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Knowledge of Basic Life Support Among Public School Teachers: Basis for an Action Plan

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Abstract:

The necessity of assessing Basic Life Support (BLS) knowledge among public school teachers ensures their preparedness to handle medical emergencies. This study aimed to assess the Basic Life Support (BLS) knowledge of public school teachers in a district in Central Visayas during the School Year 2022–2023 as a basis for an action plan. Quantitative data were collected from 64 teacher-respondents using a validated researcher-made questionnaire. The study examined the respondents' knowledge of vital signs, emergency procedures, and cardiopulmonary resuscitation (CPR), considering their age, sex, civil status, and length of service. Most respondents were younger, female, married, and had shorter lengths of service. Results showed that teachers had moderate knowledge of vital signs and emergency procedures but low knowledge of CPR. When grouped by profile variables, BLS knowledge in vital signs and emergency procedures remained moderate across all categories. In contrast, CPR knowledge varied: younger and male teachers showed moderate knowledge, while older, female, single, and married teachers showed low knowledge. Regarding service length, those with shorter experience had low CPR knowledge, while those with more extended experience had moderate knowledge. Statistical analysis found no significant difference in BLS knowledge across all areas when grouped by profile variables. Findings highlight the need for targeted BLS training programs to enhance teachers' emergency response skills.

Keywords: Basic Life Support, Public School Teachers, Emergency Response, Cardiopulmonary Resuscitation, Knowledge Level

Introduction:

Nature of the Problem

Basic Life Support (BLS) encompasses essential techniques such as cardiopulmonary Cardiopulmonary resuscitation and automated external defibrillator devices are critical under nonspontaneous breathing and circulation conditions in patients who have experienced cardiac arrest (AED Brands, 2023); these are two examples of Basic Life Support techniques. Public school teachers are often present in the Philippines during medical emergencies involving students. It is widely acknowledged that most of these teachers will not be proficient in administering basic life support (BLS) despite knowing that essential life support will be vital in such situations. This highlights teachers' need for systematic training and evaluation in BLS (Department of Education, 2022).

By implementing Republic Act No. 10871 or the "Basic Life Support Training in Schools Act," Basic Life Support training would be offered to teachers and students in public and private educational institutions. The act aims to prepare school personnel and learners to act in cases of basic life support skills addressing cardiac and respiratory emergencies. The Department of Education (DepEd) is tasked with integrating BLS training into the school curriculum so that all teachers get the necessary training and schools are provided with relevant equipment and resources (RA No. 10871, 2016).

While there are established legislation and guidelines through Republic Act No. 10871, implementing BLS training on the ground in the public school system of the Philippines is desirable. Several teachers reported inadequate access to training programs and a lack of refresher courses and hands-on practice. This divergence between policy and practice indeed calls for an in-depth study to assess the present level of BLS knowledge among public school teachers and identify barriers to the conduct of such hands-on training (Department of Education, 2022).

As Adedamola and Chukwudi (2018) state, studies conducted on the knowledge of BLS among school teachers in public schools will create a significant input to several things; first, empirical data would benefit in highlighting the existing state of BLS proficiency among teachers in terms of what must be done for addressing the gaps in such priority areas. The development of focused training programs and action plans to address the needs of teachers and overcome obstacles may be based on these findings. To ensure that all schools are ready for medical emergencies, DepEd and other stakeholders may better allocate resources if they are aware of the gaps in BLS knowledge and training.

To sum up, studies among public school teachers on BLS knowledge need to be improved by supplementing with more research to enhance and contribute to the safety preparedness of school communities. This study will evaluate the effectiveness of current training programs, and the modality of improvement that will further bring

into its full enforcement Republic Act No. 10871 will be explored. This will create a safer and more responsive educational environment where teachers are equipped with lifesaving skills for critical situations.

