budget allocated by the government, health services to these disadvantaged people are affected. El Omari,&Karasneh (2021) revealed in their study that developing nations have invested a significant amount of effort and money on social health insurance schemes to provide the underprivileged people with free access to healthcare services yet increasing the availability of free health services may not be sufficient to enhance the utilization of health care by indigents.

Meanwhile, the awareness of the healthcare workers on Policy Development and Planning is consistent with the findings of the study conducted by Nofal, Alfayyad, Khan, Al Aseri, & Abu-Shaheen(2018) on the Knowledge, attitudes, and practices of emergency department staff towards disaster and emergency preparedness at tertiary health care hospital in central Saudi Arabia. It showed that nurses and physicians agreed on the need to be aware of the disaster operational plans. The respondents also agreed that the said plans need to be regularly updated. In addition, disaster management and planning are the concerned of all personnel in the hospital.

Ethical Practice, Legal Practice, and Accountability. Table 2C shows the respondents' level of awareness on ethical practice, legal practice, and accountability. It can be asserted in the table that the level of awareness of the respondents on ethical practice, legal practice, and accountability has an overall weighted mean of 3.98 for non-medical and 4.28 for medical personnel, described as aware.

Table 2C. Level of Awareness of the Respondents on Ethical Practice, Legal Practice, and Accountability

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Protects the rights, values, and dignity of individuals and communities.	4.08	Aware	4.28	Aware
2. Maintains confidentiality in communication and documentation.	4.14	Aware	4.42	Aware
3. Understands how laws and regulations specific to disaster impact on nursing practices and disaster survivors.	3.71	Aware	4.22	Aware
4. Accepts accountability and responsibility for one's own actions.	4.00	Aware	4.26	Aware
5. Identifies the limits of one's own knowledge, skills, and abilities in disaster and practices in accordance with them.	3.96	Aware	4.20	Aware
Overall	**3.98**	**Aware**	**4.28**	**Aware**

Legend: WM – Weighted Mean Desc - Description

It can be stressed that both groups of respondents have top ratings on indicators such as protecting the rights, values, and dignity of individuals and communities and maintaining confidentiality in communication and documentation. This implies that the respondents may have shown high respect to their clients in the delivery of services and observe the data privacy law in the discharge of their duties and responsibilities.

Likewise, it means that the personnel may be oriented about the laws and regulations specific to disaster impact in the community. It also suggests that the respondents may have done their responsibilities and functions in disaster management with professionalism. The awareness of the healthcare workers may be attributed to the initiative being done by the management to refresh and update the employees on the standards of healthcare services through conduct of onboarding session. The purpose of onboarding is to orient new

employees to their position, the company's values, and the benefits it offers(“Why Onboarding Is Important and a Key to Success (2023)”.

The above results on the awareness of the healthcare workers on Ethical Practice, Legal Practice, and Accountability are similar to the findings of the study of Maharjan, Thapa and Maharjan(2019). It revealed that 59.5% of the nurses had adequate knowledge of ethical and legal aspects. It also emphasized the need for making the nurses aware of these aspects as they are highly vulnerable to related issues in dealing with human life and death.

Communication and Information Sharing. Table 2D shows the respondents’ level of awareness on communication and information sharing. It can be gleaned from the table that the level of awareness of the personnel on communication and information sharing was interpreted as aware with a weighted means of 3.83 and 4.06, respectively.

Table 2D.Level of Awareness of the Respondents on Communication and Information Sharing

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Describes the chain of command and the nurse’s role within the system.	3.61	Aware	4.05	Aware
2. Identifies and communicates important information immediately to appropriate authorities.	3.92	Aware	4.06	Aware
3. Coordinates information with other members of the disaster response team.	3.92	Aware	4.03	Aware
4. Provides up-to-date information to the disaster response team regarding the health care issues and resource needs.	3.88	Aware	4.02	Aware
5. Maintains records and documentation and provides reports as required.	3.78	Aware	4.10	Aware
6. Communicates identified or suspected health and/or environment risks to appropriate authorities (i.e. Public Health).	3.86	Aware	4.11	Aware
Overall	**3.83**	**Aware**	**4.06**	**Aware**

Legend: WM – Weighted Mean Desc - Description

It is worth noting that items such as identifying and communicating important information immediately to appropriate authorities and coordinating information with other members of the disaster response team obtained the highest weighted for non-medical personnel.

Similarly, medical personnel indicated high ratings on maintaining records and documentation, providing the required reports and communicating the identified or suspected health and/or environment risks to appropriate authorities (i.e. Public Health).

