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EMPOWERING COMMUNITY HEALTH WORKERS: RELATIONSHIP BETWEEN KNOWLEDGE AND CONFIDENCE IN DELIVERING FIRST AID AND BASIC EMERGENCY RESPONSE IN IMUS, CITY

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ABSTRACT

This study, conducted from March to September 2026, determined the relationship between the levels of knowledge and confidence of Community Health Workers (CHWs) in delivering first aid and basic emergency response in the City of Imus, Cavite. A descriptive-correlational research design was employed. The respondents were 69 CHWs from the City Health Office who had rendered service for more than three months. Data was collected using a survey questionnaire that was pilot tested with 10 CHWs from the same population who were assigned to different areas. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize the respondents' knowledge and confidence, while Pearson product-moment correlation was used to determine the relationship between the two variables. The findings showed that the CHWs had a moderate overall level of knowledge in first aid and basic emergency response, with higher knowledge in fractures, fainting, and CPR, while burns and bleeding were identified as areas with lower knowledge. The respondents were somewhat confident in delivering first aid and basic emergency responses, particularly when managing common emergencies. However, lower confidence was observed in more technical procedures, particularly CPR. The findings further revealed no significant relationship between knowledge and confidence in most emergency conditions. A weak but significant positive relationship was found only in fainting. These findings provide a basis for developing a targeted training program addressing identified knowledge and confidence gaps among CHWs.

Keywords: *Community Health Workers, First Aid Training, Emergency Response Competency, Public Health*

INTRODUCTION

In seeking subsequent steps in process completion, the people naturally turn to the lowest-level systems first, as it is often the most convenient and efficient. Similarly, in healthcare, the nearest source of professional health advice is typically found at the community level. The initial inquiries were handled by Primary Health Care (PHC) which lay the groundwork for community personnel to policy refinements. Moreover, this helps the medical services in the community level to address the primary health needs first. According to the World Health Organization (2025), more than one billion people around the world are at risk of falling into poverty because they spend at least 10% of their household income on healthcare. PHC is founded on three essential components: providing comprehensive health services on primary care and public health, addressing broader health, and encouraging active community participation in health planning and decision-making.

Mobilizing grassroots healthcare services is an effective way to involve local communities in the system, which then at the core of PHC are Barangay Health Workers (CHWs), known to be Community Health Workers (CHWs) in today's view. This group who served as in community-level acts as volunteers and frontline providers of essential care – they promote health education, deliver basic health services, support maternal and child health, prevent and monitor diseases, respond to emergencies, and serve as vital links in between such matters towards higher system of healthcare in accordance with the Republic Act 7883, Magna Carta for Community Health Workers.

However, in many community settings, accidents frequently occur on roads, in homes, and at public facilities, where individuals often lack knowledge of first aid and basic emergency response. Thus, through means of equipping CHWs with the knowledge and skills to lead emergency response efforts, they will eventually become more prepared and capable of providing immediate care until professional medical help arrives.

Likewise, the healthcare needs extend beyond immediate response care, whereas accidents such as burns, wounds, fractures, fainting, bleeding, and even life-threatening conditions like cardiac arrest often occur in social spaces. Such a course of occurrences underlies the need for bleeding control, immobilization, wound care, and infection prevention. These skills are particularly required in households, workplaces, and remote communities, where timely professional care may not be immediately available. Meanwhile, emergency cases such as cardiac emergencies underscore a need for training under Basic Life Support (BLS), which pave way on CPR. The CHWs are the one who empowers the community towards effective response by means of health teaching. Prioritizing first-aid training in the said events ensures that health workers are prepared for the most common and high-risk emergencies in Philippine communities. Hence, the continuous enhancement on the CHW roles under Universal Health Care, and the updating of competency-based training materials underscoring the relevance of assessing whether the CHWs possessed adequate knowledge and confidence for basic emergency response.

A few studies have been conducted revealing how much preparation CHWs need in such scenarios. The study of PHC workers in Metro Manila found that confidence in performing CPR was the lowest. However, attitudes toward learning CPR and willingness to perform it were high (Adonis and Martinez, 2024). In addition to this, in Occidental Mindoro, a study highlighted gaps in CHW training, particularly in the basic emergency response. To address these gaps, a structured redesigned program was developed thus this includes modules on updated health policies, essential health services, documentation, communication, and clinical skills which emphasize community engagement and coordination with the formal health system (Gonzales et al., 2024).

To support these initiatives, the World Health Organization – Philippines updated the 2015 BHW Reference Manual and created online training modules that determined the expanded roles set by the Universal Health Care (UHC) Act of 2019 and were based on COVID-19 incident reports. The project updated competencies to align with TESDA Barangay Health Services NC II, produced manuals for CHWs and facilitators, and tested online modules through the DOH Academy. Moreover, the programs held by TESDA – the Barangay Health Services NC II (TESDA,2019) had more standardized training comprises of 460 to 560 hours before the certification.

This study focused on the City of Imus, Cavite which is geographically divided into nine clusters. Currently, there are no existing studies that assess the knowledge and confidence of the CHWs towards the concern of first aid and emergency attending; even so, there was limited news about the existing program.