Current State of Knowledge

Studies have consistently shown that many teachers possess insufficient knowledge of BLS techniques, particularly cardiopulmonary resuscitation (CPR). For instance, a study conducted among secondary school teachers in Saudi Arabia revealed that while a significant portion had previously undergone CPR training, their overall knowledge and skills remained low, with an average score of only 4 out of 10 on a knowledge test. This indicates a critical need for enhanced training programs tailored for educators (Alshahrani, F. S., et al., 2016).

In line with this, BLS is considered a primary step that one can take with proper knowledge and training. The AHA recommends hands-on CPR for non-healthcare professionals, which includes only cardiac compressions (Ghauri, S.K. et al. 2018). Furthermore, according to Clark, B. (2023), training for school teachers is not merely an optional add-on – it's an essential component of their role. This training equips teachers with the life–saving skills needed in emergencies, enhances their confidence, builds trust within the school community, and provides an edge in their professional growth.

Supporting this perspective, the research of Mekonnen, CK & Muhye, AB (2020) shows that individuals aged 30-40 years are 50% more likely to have good knowledge of essential life support compared to younger individuals. As people age, their awareness and exposure to such knowledge increases. Despite this, secondary school teachers still demonstrate low knowledge and skills regarding basic life support techniques, specifically CPR. Approximately one-third of the sample reported having taken CPR courses (Enizi, B.A.A., et al. 2016).

Given these findings, school teachers are often targeted for CPR training for several reasons. As educated community members, they can easily be trained to become trainers and teach students CPR, which is usually present in congested school environments (Alwidyan, M.T. et al. 2023). More importantly, school teachers are the first responders in cases of disasters or emergencies. They can deal appropriately with health emergencies in normal children and children with special healthcare needs. Teachers have an essential role in the protection of the health and safety of the school (Olarte, G.E., 2023).

Theoretical Underpinnings

This research ground is in the Social Cognitive Theory (SCT) propounded by Albert Bandura, which refers to how learning progresses socially with personal, environmental, and behavioral factors in dynamic interplay. This theory underlines the active role of individuals in shaping their environment rather than being passive to ecological forces. Learning occurs through observing others, which imparts general rules and strategies for dealing with different situations. Attention, retention, reproduction, and motivation are fundamental principles that govern observational learning. The theory further mediates cognitive processes like judgment and motivation (the belief that people actively interpret the results of their actions and that results of such interpretation shape behaviors and environments in the future) (Nickerson, 2024).

Further, a core concept of SCT is self-efficacy, according to Nickerson (2024), referring to an individual's belief in their capability to succeed in specific situations. SCT also incorporates reciprocal determinism, illustrating the continuous interaction between personal factors, environmental factors, and behavior. People learn through modeling, where key principles include attention to the behavior, retention of the observed information, reproduction of the behavior, and motivation to learn and apply what was observed. Motivation in SCT includes expectancy, value, and affective reaction. The theory posits that learning can occur without a behavior change through observation, imitation, and modeling.

SCT is highly relevant to understanding the level of Basic Life Support (BLS) knowledge among MAPEH and Science public school teachers because it provides a framework for enhancing their lifesaving skills. Teachers can learn BLS skills through demonstrations, which they are more likely to adopt if they see positive outcomes. Teachers' belief in their ability to perform BLS effectively influences their willingness to learn and use these skills, and training programs can enhance self-efficacy through hands-on practice. Also, the teacher's knowledge, attitudes, school environment, and practice of BLS skills influence their competence.

Objectives of the Study

This study aimed to determine the level of knowledge of Basic Life Support among the Public School Teachers in one district in a division in Central Visayas during the Academic Year 2022 – 2023 as basis for an action plan. Specifically, it examined the respondents' profiles in terms of age, sex, civil status, and length of service. It also assessed the level of knowledge of BLS among the teachers across three key areas: vital signs, emergency procedures, and cardiopulmonary resuscitation. Furthermore, the study sought to determine whether there were significant differences in levels of knowledge of BLS among teachers when grouped and compared according to the identified demographic variables.

Research Methodology:

This section presents research design, data gathering procedure, other instrumentations, and statistical tools. It also discusses the parameters, especially the statistical tools, the respondents, and the study's locality.