The awareness of both respondents of communication and information sharing may indicate responsiveness to disaster. This area is important in disaster management since personnel must have a sense of urgency in disaster response. Such awareness may be the result of the regular meetings done by the management with the employees to discuss the importance of proper communication and coordination in disaster management. Likewise, the role of each unit and department are explained in the same meetings to properly guide them in their actions. A culture of discussion and listening is necessary for effective communication both inside and between agencies. All communication must be as precise and thorough as possible and must be carefully recorded. Accuracy is crucial since without it, it is impossible to make wise decisions (Test, 2019).

O’Daniel and Rosenstein, (n.d.) concluded that effective clinical practice must also consider the human aspect in addition to technology system issues. In order to improve communication and prevent errors, healthcare organizations must assess possible causes of poor communication and be diligent in providing programs to foster collaboration.

Education and Preparedness. Table 2E shows the respondents’ level of awareness on Education and Preparedness. It shows that the non-medical and medical personnel are generally aware of this area of disaster management with 3.85 WM and 4.03 WM, respectively.

It can be observed that both groups of respondents rated highest the items such as participating in drills in the workplace and community and evaluating the need for additional training and participation. This implies that the respondents may have realized the need to acquire disaster management competencies through participation in training. As practiced, the DRRM of the Sorsogon province provides the said training to partner agencies in order to equip the personnel with the knowledge and skills to respond effectively to emergencies and disasters.

Table 2E. Level of Awareness of the Respondents on Education and Preparedness

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Maintains knowledge in areas relevant to disaster and disaster nursing.	3.67	Aware	4.04	Aware
2. Participates in drills in the workplace and community.	4.00	Aware	4.11	Aware
3. Seeks to acquire new knowledge and maintain expertise in disaster nursing.	3.86	Aware	4.01	Aware
4. Evaluates the need for additional training and obtain the required training.	3.94	Aware	4.05	Aware
5. Describes the nurse's role in various disaster assignments (shelters, emergency care sites, temporary health care settings, disaster coordination, and management units).	3.80	Aware	4.03	Aware
6. Maintains a personal disaster/ emergency kit (identification card, appropriate clothing, insect repellent, water bottle) in the event of deployment to a disaster.	3.88	Aware	4.04	Aware
7. Implements preparedness activities as part of a multidisciplinary team.	3.84	Aware	3.95	Aware
Overall	**3.85**	**Aware**	**4.03**	**Aware**

Legend: WM – Weighted Mean Desc - Description

Moreover, the Office of the Civil Defense is required to set up Disaster Risk Reduction and Management Training Institutes at whatever suitable locations may be deemed appropriate in order to train both public and private personnel, both local and national, in such subjects as disaster risk reduction and management among others. In order to accommodate new elective officials and members of the LDRRMCs, the Institute is also required to periodically conduct awareness and education programs (Official Gazette, 2010).

The above result is supported by Gerdan (2014) that in disaster-prone countries, preparedness is an important factor in disaster mitigation. There are various disaster management approaches. However, one common point of these approaches is that they are "preventive." First and foremost the principal components of the preventive approach are preparedness and education. It is possible to increase the capacity to cope with disasters, which show variations in terms of their development periods and times and mostly involve uncertainty, by raising the awareness of all components, all individuals and communities in line with this common cause.

3. Extent of Practice of the Respondents on Disaster Management

This section reveals the practices of the respondents on disaster management in terms of prevention and mitigation, preparedness, response, and rehabilitation and recovery. Data are shown in tables.

Prevention and Mitigation. Table 3A shows the practices of the respondents on disaster management in terms of prevention and mitigation. Generally, both groups of respondents very often practiced prevention and mitigation.

Table 3A. Practices of the Respondents on Prevention and Mitigation

Indicators	Non-Medical		Medical	
	WM	Desc	WM	Desc
1. Participates in disaster risk reduction and management plan drafting and emergency planning for disaster situations in my workplace	3.69	Very often	3.96	Very often
2. Assists in policy development to prevent future disasters or implement quality control in response to disaster situations	3.67	Very often	3.89	Very often
3. Conduct health teaching activities with patients who are already in the hospital to increase their awareness in disaster risk reduction and management	3.47	sometimes	3.91	Very often
4. Contributes a part in one of the following educational activities on a regular basis: continuing education classes and seminars or conferences dealing with disaster risk reduction and management	3.53	Very often	3.83	Very often
5. Assists in strengthening the overall capacity and	3.61	Very often	3.98	Very

