



PMR Students' Skills in Performing First Aid in Accidents at SMAN 1 Telaga

Fadel Limomoto¹, Pipin Yunus², Susanti Monoarfa³, Indrawati⁴

¹Program Studi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Gorontalo, Email: fadellimomoto202@gmail.com

²Program Studi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Gorontalo, Email: pipinyunus@umgo.ac.id

³Program Studi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Gorontalo, Email: susanty.monoarfa83@gmail.com

⁴Program Studi Ilmu Keperawatan, Fakultas Ilmu Kesehatan, Universitas Muhammadiyah Gorontalo, Email: indrawati@umgo.ac.id

*Corresponding Author: Email: fadellimomoto202@gmail.com

Article Info

Article history:

Received 09 Feb, 2026

Revised 27 Mar, 2026

Accepted 17 Apr, 2026

Keywords:

Knowledge, First Aid, PMR, Attitude

ABSTRACT

First aid is the initial action given to victims of accidents or emergencies to prevent worsening conditions before receiving further medical treatment. Members of the Youth Red Cross (PMR) act as the frontline in the school environment, providing rapid and appropriate treatment when an incident requires an emergency response. The purpose of this study was to determine the level of knowledge and attitudes of PMR students regarding first aid. This study used a descriptive method with a total sampling of 34 respondents. Data collection was conducted using a questionnaire. The results showed that the level of knowledge of PMR students was categorized as good (23 respondents (67.6%)), fair (8 respondents (23.5%)), and poor (3 respondents (8.8%)). The attitudes of most students were categorized as high (24 respondents (70.6%)), moderate (7 respondents (20.6%)), and low (3 respondents (8.8%)). In conclusion, most PMR members have good knowledge and strong attitudes regarding first aid.

INTRODUCTION

First aid is treatment given immediately to an injured or sudden illness person before receiving competent medical care. This action only provides temporary relief until professional medical help arrives, and can make the difference between life and death, a quick recovery or a lengthy hospitalization. The main principles of first aid include ensuring the safety of rescuers and victims, conducting an initial assessment, stopping bleeding, stabilizing the airway, and immediately contacting medical attention if needed. First aid knowledge and skills are essential to improve an individual's ability to handle emergency situations and save lives (Ramadhina et al., 2025).

The importance of first aid is increasingly relevant for adolescents, an age group who are active and often involved in a variety of activities, both inside and outside of school. Activities such as sports, laboratory practices, and other extracurricular activities increase the risk of accidents. Globally, the prevalence of school teenagers who have experienced accidents or serious injuries at least once in the last 12 months has reached 36.33% based on data Global School-based Student Health Survey (GSHS) WHO 2019 (Ismail et al., 2021). In Indonesia, the Indonesia GSHS 2015 reported that 29.6% of students aged 13–17 years had an accident or serious injury that caused them to miss school activities or require medical attention in the past year, down from 45.9% in the 2008 GSHS (Pengpid & Peltzer, 2020). According to the 2018 Basic Health Research (RISKESDAS), the incidence of injuries in children under 18 years old in Indonesia reached 8.3% (84,774 out of 1,027,758 children) (Erni Suprapti et al., 2022)

In Gorontalo, a report by the Health Office (2023) shows that the incidence of accidents at schools is still high, especially during sports and extracurricular activities. At the high school level, cases of fainting during ceremonies, abrasions due to extracurricular activities, and sports injuries are often found. A study at SMK Negeri 3 Gorontalo City also recorded several practical accidents, such as students being hit by crowbars and fractures due to falls, with low first aid skills (Pomalango et al., 2024). In addition, data from the Gorontalo Police (2023) reported 159 cases of traffic accidents in Gorontalo City with 23 deaths, 230 minor injuries, and 1 serious injury, most of which involved students. As a preventive measure, the 'SWAJARNYA' program was launched in 2025 to increase students' awareness of safety (Polda Gorontalo, 2025). This emphasizes the importance of the existence of the Youth Red Cross (PMR) organization in schools as the front line in providing first aid.