Research Design

This study sought to determine the level of knowledge of Basic Life Support among the MAPEH and Science Public School Teachers in one district in a division in Central Visayas during the School Year 2022 – 2023 as basis for an action plan. Using a descriptive research design, as defined by Bryman and Bell (2019), data were collected through survey questionnaires, analyzed systematically, and presented comprehensively. This design was appropriate as it involved observing, analyzing, and describing factors influencing the level of teachers' knowledge, allowing for the identification of patterns and trends that could inform future research and interventions.

Study Respondents

The study involved 64 public school teachers, comprising 35 MAPEH and 29 Science teachers, selected through purposive sampling. According to Etikan, Musa, & Alkassim (2016), purposive sampling is a non-probability technique where researchers use their judgment to select participants based on their relevance to the study. This method allows for flexibility and ensures that participants are knowledgeable and experienced in the phenomenon being studied.

Instrument

This study utilized a self-made questionnaire divided into two parts: Part 1 collected respondents' profiles (age, sex, civil status, and length of service), while Part 2 assessed the level of knowledge of BLS among public school teachers through 30 items across three areas—vital signs, emergency precedures, and cardiopulmonary resuscitation. Responses were gathered, recorded, and analyzed using a five-point Likert scale, with ratings ranging from 5 (always) to 1 (almost never).

Data Gathering and Procedure

After administering the validity and reliability, upon approval of the school heads, the questionnaires were administered to target respondents. The questionnaires were gathered, recorded, and analyzed. The data gathered from the responses of the respondents were tallied and tabulated using the appropriate statistical tools. The encoded data was computer processed using the SPSS.

Data Analysis and Statistical Treatment

Objectives 1 and 2 employed a descriptive analytical scheme, using the frequency count and percentage as a statistical tool to assess the profile of respondents, and mean to assess the level of knowledge of BLS across the three areas. Objective 3 utilized a comparative analytical scheme, applying the Mann-Whitney U test to determine significant differences in the level of knowledge of BLS among public school teachers when grouped and compared according to the aforementioned variables.

Ethical Consideration

By guaranteeing the confidentiality of the respondents' answers and upholding their anonymity during the whole research process, the study made a concerted effort to reduce the possibility of harm to its target respondents in accordance with Republic Act 10173, also known as the Data Privacy Act of 2012. The researcher also requested their free and informed consent up front.

Results and Discussion:

This section presents, analyzes, and interprets the data gathered to carry out the pre-determined objectives of this study.

Table 1
Profile of Respondents

Variables	Categories	Frequency	Percentage
Age	Younger (below 35 years old)	39	60.90
	Older (35 years old and above)	25	39.10
Sex	Male	20	31.10
	Female	44	68.80
Civil Status	Single	26	40.6
	Married	38	59.4

	Shorter (less than 10 years)	37	57.80
Length of Service	Longer (10 years and more)	27	42.20
	Total	64	100

Table 1 presents a detailed profile of the respondents, breaking down their characteristics by age, sex, civil status, and length of service.

Regarding age, most respondents are younger than 35 years old, comprising 60.90% of the total. In contrast, 39.10% are 35 years old or older. The distribution by sex shows a predominance of female respondents, who comprise 68.80% of the total, while male respondents account for 31.10%.

Regarding civil status, there is a notable skew towards married individuals, who constitute 59.4% of the sample. Single respondents make up the remaining 40.6%. When looking at the length of service, a significant portion, 57.80%, has been in their positions for less than 10 years. Conversely, 42.20% have been in service for 10 years or more.