	capability transport and communication in my workplace				often
6.	Updates disaster risk reduction and management plan on regular basis in my workplace	3.49	sometimes	3.85	Very often
7.	Coordinates with concerned agencies or offices in allocating adequate funds to ensure the functionality of the hospitals during disaster situations	3.61	Very often	3.88	Very often
8.	Ensures the availability of medical personnel and necessary resources to support the maintenance of the hospital during disaster situations	3.67	Very often	3.92	Very often
9.	Conducts a regular assessment of the medical supplies and equipment in my workplace	3.55	Very often	4.03	Very often
10.	Expresses my judgement on improving and evaluation the structural quality of the hospital in collaborating with other members of the health care team	3.49	sometimes	3.89	Very often
	Overall	**3.58**	**Very often**	**3.91**	**Very often**

Legend: WM – Weighted Mean Desc - Description

It can be noted that non-medical personnel sometimes practice conducting health teaching activities with patients who are already in the hospital to increase their awareness in disaster risk reduction and management, updating disaster risk reduction and management plans on regular basis in the workplace and expressing their judgment on improving and evaluating the structural quality of the hospital in collaborating with other members of the health care team. This may be expected since their knowledge and skills along the said area of disaster management might be limited as compared with the medical personnel.

Meanwhile, medical personnel very often practice prevention and mitigation as indicated by the weighted means obtained for all indicators. This means that they may be aware of the safety measures that can significantly lessen the impact of disasters. As observed, the medical personnel of the provincial hospital are often invited as resource speakers in seminars on disaster management organized by the government and non-government organizations given their expertise in the field. Moreover, they are actively involved in crafting plans for disaster management.

Efforts at mitigation and prevention are intended to lessen the potential harm and suffering that catastrophes may bring about. Disaster management cannot stop disasters from occurring in the first place. Nevertheless, it can stop disasters from compounding as a result of ignoring cause elements and manageable risks.

The above results agree with some findings of the study of Bautista et al. (2018) on Demographics and Disaster Risk Reduction and Management of Government Hospital Nurses in Zambales. It revealed that nurses perceived disaster prevention and mitigation as frequently practiced. However, the conduct of health teaching activities with patients who are already in the hospital to increase their awareness in disaster risk reduction and management is sometimes practice by the nurses.

Preparedness. Table 3B presents the practices of the respondents on disaster preparedness. It shows that respondents generally practiced disaster preparedness very often with weighted means of 3.66 and 3.90 for non-medical and medical personnel, respectively.

It can be emphasized from the table that the non-medical personnel sometimes practice attending seminars and trainings regarding updates on disaster risk reduction and management. This implies that they may have limited opportunities to attend seminars and trainings on disaster management. As observed, the number of personnel in the provincial hospital is not sufficient to attend to the number of clients who availed of medical services. Hence, it may be difficult for them to leave their work to attend such trainings and seminars as it may affect the delivery of health services.

Table 3B. Practices of the Respondents on Disaster Preparedness

Indicators	**Non-Medical**		**Medical**	
	WM	Desc	WM	Desc
1. Participates in the regular inventory of medical supplies and equipment	3.55	Very often	3.95	Very often
2. Ensure the establishment of communication links with other members of the health sector for effective coordination and response during disaster situations	3.65	Very often	3.93	Very often
3. Extends time reading to be more knowledgeable about	3.80	Very often	3.91	Very

	disaster risk reduction and management				often
4.	Attends seminars and trainings regarding the updates on disaster risk reduction and management	3.43	sometimes	3.78	Very often
5.	Undergoes capacity building activities and routinely review and update current operation guidelines and procedures on disaster risk reduction and management	3.53	Very often	3.78	Very often
6.	Establishes a proper coordinating procedures with other health facilities in terms of collaboration of patients' care during disaster situations	3.71	Very often	3.88	Very often
7.	Attends drill simulation to be aware of the disaster risk reduction and management in my workplace	3.84	Very often	3.95	Very often
8.	Attends assembly with other members of the health team regarding the matter of necessary resources, funds, and medical staff during disaster situation	3.65	Very often	3.83	Very often
9.	Identifies the health risk in my patients and to myself as a healthcare provider when disaster strikes, in collaboration with other members of the health team on developing plans to reduce identified risk	3.59	Very often	3.99	Very often
10.	Enlists important telephone numbers, such as (emergency ambulance, referral hospitals etc.) for possible transport of patients for continuity of care	3.90	Very often	3.98	Very often
	Overall	**3.66**	**Very often**	**3.90**	**Very often**

Legend: WM – Weighted Mean Desc - Description

In addition, majority of the healthcare workers are non-permanent which means that they are paid on a daily basis. Thus, it suggests the need to address issues on manpower resources. Moreover, it can be gleaned from the table that both respondents gave high rating on enlist important telephone numbers, such as (emergency ambulance, referral hospitals etc.) for possible transport of patients for continuity of care. This implies that the respondents ensure proper coordination during disaster. It can be noted that hotlines and directory are posted in the conspicuous places in the hospital to serve as reference for the personnel to provide an immediate disaster response.