Although the DOH has released the *Manual ng mga Kaalaman at Polisiyang Pangkalusugan para sa mga BHW* (DOH, 2022), still no further studies were found over the course of internet. Therefore, this study was situated among the CHWs highlighting the knowledge and skills of the people involved. It also seeks to address the CHWs recognition not merely as volunteers or TESDA-certified trainees but as community workers entitled to be accredited and declared for more fair benefits and compensations.

Research Questions

This study sought to determine the relationship between the level of knowledge and the level of confidence of Community Health Workers (CHWs) in executing first aid and basic emergency responses in City of Imus, Cavite.

Specifically, it aimed to answer the following questions:

1. What is the level of knowledge of CHWs regarding first aid and basic emergency response, including common emergency situations such as burns, bleeding, fractures, fainting, and cardiac events?

2. What is the level of confidence of CHWs in performing first aid and basic emergency response in situations such as burns, bleeding, fractures, fainting, and cardiac events?

3. Is there a significant relationship between the level of knowledge and the level of confidence of CHWs in delivering first aid and basic emergency response?

4. Based on the findings of the study, what training program may be proposed to enhance the knowledge and confidence of Community Health Workers in executing first aid and basic emergency response?

METHODOLOGY

Research Design

The study used a descriptive-correlational design to examine the levels of knowledge and confidence among CHWs regarding the variables. The type of design aimed to determine the existing relationship between the variables without changing or controlling them. The descriptive part of the study focused more on the respondents' demographic profile, which gave a broader perspective on whether the background influenced CHW's participation and response. Meanwhile, the correlational component examined the relationships among the stated variables.

Locale of the Study

The study was conducted in the City of Imus, Cavite, where community health services are organized into nine (9) clusters under the City Health Office. These clusters served as the primary sampling units, with CHWs assigned to each barangay. Simple random sampling was used to ensure that qualified respondents had an equal chance of selection, while two clusters were excluded due to time and accessibility constraints. For the pilot study, 10 qualified CHWs from outside Imus were selected and excluded from the final analysis to prevent data contamination.

Respondents and Sampling Method

The study employed simple random sampling to select qualified Community Health Workers (CHWs) from the participating clusters of the City Health Office of Imus. The clusters served as designated areas for participant recruitment, and eligible CHWs within these clusters were given an equal chance of selection. Two clusters were excluded due to time and accessibility constraints. Only CHWs who met the inclusion criteria and provided informed consent were included in the final sample. For the pilot study, 10 CHWs from outside Imus were selected separately and were excluded from the main study to prevent data contamination.

Research Instruments

Data that was collected using a structured questionnaire composed of three parts:

Part 1. Demographic Profile – This section gathered information on the respondents' age, gender, educational attainment, years or months of service as a Community Health Worker (CHW), training attended on first aid and basic emergency response, and sources or means through which they acquired knowledge on first aid and emergency response.

Part 2. Knowledge on First Aid and Basic Emergency Response – This section assessed the respondents' knowledge of first aid and basic emergency response. It covered five areas: burns, bleeding, fractures, fainting, and cardiopulmonary resuscitation (CPR). Each item had one correct answer and was scored as one (1) point for a correct response and zero (0) points for an incorrect response. The total score was used to determine the respondents' level of knowledge.

Part 3. Confidence in Delivering First Aid and Basic Emergency Response – This section measured the respondent's perceived confidence in performing first aid and basic emergency response. The items covered their confidence in responding to common emergency situations, applying appropriate first aid measures, and performing basic emergency response procedures. Responses were rated using a 4-point Likert scale, with (1 = Not Confident, 2 = Slightly Confident, 3 = Somewhat Confident, and 4 = Very Confident.)

Validity and Reliability

The experts in the field of this study further evaluated the research instruments that were used. These panelists consisted of a hospital staff nurse with emergency room care experience – where first aid was usually assessed, a faculty member specialized in community health nursing, and a representative from the Philippine Red Cross (PRC) who has a background in teaching the first aid. The experts evaluated the relevance and clarity of the questionnaire. Thus, the consistency was then evaluated through Context Validity Index (CVI) and processing under Cronbach's alpha, which measures the internal consistency of the knowledge and confidence scales. Each response was assigned a numerical value where the coefficients are measured. High alpha values reflect that the items within the scale are intended to measure the variable.

Data Gathering Procedure

A structured questionnaire was used to collect data and was organized into three parts. Part 1 gathered the respondents' demographic profile, including age, gender, educational attainment, years of service, and training attended. Part 2 assessed knowledge of first aid and basic emergency response in terms of burns, bleeding, fractures, fainting, and CPR. Part 3 assessed confidence in delivering first aid and basic emergency response using a Likert scale. The questionnaire underwent expert validation to assess its relevance, clarity, and appropriateness. Its reliability was established through the Content Validity Index (CVI) and Cronbach's alpha to determine content validity and internal consistency.

Data Analysis

The data collected was analyzed using descriptive and inferential statistics. Frequencies and percentages were used to summarize the respondents' demographic profile, training, and sources of knowledge, while mean and standard deviation were used to describe knowledge and confidence scores. Knowledge levels were assessed using the frequency and percentage of correct responses, mean scores, and rankings across domains, while confidence was measured using the weighted mean, standard deviation, and rankings based on the Likert scale. To determine the relationship between knowledge and confidence, the Pearson Product–Moment Correlation Coefficient (r) was computed at the 0.05 level of significance, with the p-value used to assess statistical significance. These statistical procedures provided an overall assessment of the CHWs' knowledge and confidence in performing first aid and basic emergency response.