Table 2
Level of Knowledge on Basic Life Support in Vital Signs

Items	**Mean**	**Interpretation**
As a teacher, what is the level of your knowledge on essential life support (BLS) in the items below:		
1. Place the blood pressure apparatus properly	3.36	Moderate Level
2. Reading blood pressure correctly.	2.91	Moderate Level
3. Identify the area to check the pulse.	3.64	High Level
4. Read pulse rate correctly.	3.30	Moderate Level
5. Know the average pulse rate between adults and children.	3.00	Moderate Level
6. Document the respiration rate	2.55	Moderate Level
7. Familiar with the average healthy adult's or child's breath per minute	2.70	Moderate Level
8. Identify the apparatus to use in taking temperature.	3.86	High Level
9. Distinguish where the apparatus is placed to take the temperature.	3.89	High Level
10. Tell the average body temperature of a healthy adult or child when taken orally, in the armpit, or rectally.	3.41	Moderate Level
Overall Mean	**3.26**	**Moderate Level**

Table 2 shows the level of knowledge on Basic Life Support in vital signs. The overall mean score is 3.26, which is interpreted as a moderate level. The highest mean score in this area is 3.89, which is interpreted as a high level. This is reflected in item 9, "Distinguish the area where to place the apparatus to take the temperature."

However, the lowest mean score is 2.55, which is interpreted as a moderate level. This is item 6, which states, "Document the respiration rate." It implies that this particular skill or knowledge area is poorly understood or practiced. The respiration rate is a crucial sign indicating a patient's breathing status. In the context of BLS, accurately documenting and understanding the respiration rate is essential for assessing the severity of a patient's condition and determining the appropriate interventions. This result implies further that the respondent's knowledge about this item needs to be strengthened, enhanced, and regularly updated to serve the clients better.

These findings support the study of Ghauri, S.K. et al. (2018); BLS is considered a primary step that one can take with proper knowledge and training. The AHA recommends hands-on CPR for non-healthcare professionals, which includes only cardiac compressions.

Table 3
Level of Knowledge on Basic Life Support in Emergency Procedures

Items	**Mean**	**Interpretation**
As a teacher, what is the level of your knowledge on essential life support (BLS) in the items below:		
1. Do triage of victims	2.48	Low Level
2. Identify a person who needs emergency attention.	3.20	Moderate Level
3. Position a person who needs emergency attention	2.95	Moderate Level
4. Apply first aid	3.19	Moderate Level
5. Apply pressure to the wound	3.09	Moderate Level
6. Give oxygen supplements and apparatus.	2.56	Moderate Level
7. Insert and start intravenous (IV) fluids.	1.94	Low Level
8. Immobilize a victim to prevent further harm	2.56	Moderate Level
9. Coordinate with proper authority for appropriate management	3.45	Moderate Level
10. Follow up on initial management of care.	2.84	Moderate Level

Overall Mean	**2.83**	**Moderate Level**

Table 3 presents the level of knowledge on Basic Life Support in emergency procedures. The overall mean score for this area is 2.83, which is interpreted as a moderate level. The highest mean score in this area is 3.45, interpreted as a moderate level. This is found in item 9, which states, "Coordinate with proper authority for appropriate management."

However, the lowest mean score is 1.94, which is interpreted as low level, and this is found in item 7, which states, "Insert and start intravenous (IV) fluids." The result would imply that the level of knowledge of the teachers on Basic Life Support in emergency procedures, particularly in item 7, is inadequate. This is a critical gap, as starting IV fluids can be essential in emergency care to maintain circulation and administer medication. The lack of adequate knowledge in this area implies that teachers may not be fully prepared to handle more advanced life-saving procedures, potentially compromising patient care during emergencies. Therefore, it is vital to enhance training programs to address this deficiency, ensuring teachers are better equipped to provide comprehensive emergency support.

These findings support the study of Clark, B. (2023) that training for school teachers is not merely an optional add-on – it's an essential component of their role. This training equips teachers with the life–saving skills needed in emergencies, enhances their confidence, builds trust within the school community, and provides an edge in their professional growth.