The table likewise shows that the medical personnel very often practice identifying health risk in their patients and to themselves as a healthcare provider when disaster strikes, in collaboration with other members of the health team on developing plans to reduce identified risk. This indicates that the plans are developed by the team which may be the product of careful deliberation and active participation of the concerned individuals. It is worth mentioning that the personnel involved in planning for disaster management in the provincial hospital regularly meet to set direction and ensure risk reduction in dealing with disaster.

The above results find support in the study of Bautista et al. (2018) which disclosed that nurses frequently practiced disaster preparedness. Nevertheless, nurses sometimes practice attending seminars and trainings regarding the updates on disaster risk reduction and management.

Response. Table 3C shows the practices of the respondents on disaster response. As reflected, non-medical and medical personnel rated the practices very often in all the items indicated.

It can be gleaned from the table that both groups gave the highest rating on the indicator which involves maintaining calmness and composure in providing care despite the huge number of patients during disaster situations.This implies that they may be well-trained to respond in emergency situations.

On the other hand, the lowest rating can be observed for non-medical personnel on triaging patients that come into the Emergency Department during disaster situations. As expected, such task is often done by medical personnel like nurses and physicians. As a matter of fact, some medical personnel are assigned in the triaging area at the provincial hospital to ensure health and safety by implementing protocols in dealing with patients.

Table 3C. Practices of the Respondents on Disaster Response

Indicators	**Non-Medical**		**Medical**	
	WM	Desc	WM	Desc
1. Recognizes the limits of my knowledge, skills and authority as a health care provider to act in disaster risk reduction and management	3.86	Very often	4.07	Very often
2. Maintains a calmness and composure in providing care despite huge number of patients during disaster situations	3.96	Very often	4.17	Very often

3.	Triages patients that come in the Emergency Department during disaster situations	3.61	Very often	3.88	Very often
4.	Collaborate with co-healthcare provider in managing patients and rendering quality patient care during disaster situations	3.94	Very often	4.08	Very often
5.	Ensures the safety and proper ongoing treatment for all patients who are already in the hospital during disaster situations	3.92	Very often	4.02	Very often
6.	Maintains sound judgement even when there are huge number of patients coming in the Emergency Department during disaster situations	3.65	Very often	3.90	Very often
7.	Maximizes the use of medical resources during disaster situations	3.59	Very often	4.02	Very often
8.	Performs care of victims in a unified and collaborative manner with other rescue workers	3.86	Very often	4.03	Very often
9.	Ensures on safety as a healthcare provider to be able to effectively provide quality patient care during disaster situations	3.73	Very often	4.07	Very often
10.	Coordinates with other health facilities for possible transport of patients during disaster situations	3.88	Very often	4.01	Very often
	Overall	**3.76**	**Very often**	**4.02**	**Very often**

Legend: WM – Weighted Mean Desc - Description

Overall, healthcare workers very often practice disaster response. This means that they may have the knowledge and skills on disaster management. It is worth noting that the management often coordinates with the Provincial Disaster Risk Reduction Management of the province in providing trainings for personnel in the hospital. Likewise, permanent employees are sent for trainings and seminars to improve their competencies on disaster management.

Hammad, Arbon, Gebbie, & Hutton (2018), concluded in their study that emergency nurses should be sufficiently equipped since they are likely to take part in disaster relief efforts. This demonstrates how diverse disaster response is and prompts suggestions to improve emergency nurse training to better prepare them for disaster.

Rehabilitation and Recovery. Table 3D shows the practices of the respondents on disaster rehabilitation and recovery. It shows that respondents in general practice disaster rehabilitation and recovery very often. It can be observed that non-medical personnel sometimes practice working with the recovery coordinators to restore, redevelop and revitalize communities and healthcare facilities affected by the disaster. This means that they may not be involved in such effort since they have specific terms of reference indicated in their contract. It can be mentioned that the service contract of the healthcare workers does not include those responsibilities as they are expected to work in the hospital to closely attend to the needs of the patients.