As a humanitarian organization located in the school environment, PMR is responsible for training its members to be able to provide first aid quickly and accurately when an accident occurs. PMR serves as a forum provided by the Indonesian Red Cross (PMI) to perform first aid in accidents inside and outside the school before being referred to further health facilities (Alifitah et al., 2023).

Students at SMAN 1 Telaga who are members of the PMR organization have an important role in providing first aid to their friends who have been injured. However, even though PMR already exists as an active organization, PMR members' skills in providing first aid still vary. Skills here refer to the ability possessed by PMR members to perform first aid actions appropriately and effectively. In general, skills can be defined as the ability to perform a task or job by using knowledge and techniques that have been learned through experience or training (Uktutias & Setijanigrum, 2025). These skills include two main aspects: knowledge (understanding of correct procedures and techniques in first aid) and attitude (confidence and readiness to act when needed). Good knowledge and attitude will greatly support the effectiveness of the first aid carried out.

In terms of location, SMAN 1 Telaga school is located near the highway so it has a potential risk of accidents around the school environment. Therefore, the existence of PMR in this school is urgently needed as the front line in providing first aid. This school is also known as one of the pilot schools in Gorontalo Regency that often participates in school health competitions and social humanitarian activities. Compared to other schools, SMAN 1 Telaga is more consistent in involving PMR in school activities, making it interesting to research.

Relevant research shows that P3K training is able to improve the knowledge and attitudes of PMR members (Ekayanti et al., 2025). Angraini et al. (2025) found a significant improvement in skills through hands-on learning methods. Meanwhile, Ibrahim & Adam (2021) revealed that the majority of PMR members only have sufficient category knowledge due to lack of practical training. This indicates that knowledge and attitude play a big role in students' skills in providing first aid.

The level of knowledge and attitude of PMR members in dealing with accidents still varies. Some students feel less confident or afraid of making mistakes when providing help, which can hinder the optimal implementation of P3K. This shows the need for increased support and further training to overcome doubts and increase the confidence of PMR members in providing first aid.

Based on an initial survey conducted by researchers at SMAN 1 Telaga, it is known that there are 34 students who are members of the PMR organization. Types of accidents that often occur at school include fainting and shortness of breath during ceremonies, as well as minor abrasions and injuries when participating in extracurricular activities such as scouting or sports. In practice, some PMR students already know first aid techniques, but there are still those who have not mastered the technique optimally, thus causing obstacles in providing first aid quickly and appropriately.

In Islamic teachings, helping fellow humans, especially in emergencies such as accidents, is highly recommended. Islam emphasizes the importance of helping in kindness and upholding human values.

RESEARCH METHODOLOGY

The type of research used in this study is quantitative descriptive. Quantitative research with a descriptive research design aims to describe or describe the phenomenon being studied as it is based on data obtained in the field, without manipulating the variables being studied (Sugiyono, 2023: 16).

This approach is used to obtain an objective picture of the skill level of Youth Red Cross (PMR) students at SMAN 1 Telaga in performing first aid in an accident, which is measured through two indicators: knowledge and attitude.

According to Bloom, skills include three domains: cognitive (knowledge), affective (attitude), and psychomotor (practical ability). The affective domain was developed by Krathwohl, Bloom, & Masia, while the psychomotor domain was described by Dave and Simpson.

In this study, only two domains were measured, namely knowledge and attitudes. The psychomotor domain was not measured because the researcher did not have a valid and reliable observational instrument to measure it directly. Opinion (Scott, 2023) Variable indicator restrictions can be carried out if the measuring tool is not available or difficult to implement, provided that the reason is transparently explained in the

research methodology.

This study does not aim to find causal relationships between variables, but rather to describe the condition of PMR students' skills during the research.

This research will be carried out at SMAN 1 Telaga, in October 2025. The population in this study is all students who are members of the Youth Red Cross (PMR) organization at SMAN 1 Telaga, which totals 34 people, and all of them are used as samples.

Data Analysis Techniques

The data analysis technique used in the study is descriptive statistics. This technique aims to describe or describe the data that has been collected without performing hypothesis testing. According to (Sugiyono, 2020: 147) Descriptive statistics are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to generality or generalization.