Scope and Limitations

This study focused on the knowledge and confidence of Community Health Workers (CHWs) in providing first aid and basic emergency response for burns, bleeding, fainting, fractures, and cardiac emergencies in Imus City, Cavite. Data was collected from participating City Health Offices after securing the necessary approvals and consent, while two clusters were unable to participate due to data collection constraints. A pilot study was conducted in neighboring cities, Dasmariñas and Bacoor, Cavite. The study was limited by the participating clusters, which may affect the generalizability of the findings. The use of self-administered questionnaires may also introduce response bias and may not fully reflect actual first-aid competency. Other factors, such as availability of first-aid equipment, community emergency preparedness, external organizational support, and referral practices, were not included. Therefore, the findings are primarily applicable to CHWs in Imus City and may not be generalized to other cities or provinces.

RESULTS

Profile of the Respondent

This section represents the respondents' profiles including the age, sex, educational attainment, years of experiences, and attended trainings that were related to the research topic.

Table 1. Demographic Profile of the Respondents (n=69)

DEMOGRPAHIC PROFILE	FREQUENCY	PERCENTAGE	RANK
• **AGE**			
18–25 years	0	0.00%	5
26–35 years	7	10.10%	4
36–45 years	24	34.80%	1
46–55 years	23	33.30%	2
56 years and above	15	21.70%	3
• **SEX**			
Male	0	0.00%	-

Female		69	100.00%	1
• **EDUCATIONAL ATTAINMENT**				
Elementary Graduate		1	1.40%	4
High School Graduate		50	72.50%	1
College Undergraduate		12	17.40%	2
College Graduate		6	8.70%	3
Postgraduate		0	0.00%	5
• **MONTHS/YEARS OF SERVICE**				
3 to 11 months		0	0.00%	5
1-3 years		18	26.10%	2
4-6 years		15	21.70%	4
7-10 years		16	23.20%	3
> 10 years		20	29.00%	1
• **ATTENDED TRAININGS**				
Yes		42	60.90%	1
No		27	39.10%	2
Trainings:				
CDRRMO	5	11.90%	3	
DOH	4	9.52%	4.5	
ISTC	4	9.52%	4.5	
LGU	13	30.95%	1	
TESDA	2	4.76%	7	
NURSING AID	5	11.90%	3	
RED CROSS	3	7.14%	6	
SISH	5	11.90%	3	
TB DOTS	1	2.38%	8	
TOTAL	**69**		**100.00%**	

KNOWLEDGE SOURCE	FREQUENCY	PERCENTAGE	RANK
Formal Training / Seminar / Workshop	42	60.87%	2
On-the-Job Experience / Hands-On Practice	48	69.57%	1
Guidance from Supervisor / Senior CHW	41	59.42%	3
Self-Study / Reading Books / Online Resources	28	40.58%	4
Community Drills or Simulation Exercises	23	33.33%	5

Table 1 shows that most CHWs were aged 36–45 years (34.80%), followed by 46–55 years (33.30%), with all respondents being female. Most were high school graduates (72.50%), and the largest group had more than 10 years of service (29.00%). In terms of training, 60.90% had attended first aid and basic emergency response training, with the Local Government Unit (LGU) being the most common training provider. For sources of knowledge, on-the-job experience or hands-on practice (69.57%) was the most reported, followed by formal training (60.87%) and guidance from supervisors or senior CHWs (59.42%), while community drills or simulation exercises (33.33%) were the least utilized.

Level of CHW's Knowledge in Terms of Delivering First Aid and Basic Emergency Health Response

Assessment of CHW emergency response knowledge relies on frequency, percentage, mean, and standard deviation analyses of multiple-choice outcomes. Performance is categorized into high, moderate, and low levels, with domain mean scores ranked to pinpoint areas of maximum and minimum comprehension.

Table 2. Assessment of the CHWs' Knowledge in terms of Delivering First Aid and Basic Emergency Health Response

LEVEL OF KNOWLEDGE	FREQUENCY (CORRECT)	PERCENT	LEVEL
BURNS			
1. First step in managing burns	63	91.30%	High
2. Proper action when clothing is stuck to a burned area.	11	15.90%	Low
3. Characteristics of a third-degree burn.	15	21.70%	Low
4. Positioning a burn victim to help prevent shock.	53	76.80%	High
TOTAL	**142**	**51.45%**	**MODERATE**
BLEEDING			
5. Immediate referral after medical care	42	60.90%	Moderate
6. Signs of internal bleeding lead to shock	25	36.20%	Low
7. First step in managing severe bleeding	41	59.40%	Moderate
TOTAL	**108**	**52.17%**	**MODERATE**
FRACTURES			
8. Recommended procedure for suspected fracture	68	98.60%	High
9. Next step after identifying swelling at fractured site	62	89.90%	High
TOTAL	**130**	**94.20%**	**HIGH**
FAINTS			
10. Care for diabetic patient after regaining consciousness	52	75.40%	High
11. First step in managing a person who faints	63	91.30%	High
TOTAL	**115**	**83.33%**	**HIGH**
Cardiopulmonary Resuscitation (CPR)			
12. Immediate action for unconscious adult no breathing	65	94.20%	High
13. Purpose of rescue breaths at CPR	65	94.20%	High
14. Ideal chest compression rate for an adult – CPR	57	82.60%	High
15. Correct hand replacement - adult chest compression	34	49.30%	Low
TOTAL	**221**	**80.07%**	**HIGH**
OVERALL	**716**	**69.18%**	**MODERATE**