Table 3D. Practices of the Respondents on Disaster Rehabilitation and Recovery

Indicators	**Non-Medical**		**Medical**	
	WM	Desc	WM	Desc
1. Re-establishes a guideline on disaster risk reduction and management plan for improvement on workplace during disaster situations	3.65	Very often	3.89	Very often
2. Develops a health care team as an initial responder during disaster situation	3.65	Very often	3.89	Very often
3. Improves coordination procedures to other healthcare facilities for possible transport of patients during disaster situations	3.78	Very often	3.98	Very often
4. Enhances the practices and drills on disaster risk reduction and management	3.82	Very often	3.93	Very often
5. Restores the overall capacity and capability of the healthcare services in my workplace	3.69	Very often	3.95	Very often
6. Provides leadership in planning and reconstruction activities to ensure that patient needs are met	3.69	Very often	3.89	Very often
7. Performs the advocacy role, which is to ensure that all needs of patients are being met during the recovery phase	3.63	Very often	3.94	Very

					often
8.	Works with the recovery coordinators to restore, redevelop and revitalize communities and healthcare facilities affected by disaster	3.47	Sometimes	3.94	Very often
9.	Implements referral to appropriate health care providers, government or relief agencies for food, medications, medical supplies and equipment, specialized care, and long-term medical or mental health needs or financial assistance to meet the cost of care for the victims of a disaster	3.76	Very often	3.83	Very often
10.	Re-establishes a team for the conduct of regular inspection and maintenance of healthcare facilities and resources	3.67	Very often	3.94	Very often
	Overall	**3.68**	**Very often**	**3.92**	**Very often**

Legend: WM – Weighted Mean Desc - Description

Furthermore, this suggests that the tasks in their area of assignment may be heavy that it prevents them from extending services beyond their regular office schedule or even rendering community service.The overall weighted mean in both groups implies that they may possess competencies in disaster management. These competencies may have been developed from their work as well from the trainings they may have attended on disaster management. They may be aware that being prepared for disaster means reducing the loss of life and livelihoods of the people. Thus, it plays a critical role in mitigating the adverse health effects of natural disaster.

Furthermore, it means that they may understand the process of rehabilitation and recovery as it is crucial in addressing the longer-term requirements and issues that make a community vulnerable. In addition, it gives society the chance to become more resilient and less vulnerable to future catastrophes and disasters.

According to Florano, Perez & Pinheiro (n.d.), the goal of Disaster Rehabilitation and Recovery is to restore and improve the facilities, livelihoods, living conditions and organizational capacities of the affected communities, and reduce disaster risks in accordance with the "build back better" principle. In order to accomplish this, the NDRRM Plan places particular emphasis on four goals: reestablishing people's means of subsistence and the continuity of economic activities and business; restoring shelter and other buildings/installations; reconstructing infrastructure and other public utilities; and assisting in the physical and mental rehabilitation of those who were affected by the disaster.

The foregoing findings are parallel to the results of the study of Ibrahim (2014) on nurses' knowledge, attitudes, practices and familiarity regarding disaster and emergency preparedness. As showed, majority of the respondents are aware that disaster drills are done at their healthcare setting. Thirty-nine percent (39%) believed there is ongoing training at their healthcare setting and 31.7% stated that training was done yearly. It recommended to conduct a follow up research which is necessary for maximizing nursing education and nursing quality in these critical areas applied to healthcare and community setting.

4. Challenges Encountered by the Respondents on Disaster Management

This section presents the challenges encountered by the respondents on disaster management. As shown in table 4, the top ranks for non-medical personnel were limited capacity-building activities to develop competencies for disaster management, lack of adequate manpower resources to address a large influx of patients during a disaster response, and insufficient equipment and facilities for effective disaster preparedness and response.

On the other hand, the topmost challenges encountered by the medical personnel were lack of adequate manpower resource to address a large influx of patients during a disaster response, insufficient equipment and facilities for effective disaster preparedness and response and dealing with patient's unawareness of catastrophe readiness.

The concern of the non-medical personnel on limited capacity-building activities to develop competencies for disaster management is consistent with their responses reflected in table 4D that the attendance to relevant seminars and trainings are not often. Thus, it implies the need for the provincial government to provide opportunities to capacitate them on disaster management. The coordination between the Sorsogon Provincial Disaster Risk Reduction Management and the hospital management may be intensified in in providing capacity-building activities for healthcare workers irrespective of the area of assignment and employment status.