Univariate analysis is a data analysis technique used to look at the frequency distribution of each variable singularly without associating it with other variables (Scott, 2020). In this study, a univariate analysis was carried out for each skill indicator, namely the knowledge and attitude of PMR students in performing first aid.

RESULTS

Respondent Characteristics

Table 1 Distribution of respondent frequencies based on the demographic characteristics of PMR students of SMAN 1 Telaga in 2025

Characteristics	Categories	<i>f</i>	(%)
Age	Middle Teens (15-17 Years)	31	91.2%
	Late Teens (18-19 years old)	3	8.8%
	Total	34	100.0%
Gender	Male	9	26.5%
	Women	25	73.5%
	Total	34	100.0%
Classes	XI	19	55.9%
	XII	15	44.1%
Total		34	100.0%

Source: Primary Data (2025)

Based on Table 1, the respondents in this study were in the age range of 15–19 years. According to the World Health Organization (WHO, 2022), adolescents are individuals between the ages of 10 and 19. For the purposes of analysis, this study refers to the grouping of adolescent ages from UNICEF (2021) and the Centers for Disease Control and Prevention (CDC, 2022) which divides adolescence into three stages, namely early adolescents (10–14 years old), middle adolescents (15–17 years), and late adolescents (18–19 years).

Based on the results of primary data processing in 2025, the respondents in this study are PMR students of SMAN 1 Telaga with a range of adolescent ages. The majority of respondents were in the middle adolescent group, namely 15–17 years old. This shows that most of the PMR members involved in the study are in a developmental phase that is still active in the search for identity and the formation of social skills, so it is relevant to the redhead activities. Meanwhile, only a small number are in the final adolescent category, namely 18–19 years old.

For gender, the composition of respondents is dominated by women. This condition is in line with the trend of female students' activeness in extracurricular activities such as PMR which tends to be higher than men. This dominance gives an idea that the dynamics of PMR activities in this school involve more

female students.

In terms of class, respondents came from two levels of education, namely grades XI and XII. There are slightly more students in grade XI than in grade XII. This proportion illustrates that in the year studied, the larger PMR membership came from level XI, in line with the fact that grade XII students generally began to focus on graduation preparations so that their engagement rate decreased slightly.

Univariate Analysis

Univariate Analysis of Knowledge

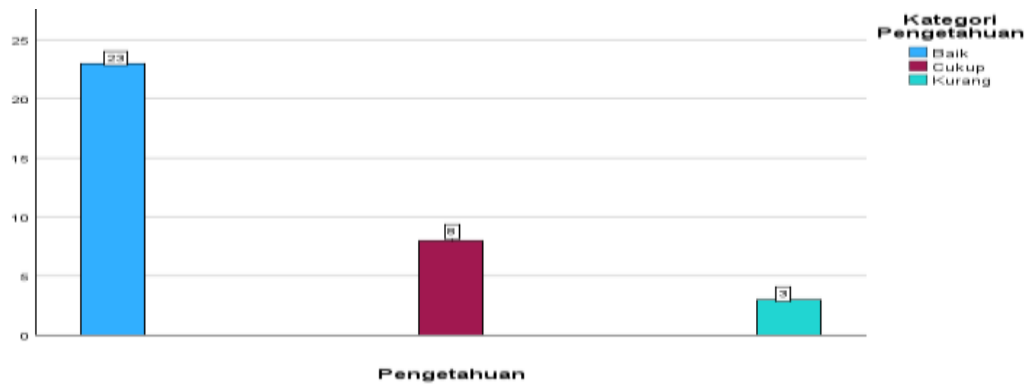
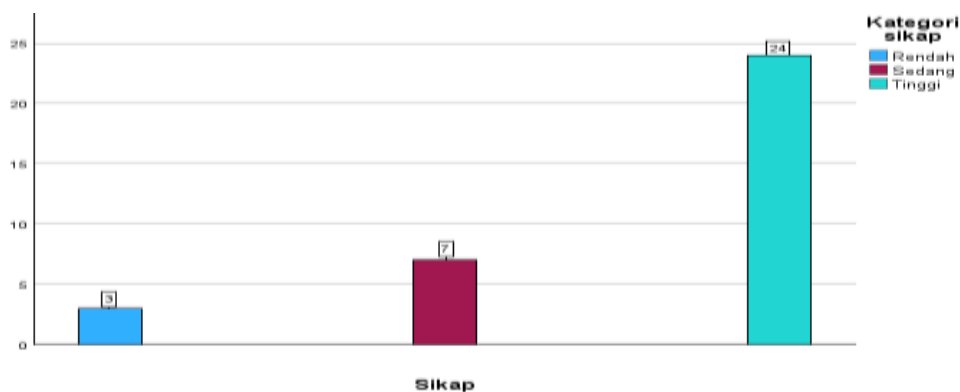