Note. ≥75% correct responses – High Knowledge; 50%–74% correct responses – Moderate Knowledge; <50% correct responses – Low Knowledge

Table 2 shows that the overall knowledge of CHWs on first aid and basic emergency response was moderate (69.18%). Knowledge was high in fractures (94.20%), fainting (83.33%), and CPR (80.07%), while burns (51.45%) and bleeding (52.17%) showed moderate knowledge. Specific gaps were noted in managing cloth stuck to burns (15.90%), identifying severe burns (21.70%), recognizing signs of internal bleeding (36.20%), and proper placement during Cardiopulmonary Resuscitation (CPR) (49.30%). These findings indicate that although CHWs demonstrated strong knowledge in several emergency areas, additional training may be needed particularly for burns, bleeding, and specific procedural aspects of CPR.

Level of CHW's Confidence in Terms of Delivering First Aid and Basic Emergency Health Response

The assessment of community health worker (CHW) confidence is based on responses gathered using a Likert-scale questionnaire. The responses are analyzed using weighted means to determine the overall level of confidence, standard deviations to measure the consistency or variability of responses, and rankings to identify the areas in which CHWs demonstrate the highest and lowest levels of confidence.

Table 3. Assessment of the CHWs' Confidence in terms of Delivering First Aid and Basic Emergency Health Response

	LEVEL OF CONFIDENCE	MEAN	SD	LEVEL OF CONFIDENCE
1.	Assessing the severity of a burn injury	3.16	0.59	Somewhat confident
2.	Providing first aid for minor burns	3.87	0.77	Somewhat confident
3.	Managing a severe burn before medical help arrives	3.14	0.85	Somewhat confident
4.	Identifying different types of bleeding	2.86	0.83	Somewhat confident
5.	Controlling severe bleeding at direct pressure	3.28	0.94	Somewhat confident
6.	Recognizing signs of internal bleeding	2.88	0.87	Somewhat confident
7.	Immobilizing a suspected fracture	3.00	0.86	Somewhat confident
8.	Applying cold compresses to swollen/injured areas	3.64	0.89	Confident
9.	Assisting a person with a fracture until help arrives	3.41	1.03	Confident
10.	Recognizing signs of fainting	3.33	0.83	Somewhat confident
11.	Assisting a person who has fainted	3.70	0.73	Confident
12.	Managing low blood sugar in a diabetic person	3.45	0.74	Confident
13.	Performing CPR on an adult	2.87	0.92	Somewhat confident
14.	Performing CPR on an infant	2.62	1.05	Somewhat confident
15.	Checking breathing and pulse before CPR	3.16	0.87	Somewhat confident
16.	Performing chest compressions correctly	3.04	1.06	Somewhat confident
17.	Providing rescue breaths effectively	3.12	0.95	Somewhat confident
18.	Responding to any emergency situation	3.45	0.80	Confident
19.	Staying calm on performing at stressful situations	3.78	0.68	Confident
20.	Assisting and guiding community at emergencies	3.96	0.70	Confident
	OVERALL	**3.29**	**0.53**	**Somewhat confident**

Interpretation Guide

Scale	*Interpretation*
1.00- 1.80	Not confident at all
1.81- 2.60	Slightly confident
2.61- 3.40	Somewhat confident
3.41- 4.20	Confident
4.21- 5.00	Very Confident

Table 3 shows that the overall confidence of CHWs in performing first aid and basic emergency response was somewhat confident (M = 3.29, SD = 0.53). The highest confidence was reported in assisting and guiding community members during emergencies (M = 3.96), providing first aid for minor burns (M = 3.87), and staying calm during stressful situations (M = 3.78). In contrast, lower confidence was observed in more technical procedures, including CPR for infants (M = 2.62) and adults (M = 2.87), recognizing internal bleeding (M = 2.88), and identifying types of bleeding (M = 2.86). These findings indicate that CHWs are more confident in routine emergency situations but may require additional hands-on training and simulation exercises for more technical and life-saving procedures.

Relationship between CHWs' Knowledge and Confidence in terms of Delivering First Aid and Basic Emergency Health Response

The relationship between CHW knowledge and confidence levels is analyzed using Pearson's correlation coefficient (r) at alpha = 0.05. This inferential tool measures the strength and direction of the correlation, fulfilling required assumptions of linearity, continuous data, and normal distribution.