Table 4
Level of Knowledge on Basic Life Support in Cardiopulmonary Resuscitation

Items	**Mean**	**Interpretation**
As a teacher, what is the level of your knowledge on basic life support (BLS) in the items below:		
1. The correct sequence of resuscitation in BLS	2.36	Low Level
2. The most appropriate rate of chest compression	2.38	Low Level
3. Handle and maneuver the victim's airway	2.41	Low Level
4. Name the next appropriate steps if no pulse is present.	2.39	Low Level
5. The correct depth of compression for an adult or child victim	2.38	Low Level
6. Ascertain what to do next if a victim has a pulse and no CPR is required	2.36	Low Level
7. Identify what to do if the victim is not breathing or is inadequately breathing.	2.67	Moderate Level
8. Maneuver jaw thrust maneuver to avoid cervical spine injury in the event of unwitnessed collapse, drowning, or trauma	2.30	Low Level
9. Perform abdominal thrusts if there is a choking incident in adults and child	2.73	Moderate Level
10. Know how to maneuver head tilt-chin maneuver in the event of a witnessed collapse with no reason to assume a cervical-spine injury	2.20	Low Level
Overall Mean	**2.42**	**Low Level**

Table 4 shows the level of knowledge on Basic Life Support in cardiopulmonary resuscitation. The overall mean score for this area is 2.42, which is interpreted as a low level. The highest mean score is 2.73, which is interpreted as a moderate level. This is reflected in item 9, which states, "Perform abdominal thrusts if there is a choking incident in adults and child."

In contrast, the lowest mean score is 2.20, which is interpreted as a low level. This is reflected in item 10, which states, "Know how to maneuver head tilt-chin maneuver in the event of a witnessed-collapse with no reason to assume a cervical-spine injury." This result implies that the respondent's level of knowledge of basic life support in cardiopulmonary resuscitation, particularly in item 10, is very insufficient. This maneuver is essential for opening the airway in a patient without suspected spinal injury, and inadequate knowledge of this technique could hinder effective CPR. If teachers cannot perform this procedure correctly, it could lead to delayed or improper intervention in emergencies, significantly increasing the risk to patients' lives. The lack of competency in such a vital skill highlights the need for immediate and enhanced training to improve teachers' proficiency in life-saving techniques. Addressing this gap is crucial to ensuring that more lives are saved during emergencies rather than lost due to preventable errors.

These findings support the study of Clark, B. (2023) that training for school teachers is not merely an optional add-on – it's an essential component of their role. This training equips teachers with the life–saving skills needed in emergencies, such as cardiac or respiratory issues, enhances their confidence, builds trust within the school community, and provides an edge in their professional growth.

Comparative Analyses

Table 5
Difference in the Level of Knowledge on Basic Life Support in Vital Signs, when grouped and compared according to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	39	30.77	420.000	0.352	0.05	Not Significant
	Older	25	35.20				
Sex	Male	20	31.50	420.000	0.772		Not Significant
	Female	44	32.95				
Civil Status	Single	26	27.17	355.500	0.058		Not Significant
	Married	38	36.14				
Length of Service	Shorter	37	29.58	391.500	0.142		Not Significant
	Longer	27	36.50				

Table 5 presents the difference in the level of knowledge on Basic Life Support (BLS) in vital signs when grouped and compared by age, sex, civil status, and length of service, using the Mann-Whitney U test.

The comparison between younger and older teachers shows that the mean ranks are 30.77 and 35.20, respectively. The Mann-Whitney U value is 420.000, and the p-value is 0.352, more significant than the significance level of 0.05. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in vital signs when grouped and compared according to age," is accepted. This implies no statistically significant difference in BLS knowledge between younger and older teachers. Age does not seem to influence the level of expertise of BLS in vital signs.

The mean ranks of male and female teachers are 31.50 and 32.95, respectively. The Mann-Whitney U value is 420.000, with a p-value of 0.772, which indicates no significant difference between male and female teachers' knowledge of BLS in vital signs. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in vital signs when grouped and compared according to sex," is accepted. Gender does not appear to impact BLS knowledge in this context.

The comparison of single and married teachers shows mean ranks of 27.17 and 36.14, respectively. The Mann-Whitney U value is 355.500, and the p-value is 0.058. Although the p-value is close to the 0.05 significance threshold, it remains slightly above, suggesting that civil status does not significantly impact BLS knowledge. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in vital signs when grouped and compared according to civil status," is accepted. However, the difference in mean ranks may suggest a potential trend that married teachers could have slightly higher BLS knowledge.