Figure 1 Analysis Diagram of the Knowledge Univariate of PMR Students at SMAN 1 Telaga
Source: Primary Data (2025)

From the results of the research on univariate analysis, it is known that the category of knowledge with the highest number of respondents is good knowledge, which is as many as 23 respondents. Meanwhile, the category with the lowest number is the lack of knowledge, which is only 3 respondents. This shows that most students have good knowledge, and only a few fall into the less category

Attitude Univariate Analysis



Source: Primary Data (2025)

Figure 2 Univariate Analysis Diagram of PMR Student Attitudes at SMAN 1 Telaga

From the results of the study on univariate analysis, it is known that the attitude category with the highest number of respondents is a high attitude, which is 24 respondents. Meanwhile, the category with the lowest number is low attitude, which only amounts to 3 respondents. These findings show that the majority of students have excellent attitudes, and only a few are in the low category.

DISCUSSION

Overview of Respondent Characteristics in Performing First Aid

Overview of the age of students in performing first aid

In this study, the characteristics of respondents based on age showed that most of the PMR members of SMAN 1 Telaga were between the ages of 16 and 17 years. Of the 34 respondents, the most age was 16 years, followed by 17 years, while the age of 15 years was only one person. This composition illustrates that

PMR activities are more attended by secondary adolescent students who are developmentally more mature in cognitive and social skills.

From the results of the analysis, it can be seen that students aged 16–17 years have better ability to understand first aid materials than 15-year-old students. In this age group, students appear to absorb information faster, are able to follow instructions more precisely, and show a more responsible attitude when carrying out PMR tasks. This indicates that age is related to the readiness of students to receive training.

These results are increasingly visible when students are faced with situations that require a quick and appropriate response. Older students show greater courage, rigor, and confidence in performing basic first aid actions. They tend to be more able to independently evaluate the condition and determine appropriate steps, compared to younger students who still need more guidance.

In addition to technical abilities, the emotional aspect of students also has an influence. Older students appear to have better self-control and are able to work together more effectively in groups. They show a more stable, empathetic attitude, and are ready to face stressful situations that often arise in PMR training and practice. Meanwhile, younger students still show the need to adapt and build confidence in carrying out their roles.

This research is in line with So'o et al. (2022), a person's level of knowledge is influenced by several factors such as age, education, experience, and exposure to information. Students in their middle teens have developing logical and analytical thinking skills, so they can easily absorb information through training and experience at PMR. In addition, based on the theory of Nababan et al. (2023), a person's attitude is formed through a process of conditioning and modeling, where students learn from the examples given by coaches and peers. This makes students who are more mature in age tend to have an empathetic, responsive, and responsible attitude towards first aid activities.

The results of this study are also in line with the research of Widiastuti and Adiputra (2022) who explained that increasing students' age and experience in extracurricular activities is related to increasing knowledge and awareness of first aid. This research is also supported by Daulay et al. (2025) who stated that Youth Red Cross activities are effective in fostering a sense of care, responsibility, and social empathy among adolescents. Based on these results, it can be concluded that the older the student, the better the level of knowledge and attitude in performing first aid because of the maturity of thinking, experience, and habituation of positive behavior obtained while participating in PMR activities.

Overview of the student's gender in performing first aid

Based on the results of the study on 34 respondents who were members of PMR SMAN 1 Telaga, most of the members of PMR SMAN 1 Telaga were female. The dominance of this number gives an idea that female students' interest in PMR activities is quite high. They were seen to be more involved as respondents so that they helped shape the characteristics of the data obtained from this study.