Table 4. Relationship between CHWs' Knowledge and Confidence in terms of Delivering First Aid and Basic Emergency Health Response

KNOWLEDGE LEVEL	CONFIDENCE LEVEL				
	p	DECISION	VERBAL INTERPRET	*r*	DEGREE
a. Burns	0.31	Do not reject null hypothesis	Not significant	-	-
b. Bleeding	0.78	Do not reject null hypothesis	Not significant	-	-
c. Fractures	0.58	Do not reject null hypothesis	Not significant	-	
d. Faints	0.01	Reject null hypothesis	Significant	0.32	Weak positive relationship
e. Cardiopulmonary Resuscitation (CPR)	0.74	Do not reject null hypothesis	Not significant	-	-

Note. *p* = p-value; *r* = Pearson product-moment correlation coefficient; Degree = degree of relationship between variables.

Table 4 shows that there was no significant relationship between knowledge and confidence in burns (p = 0.31), bleeding (p = 0.78), fractures (p = 0.58), and CPR (p = 0.74), as all p-values were greater than 0.05. However, a significant weak positive relationship was found for fainting (r = 0.32, p = 0.01), indicating that higher knowledge was associated with slightly higher confidence in this area. Overall, the findings suggest that knowledge does not consistently correspond with confidence across all first-aid areas, and that other factors such as training, hands-on experience, and exposure may also contribute to confidence.

Proposed Training Program to Enhance the Knowledge and Confidence of Community Health Workers in First Aid and Basic Emergency Response

Based on the findings of the study, a Training Enhancement Program on First Aid and Basic Emergency Response in the Community is proposed to address the identified gaps in the knowledge and confidence of CHWs in Imus City, Cavite. The program will prioritize burns (51.45%) and bleeding (52.17%), which showed the lowest knowledge levels, while CPR will also receive emphasis due to the respondents' moderate confidence in performing the procedure. The training will focus on recognizing severe burns, identifying internal bleeding, proper bleeding control, correct CPR techniques, and recognition of life-threatening conditions. It will use simulation-based training, scenario-based learning, and return demonstrations to strengthen both knowledge and practical skills. Fractures (94.20%) and fainting (83.33%) will be included as refresher topics but given less emphasis because of the respondents' higher knowledge levels. The program will be evaluated through post-training assessment, return demonstrations, and periodic quarterly observation to support skill retention and sustained preparedness. Overall, the program aims to enhance the technical competence

and confidence of CHWs in providing timely, appropriate first aid and basic emergency response within their communities.

DISCUSSION

1.1.1. Knowledge Level of the CHWs in terms of First Aid and Basic Emergency Health Response

In terms of burns, the overall knowledge level of respondents is moderate (51.45%). A high proportion of CHWs correctly identified the first step in managing a burn injury (91.30%) and appropriate measures to prevent shock (76.80%). However, significant gaps are evident in more specific aspects, such as managing cloth stuck to a burn (15.90%) and identifying severe burn characteristics (21.70%), both of which fall under low knowledge. Similar to McLure et al (2021) study, which has found that some situational decision-making and technical problems are needed to be addressed over standardized training in burn management. Furthermore, through studies by Gete et al (2022), the identification of severe burn conditions and avoidance of inappropriate interventions had poor outcome in burn first aid practices. This indicates that while CHWs are familiar with general burn management principles, their understanding of more complex or situational interventions remains limited.

Regarding bleeding, the overall knowledge level is also moderate (52.17%). Respondents demonstrated moderate knowledge in identifying when to refer patients (60.90%) and the initial management of severe bleeding (59.40%). However, only 36.20% correctly recognized signs of internal bleeding that may lead to shock, reflecting low knowledge in this critical area. These findings are consistently related to the study of Charlton et al (2021) which give summary to how uncontrolled hemorrhage and delayed recognition of internal bleeding significantly increase the risk of shock and mortality. Thus, this suggests that although CHWs can manage visible bleeding, their ability to detect less obvious but life-threatening conditions such as internal hemorrhage may need further strengthening. Meanwhile, Abbas et al (2023) stressed the need for knowledge retention through hands-on experiences in improving the health care worker capabilities on bleeding severity and identification of shock as well.

Relatively, the lower scores in the bleeding and burns may reflect greater knowledge needed in recognition of the severity. In such injuries, it may vary considerably in identification of care and life-threatening requires rapid recognition and appropriate intervention. Therefore, these areas maybe more challenging for community-based first responders – CHWs who have different level of training and exposure.

In the area of fractures, CHWs exhibited a high level of knowledge (94.20%). Almost all respondents correctly answered questions related to the recommended procedure for suspected fractures (98.60%) and appropriate management of swelling (89.90%). This indicates strong familiarity with fracture management, likely due to repeated exposure or emphasis in training programs. Furthermore, Joseph et al. (2023)

found that frontline healthcare workers achieved high scores in fracture identification after structured trauma-response training. The researchers concluded that practical and repetitive training – which also the common injuries in the community has been through, thoroughly achieve the excellent outcome as well. Similarly, for fainting, the respondents demonstrated a high level of knowledge (83.33%). A large majority correctly identified the first action when a person faints (91.30%) and appropriate care after a diabetic patient regains consciousness (75.40%). These results suggest that CHWs are well-prepared to manage common incidents such as fainting. This finding is supported by the study of Larios et al. (2025), which revealed that CHWs in Cebu City demonstrated adequate knowledge and preparedness in managing common community health concerns. The study emphasized that frequent exposure to routine health emergencies contributes to better retention of first aid knowledge and improved response among CHW. The higher scores may be associated with the more recognizable signs and relatively straightforward principles of initial first-aid management for these conditions. For suspected fractures, first-aid guidance emphasizes recognizing signs followed by protecting and immobilizing the injured area and seeking appropriate medical care. Similarly, fainting is generally recognizable through a temporary loss of consciousness, and first-aid recommendations emphasize ensuring the person's safety, checking responsiveness and breathing, and seeking emergency assistance. However, since the present study did not specifically assess the reasons for differences in knowledge across topics, these explanations should be interpreted as possible contributing factors rather than definitive causes. These relatively clear recognition and initial-response principles may have contributed to the respondents' stronger performance in these areas.