Table 4. Challenges Encountered by the Respondents on Disaster Management

Indicators	**Non-Medical (n=49)**		**Medical (n=184)**	
	f	rank	f	rank

1.	Unclear action plan with regards to arranging the patient's condition in order of urgency and triaging	26	6	82	10
2.	Poor communication and coordination during a disaster	22	10	96	6.5
3.	Uncertainty about the role of healthcare workers during emergencies	23	8.5	91	9
4.	Dealing with patient's unawareness of catastrophe readiness	29	4.5	126	**3**
5.	Inadequate management and planning in relation to patient's safety and the safety of health care workers.	23	8.5	94	8
6.	Insufficient equipment and facilities for effective disaster preparedness and response.	32	**3**	134	**2**
7.	Hesitancy to carry out a rescue effort due to lack of training experience in managing disaster response	24	7	119	4
8.	Individual preparedness of health care workers to fight the disaster.	29	4.5	115	5
9.	Lack of adequate manpower resource to address a large influx of patients during a disaster response	33	**2**	146	**1**
10.	Limited capacity-building activities to develop competencies for disaster management.	37	**1**	96	6.5

Legend: f - frequency

As explained by the respondents during the interview, their status of employment as job order and contract of service is one of the reasons why they have limited opportunity to attend seminars and trainings. It was discussed earlier that majority of the respondents are non-permanent and are paid only on daily basis. The individual service contract of these employees does not stipulate the provision of trainings, seminars and other benefits being enjoyed by the regular employees. Moreover, they also admitted that the services they render are not considered as government service due to the absence of an employee-employer relationship.

It can be inferred that the management is implementing the Joint Memorandum Circular No. 2 series of 2020 of the Department of Budget and Management and Commission on Audit which clearly states that the services of the COS and JO workers are not covered by Civil Service laws, rules, and regulations, thus, not creditable as government service. They do not enjoy the benefits being received by government employees, such as leave, Personnel Economic Relief Allowance, Representation and Transportation Allowances, and other bonuses and incentives.

Furthermore, the lack of manpower resources in the hospital is the topmost challenge for both group of respondents. This implies that they may find difficulty to attend to the needs of their clients. As observed, a lot of people in the province ask for medical services in the provincial hospital being a public healthcare provider. The influx of these people often results to the long queue and extended waiting time. An interview with the management revealed the need to create platilla positions in order to hire additional personnel in the hospital. Likewise, the budget may be augmented to address this issue and consequently improve the delivery of health services. According to Morris, Ricci, Griffin, Heslin&Dobalian (2016), adequate hospital staffing during and after a disaster is critical to meet increased health care demands and to ensure continuity of care and patient safety.

Similarly, respondents from both groups agree that the hospital has insufficient equipment and facilities for effective disaster preparedness and response. This suggests the need to acquire additional equipment and further improve the facilities in order to effectively respond to disaster. The readiness for disaster response may be determined by the adequate equipment and facilities.

The challenges encountered by the healthcare workers are similar to the findings of the study of Zhong, Clark, Hou, Zang, & FitzGerald, (2014). It revealed that the major barriers facing nurses include disaster nursing is a new specialty, inadequate level of preparedness, poor formal education, lack of research, ethical and legal issues and issues related to nurses' roles in disasters.

IV. Conclusions and Recommendations

This study finds that majority of the non-medical workers are 21 to 30 years old, male, single, college graduate, on job order employment status, and with 10 years and below length of service. On the other hand, most of the medical personnel are 21 to 30 years old, female, college graduate, permanent, and have 10 years and below work experience. The health care workers are aware of disaster management along risk reduction, disaster prevention and health promotion, policy development and planning, ethical practice, legal practice accountability, communication and information sharing, and education and preparedness. The healthcare workers' awareness on disaster management may be maintained through regular conduct of relevant seminars and trainings. Moreover, they practiced very often disaster management along prevention and mitigation, preparedness, response, and rehabilitation and recovery. Capacity building for healthcare workers may also be regularly conducted to sustain their practices of disaster management.

The challenges commonly encountered by health care workers are insufficient equipment and facilities for effective disaster preparedness and response and lack of adequate manpower resources to address a large influx of patients during a disaster response. Therefore, the provincial government may consider the creation of plantilla positions for non-medical personnel to further improve the organizational staffing of the hospital. Also, the management may consider the procurement of necessary equipment, upgrade of facilities, and hiring of additional staff to address a large influx of patients during a disaster response.

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