Teachers with shorter and longer lengths of service have mean ranks of 29.58 and 36.50, respectively. The Mann-Whitney U value is 391.500, and the p-value is 0.142, indicating no significant difference between these groups. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in vital signs when grouped and compared according to the length of service," is accepted. This suggests that the length of service does not significantly affect teachers' knowledge of BLS in vital signs.

The results imply that variables such as age, sex, civil status, and length of service do not significantly impact the level of knowledge of BLS in vital signs among teachers. This suggests that BLS knowledge is relatively uniform across different demographic groups in this context. The lack of significant differences highlights the importance of providing consistent and comprehensive BLS training across all groups of teachers, regardless of these variables, to ensure that everyone has the necessary knowledge to handle emergencies effectively.

These findings support the study of Enizi, B.A.A., et al. (2016), who found that secondary school teachers have low knowledge and skills regarding basic life support techniques, specifically CPR. Approximately one-third of the sample reported having taken CPR courses.

Table 6
Difference in the Level of Knowledge on Basic Life Support in Emergency Procedures when grouped and compared according to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	39	31.99	467.500	0.783	0.05	Not Significant
	Older	25	33.30				
Sex	Male	20	36.40	362.000	0.258		Not Significant
	Female	44	30.73				
Civil Status	Single	26	29.29	410.500	0.253		Not Significant
	Married	38	34.70				

Length of Service	Shorter	37	30.66	431.500	0.354		Not Significant
	Longer	27	35.02				

Table 6 displays the results of the Mann-Whitney U test, which compares the differences in the level of knowledge on Basic Life Support (BLS) in emergency procedures when grouped by age, sex, civil status, and length of service.

The mean ranks for younger and older teachers are 31.99 and 33.30, respectively. The Mann-Whitney U value is 467.500, with a p-value of 0.783, more significant than the significance level of 0.05. This indicates no statistically significant difference in the level of BLS knowledge in emergency procedures between younger and older teachers. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in emergency procedures when grouped and compared according to age," is accepted. Age does not seem to be a determining factor in BLS knowledge in this area.

The comparison between male and female teachers shows mean ranks of 36.40 for males and 30.73 for females. The Mann-Whitney U value is 362.000, with a p-value of 0.258, which is not statistically significant. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in emergency procedures when grouped and compared according to sex," is accepted. Therefore, gender does not appear to influence the level of BLS knowledge in Emergency Procedures.

Single and married teachers have mean ranks of 29.29 and 34.70, respectively. The Mann-Whitney U value is 410.500, and the p-value is 0.253, indicating no significant difference in BLS knowledge based on civil status. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in emergency procedures when grouped and compared according to civil status," is accepted. This suggests that being single or married does not significantly affect knowledge.

Teachers with shorter and longer lengths of service have mean ranks of 30.66 and 35.02, respectively. The Mann-Whitney U value is 431.500, with a p-value of 0.354, showing no statistically significant difference between these two groups. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in emergency procedures when grouped and compared according to the length of service," is accepted. The length of service does not have a notable effect on BLS knowledge in emergency procedures.
To improve the overall competence of teachers in emergency procedures, training programs should focus on universally enhancing BLS knowledge across all groups rather than tailoring them based on demographic factors, suggesting that demographic variables like age, sex, civil status, and length of service do not significantly influence the level of knowledge among teachers regarding BLS emergency procedures. This uniformity suggests that these personal characteristics do not create substantial differences in understanding BLS emergency procedures.
This result also supports a study by Phraibueng et al. (2023), which shows that BLS education instructors affirm their ability to perform BLS correctly to serve as role models while imparting the necessary knowledge.