In terms of cardiopulmonary resuscitation (CPR), the overall knowledge level is high (80.07%). Most respondents correctly answered questions about the immediate action for an unconscious adult (94.20%), the purpose of rescue breaths (94.20%), and the correct compression rate (82.60%). However, only 49.30% correctly identified the proper hand placement for chest compressions, indicating a specific gap in procedural knowledge. Despite this, the overall high score suggests that CHWs possess strong foundational knowledge of CPR. This finding is like the study of Adonis and Faller (2024), which found that while CHWs and other community healthcare providers are generally knowledgeable about the basic concepts of CPR, they still experience difficulties in performing more technical procedures correctly. The study emphasized that regular hands-on practice and refresher training are important in improving the practical CPR skills of frontline health workers.

Overall, CHWs showed a moderate level of knowledge (69.18%) in first aid and basic emergency response. The CHW performed better in areas like fractures, fainting, and CPR, but had lower knowledge in more complex cases such as burns and bleeding. Thus, it had similar findings on where CHWs were generally more knowledgeable in common conditions which they often encounter in the community. Whereas it is likely because of regular exposure and routine practice (Larios et al., 2025). On the other matter, Sreeram et al. (2024) study showed that healthcare workers who underwent hands-on training were more consistent in handling complex events. This suggests that

practical training plays a key role in strengthening CHWs' skills, especially in areas like burns and bleeding.

1.1.2. Confidence Level of the CHWs in terms of First Aid and Basic Emergency Health Response

Overall, the respondents have a mean score of 3.29 (SD = 0.53), which is verbally interpreted as somewhat confident. This indicates that while CHWs possess a certain level of self-assurance in carrying out first aid procedures, their confidence is not yet at an optimal level. Although some CHW have reported adequate theoretical knowledge, the confidence in application of skills still remains limited – in such high-pressure situations such as CPR (Adonis and Faller, 2024). The absence of a significant relationship between knowledge and confidence in most first aid and emergency response domains suggests that cognitive knowledge alone may not be sufficient to develop self-efficacy among CHWs. Although knowledge provides an important foundation for appropriate decision-making, confidence in performing emergency response may also depend on opportunities to apply that knowledge in practice. Bandura's Social Cognitive Theory identifies several sources of self-efficacy, including mastery experiences, vicarious experiences or observation of others, verbal persuasion, and physiological and emotional states. Among these, mastery experiences are considered particularly influential because successful performance can strengthen an individual's belief in their ability to perform a similar task in the future.

In terms of areas with higher confidence, several competencies were rated as confident, particularly those related to general response and commonly encountered situations. The highest mean was observed in assisting and guiding community members during emergencies (M = 3.96), followed by providing first aid for minor burns (M = 3.87) and staying calm during stressful situations (M = 3.78). The findings were supported from Larios et al (2025), which the CHW exhibits higher confidence on common health concerns focusing on minor injuries and repeated exposure that produced familiarity in the sequence. Additionally, CHWs reported confidence in assisting a person who has fainted (M = 3.70), applying cold compresses (M = 3.64), and managing low blood sugar in diabetic patients (M = 3.45). These findings suggest that CHWs feel more capable in handling routine or frequently encountered health concerns, as well as in providing support and reassurance to community members during emergencies.

On the other hand, lower confidence levels were observed in more technical and critical procedures, particularly those requiring advanced skills or precision. Respondents were only somewhat confident in performing CPR on infants (M = 2.62) and adults (M = 2.87), as well as in recognizing signs of internal bleeding (M = 2.88) and identifying types of bleeding (M = 2.86). The CHWs also expressed moderate confidence in managing severe burns (M = 3.14) and performing chest compressions at the correct rate and depth (M = 3.04). Meanwhile, the CPR knowledge has shown 80.07% yet their overall confidence falls under "somewhat confidence" (M=3.29). This suggests that knowledge of CPR does not translate into confidence. CPR was not just about recalling the situations and procedures, but rather motor skills that need to be done to be remembered. Research on CPR education has shown that training can improve knowledge and self-confidence,

particularly when learners are provided with opportunities for hands-on practice and skills demonstration. Knowledge acquired through lectures or written assessments may therefore be insufficient to develop confidence in actual performance (Gomez, et al 2019). Similarly, Longop and Fuentes (2024) found that limited training opportunities, poor resources, and insufficient encounters to emergency situations severely impacted the confidence of frontline health professionals. These results highlight specific areas where CHWs may feel less prepared, indicating the need for targeted training, hands-on practice, and simulation exercises to improve both their competence and confidence in performing life-saving interventions.

1.1.3. Significant Relationship between the CHWs' Knowledge and Confidence in terms of the First Aid and Basic Emergency Health Response

In this study, 60.90% (*n* = 42) of the respondents reported having attended first aid and basic emergency response training, while 39.10% (*n* = 27) had not. Moreover, on-the-job experience was the most frequently reported source of first aid and emergency response knowledge (69.57%), followed by formal training (60.87%) and guidance from supervisors or senior CHWs (59.42%). These findings indicate that many CHWs had some form of prior exposure to first aid knowledge and practice, which may have contributed to their relatively higher knowledge in certain areas. However, the present study did not examine the association between training history, frequency of training, recency of training, or hands-on exposure and the respondents' knowledge and confidence, these factors cannot be established as direct causes of the observed results.

In terms of burns, bleeding, fractures, and cardiopulmonary resuscitation (CPR), the results reveal that there is no significant relationship between knowledge and confidence, as indicated by p-values greater than 0.05 (burns = 0.31, bleeding = 0.78, fractures = 0.58, and CPR = 0.74). Consequently, the null hypothesis for these variables is not rejected. So, even when CHWs understand the material, it does not always make them more confident in giving first aid. Things like hands-on experience, how often they practice, and the quality of their training may be more important for building confidence. Adonis and Faller (2024) also found that more theoretical knowledge does not always lead to greater confidence, especially in emergency care like CPR. Similarly, Sreeram, Nair, and Rahman (2024) found that knowledge and confidence are not always strongly correlated unless training involves simulation-based practice. study showed that healthcare workers who took part in hands-on, scenario-based training felt much more confident than those who only had classroom learning.

This supports the present findings, suggesting that knowledge alone may be insufficient in developing confidence in complex emergency situations such as CPR and bleeding control. On the other hand, for fainting, the results show a significant relationship between knowledge and confidence (p-value = 0.01), leading to the rejection of the null hypothesis. The correlation coefficient (r = 0.32) indicates a weak positive relationship, meaning that as the level of knowledge increases, the level of confidence also tends to increase, although only to a small extent. This finding suggests that in more common and less complex situations like fainting, knowledge may have a more direct influence on

confidence, possibly due to greater familiarity and frequent real-life encounters (Larios et al,2025).

Overall, the related analysis-based form the literature results in knowledge alone are not the strongest predictor confidence in complex emergency events; rather the reinforcements in repeated exposure, guidance, and stimulation exercise can be efficient to CHWs.

Conclusions

The findings of the study indicate that Community Health Workers (CHWs) in the City of Imus possess fundamental knowledge and confidence in delivering first aid and basic emergency response, particularly in common emergency situations. However, limitations in more technical aspects of emergency care suggest that additional competency development is needed to ensure effective and timely responses during complex emergencies.

The CHW primarily are the ones who take first response to the community basis; but in this study, some cases were not under the scope of the CHWs especially on the serious burns, bleeding, fracture, faints, and cardiac emergencies that need higher assessment. This study does not necessarily conclude that every community must seek the City Health Offices when the matter speaks urgent management. The role of CHW is therefore primarily to provide appropriate initial first aid within their level of training, recognize danger signs, support the individual while awaiting further assistance when appropriate, and facilitate timely referral initial aid and proper referral.

Meanwhile, the absence of a significant relationship between knowledge and confidence in most first aid areas implies that knowledge alone may not be sufficient in developing the confidence upon performance of emergency response procedure – mainly the first aid. Confidence, meanwhile, may be influenced by other factors such as experience, frequent exposure, and opportunities for hands-on skills applications.

These findings highlighted the importance of continuous competency development among the CHWs in terms of first-aid response. Furthermore, as they demonstrated basic preparedness inside the community, the CHWs shall be strengthened in their technicalities through on-going education, practical training, return demonstrations, and skills reinforcement. In conclusion, to support CHWs in fulfilling their roles as frontliners in the community, both knowledge and practical reasoning are necessary to be imposed.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are suggested:

Enhancing training programs where the local government units will partner the neighboring departments to enhance the regular and thorough training on first aid and basic emergency response. The program should be focused more on complex areas such

as burn management, identification of internal bleeding, and effective execution of CPR techniques which had findings discussed to have least results. In addition to this, the influencing factors such as intersectoral levels and resources should be used in further studies to inform more effective capacity-building interventions for the workers.

Practical skills-based training such as simulations, demonstrations and emergency drills should be intensified to improve both the competence and confidence of CHWs, especially in performing lifesaving procedures under real life conditions. This will improve the outcome of the confidence level of the CHWs, but by also on repeated training.

The CHWs should get continual refresher training to ensure that they are up-to-date and keep their knowledge and abilities on first aid and emergency response, especially in areas requiring technical correctness. The CHWs must at least have annual training program if the LGU budget allocation would have allowed.

Training modules should shifted to weak areas indicated in the study, including recognizing internal bleeding, managing severe burns, adequate management of burn injuries and correct CPR response.

The CHWs' scope of practice and timely activation of formal emergency services such as the referral to the appropriate facility can also be evaluated in the future studies. The training in the adaptation of the study will then focus more on clear escalation protocols so that the CHWs can recognize situations that need to be attended at a higher-level without cause of delays.