Table 7
Difference in the Level of Knowledge on Basic Life Support in Cardiopulmonary Resuscitation when grouped and compared according to Variables

Variable	Category	N	Mean Rank	Mann Whitney U	p-value	*Sig. level*	Interpretation
Age	Younger	39	34.78	398.500	0.219	0.05	Not Significant
	Older	25	28.94				
Sex	Male	20	37.18	346.500	0.174		Not Significant
	Female	44	30.38				
Civil Status	Single	26	32.21	486.500	0.918		Not Significant
	Married	38	32.70				
Length of Service	Shorter	37	32.08	848.000	0.833		Not Significant
	Longer	27	33.07				

Table 7 presents the results of the Mann-Whitney U test, comparing the level of knowledge on Basic Life Support (BLS) in Cardiopulmonary Resuscitation (CPR) based on age, sex, civil status, and length of service.

The mean ranks for younger and older teachers are 34.78 and 28.94, respectively. The Mann-Whitney U value is 398.500, with a p-value of 0.219, more significant than the significance level of 0.05. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in cardiopulmonary resuscitation when grouped and compared according to age," is accepted. This indicates no statistically significant difference in BLS knowledge in CPR between younger and older teachers. Age does not seem to be a factor in CPR knowledge.

The comparison between male and female teachers shows mean ranks of 37.18 for males and 30.38 for females. The Mann-Whitney U value is 346.500, with a p-value of 0.174, which is not statistically significant. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in cardiopulmonary resuscitation when grouped and compared according to sex," is accepted. This suggests that gender does not significantly influence teachers' level of CPR knowledge.

The mean ranks for married and single teachers are 32.70 and 32.21, respectively. With a p-value of 0.918 and a Mann-Whitney U value of 486.500, there is no discernible variation in CPR proficiency according to civil status. Therefore, the null hypothesis, which asserts that "when grouped and compared according to civil status, there is no significant difference in the level of knowledge BLS of respondents in cardiopulmonary resuscitation," is accepted. Being married or single has no bearing on one's level of expertise in this field.

Teachers whose shorter service length had a mean rank of 32.08, while longer-service teachers had a mean rank of 33.07. The Mann-Whitney U value is 848.000, and the p-value is 0.833, indicating no significant statistical difference between these two groups. Hence, the null hypothesis, which states that "there is no significant difference in the level of knowledge BLS of respondents in cardiopulmonary resuscitation when grouped and compared according to the length of service," will be accepted. Service length does not contribute significantly to knowledge about CPR.

According to the findings, teachers' level of BLS knowledge in cardiopulmonary resuscitation is not significantly impacted by demographic factors like age, sex, civil status, or length of service; this suggests that CPR knowledge is uniform among these groups, indicating that these variables do not significantly contribute to differences in comprehension or proficiency in this area. Consequently, training initiatives to improve CPR skills should be broad-based and inclusive, focusing on enhancing overall knowledge and competency regardless of demographic background. Efforts should be directed toward ensuring that all teachers receive comprehensive and updated CPR training to improve emergency response capabilities across the board.

These findings support the study of Alwidyan, M.T. et al. (2023), who found that school teachers are often targeted for CPR training for several reasons. As educated community members, they can easily be trained to become trainers and teach students CPR, which is usually present in congested school environments.

Conclusion:

The study revealed a diverse respondent profile in terms of age, sex, civil status, and years of service, providing a solid foundation for analyzing instructors' Basic Life Support (BLS) competencies. Despite this diversity, there was a notable deficiency in cardiopulmonary resuscitation (CPR) knowledge among MAPEH and Science public school teachers, raising concerns about their readiness to handle life-threatening situations in schools. While general knowledge of vital signs and emergency procedures was moderate, variations in CPR proficiency were observed—older, female, single or married, and less experienced teachers demonstrated lower competence compared to their younger, male, and more experienced counterparts. Interestingly, no significant differences in overall BLS knowledge were found across demographic categories, suggesting that existing professional development efforts may not fully address individual learning needs. These findings underscore the urgent need for a standardized yet inclusive BLS training program that incorporates targeted, hands-on CPR practice to equip all educators—regardless of background—with essential life-saving skills.

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