Active mentoring of less experienced CHWs and healthcare professionals by experienced or senior CHWs and healthcare professionals to develop practical skills, decision-making and confidence in emergency situations.

CHWs should be provided with greater opportunities to participate in community drills, emergency simulations and actual response operations to improve their practical experience and readiness. Provide first aid response training to the community folks also. This may raise the confidence level of the CHW to the required point.

The LGU and CHO may strengthen the dissemination of information about the CHWs at the community level. This may be done through broadcasts about the CHWs' presence, roles, and functions. Moreover, the primary health care system is at the forefront of all healthcare aspects. Through enhancing public awareness, this may further encourage the CHWs to seek more timely sequences on emergency care delivery.

Proposed Program in the Study

Based on the findings of the study, a Training Enhancement Program on First Aid and Basic Emergency Response in the Community is proposed to address the identified gaps in the knowledge and confidence of CHWs in the City of Imus, Cavite. The findings of the study showed that CHWs performed well in commonly encountered situations such

as fractures, fainting, and basic CPR concepts, yet still had lower performance in such critical areas. This indicates the need for more focused and competency-based training interventions. In addition, the absence of a significant relationship between knowledge and confidence in most emergency areas suggests that knowledge alone does not necessarily translate into confidence, highlighting the importance of skills-based learning approaches.

The proposed program, therefore, focuses on strengthening both theoretical knowledge and practical skills through simulation-based training, scenario-based learning, and return demonstrations. Moreover, a special emphasis will be given to burn management, bleeding control, CPR execution, and identification of life-threatening conditions. The sequence of the lectures will then first begin with the least knowledge that CHW had in the given percent as follows: Burns (51.45%) and bleeding (52.17%); however, following through the concepts on CPR since it appears under the confidence level that most of the CHWs had an average mean of 3.29 that falls under 'somewhat confidence'.

In burn management, it was prioritized on acknowledging the severity of the burn and its characteristics as well. This paved way to enhanced identification of the problem and how to approach the event; same goes with the bleeding, where the correct identification of internal bleeding had lapses.

The CHWs do not need advanced clinical management, but they do need enough knowledge to recognize potentially serious conditions and provide appropriate initial care and referral. The only action that CHWs can be taken is when they have encountered it and what will be the initial thing to do upon seeing the course. Meanwhile, in CPR, there are much notified in hand replacement, which is crucial as of American Heart Association (2025), where the heel of the hand shall be place on sternum – looking through it, the CHWs must be refreshed even on the basic one. Even though some of the events were not as frequently encountered, CHWs can be considered thought to other communities in terms of first-aid response. Moreover, the CHWs can also be the mentor among its neighbors.

Meanwhile, fracture management (94.20%) and fainting (83.33%) were retained in the program but given less emphasis because respondents demonstrated relatively high levels of knowledge in these areas. Their inclusion serves primarily as a refresher to maintain existing knowledge and reinforce appropriate first-aid responses. Although some emergencies may not be frequently encountered by CHWs, maintaining preparedness remains important because CHWs may encounter similar situations in their communities and can help provide immediate assistance, appropriate referrals, and health education to community members.

The program will be structured based on the data not just on overall discussion of first-aid response, as it also focuses on return demonstration on each item but least to include the fracture and faints. Although in the study, it was justified that the amount of knowledge was not measurable in the confidence level, therefore, the success on the

program itself will be evaluated post-event and had series of observations at least quarterly for retention.

Through this program, CHWs are expected to improve their technical competence, enhance their confidence in performing emergency procedures, and strengthen their readiness in responding to real-life community emergencies. The program aims to support CHWs in becoming more effective frontline responders capable of delivering timely and appropriate first aid care.

Compliance with Ethical Standards

The study adhered to established ethical principles throughout its conduct. Informed consent was obtained from all participating CHWs after they were provided with an explanation of the study's objectives, procedures, and voluntary nature of participation. The respondents were informed of their right to participate or withdraw from the study at any time without penalty. Confidentiality and anonymity were strictly maintained, and no personal identifiers were disclosed in any part of the study. Prior approval and endorsement were also secured from the Imus City Mayor and other appropriate local authorities before data collection. All collected data were used solely for academic purposes, and respondents were encouraged to provide honest responses.

The study posed minimal risk to the participants, as the primary burden involved the time required to complete the questionnaire within the allotted three- to five-day period. Some participants may have experienced minor discomfort while reflecting on their knowledge and confidence regarding first aid and emergency response. The potential benefits included providing CHWs with an opportunity for self-assessment and reflection regarding their preparedness, which could promote self-awareness and encourage further training.

The principle of justice was observed by providing equal opportunity for eligible CHWs to participate in the study. Clear communication was maintained regarding the study's objectives, procedures, and intended use of the findings. The research also demonstrated social relevance by assessing the knowledge and confidence of CHWs, who serve as important providers of primary healthcare in local communities. The findings provided information on existing strengths and gaps in community emergency preparedness and may serve as a basis for the LGU and health offices in developing targeted training programs, refresher courses, mentoring, and other support mechanisms to strengthen the competence and confidence of CHWs in first aid and basic emergency response.

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