Based on the results of the questionnaire, female students showed a better level of knowledge and attitude than male students. Their percentage is more in the category of good knowledge and high attitude. This illustrates that in general, women have a tendency to take first aid materials more seriously and give more positive responses to statement items in questionnaires. Meanwhile, male students still show a variety of answers, where some are in the category of sufficient knowledge and moderate attitudes.

This difference can also be seen from the pattern of respondents' answers. Female students tend to give more consistent answers and better reflect a thorough understanding of the first aid material. In contrast, some male students had more diverse answers, indicating the need for additional understanding. Nevertheless, both groups still showed enthusiasm for PMR activities, only the level of depth of understanding and attitude was different as illustrated in the results of the questionnaire.

This research is in line with So'o et al. (2022), a person's knowledge is influenced by experience and exposure to information. Female students are generally more active in participating in training activities and more thorough in understanding the material, so they have better experience and understanding. Meanwhile, in the formation of attitudes, according to Nababan et al. (2023), the process of habituation and imitation have an important role, and women tend to show empathy and strong social concern in humanitarian activities. This makes positive attitudes towards first aid more dominant in female students than in men.

The results of this study are in line with the research of Widiastuti and Adiputra (2022) which shows that female students have better knowledge and attitudes towards first aid because they are more active in social activities and health training. This research is also in line with the findings of Daulay et al. (2025) who explain that Youth Red Cross activities play an important role in forming a sense of responsibility, solidarity, and social concern, especially in groups with higher emotional participation such as women. Based on these results, it can be concluded that gender differences affect students' knowledge and attitudes in performing first aid, where women tend to be more active, empathetic, and meticulous in applying first aid skills.

Univariate Analysis of Knowledge

Based on the results of the study, the level of knowledge of SMAN 1 Telaga Youth Red Cross (PMR) students in performing first aid showed that most of the respondents were in the category of good knowledge, which was 23 people (67.6%). These results illustrate that the majority of students have understood the basic concepts of first aid, especially in the handling of common conditions such as fainting, bleeding, fractures, choking, and minor injuries. In addition, there were 8 people (23.5%) with the category of sufficient knowledge and 3 people (8.8%) with lack of knowledge, which showed a variation in understanding among PMR members.

The level of knowledge, which is mostly in the good category, shows that the students are able to answer the questions in the questionnaire consistently and show a relatively steady understanding of the P3K material. Students in the category are quite visible that they have not mastered all the material, possibly because they did not take the entire training session or were not involved in hands-on practice. Meanwhile, students with less visible knowledge categories still need reinforcement of coaching and application experience so that their basic understanding of first aid procedures can improve.

This difference in knowledge level also shows that information exposure and involvement in PMR activities have not taken place evenly. Some students seem to have gained more intensive experience and practice so that they are better prepared to answer questions related to first aid. On the other hand, some students need additional support such as increased training intensity, more in-depth explanations of material, and more practice opportunities to minimize the knowledge gap between members.

The results of this study are in line with the opinion of So'o et al. (2022) who explain that the level of knowledge is influenced by several factors such as age, experience, and exposure to information obtained through the learning process. Students who participate in training and simulation more often will have a better understanding than students who have limited involvement. In addition, this finding is also supported by Widiastuti and Adiputra (2022) who emphasized that learning through practical exercises has been proven to be more effective in increasing students' knowledge about first aid than just delivering theory.

At the high school level, students' cognitive abilities are generally at the initial formal operational stage according to adolescent cognitive development. Therefore, the level of knowledge that can be achieved by students is at the first three stages in the hierarchy of knowledge according to Sut Notoatmodjo (2021), namely knowing, understanding, and application. At the know level, high school students are able to remember and rerecognize the information provided, such as terms, basic steps, or simple definitions of first aid. They can rename concepts such as the meaning of the wound, the purpose of the bandage, or the basic order of examination of the victim, but at this stage their understanding is still memorized.

The next level that can be achieved is understanding, which is the ability of students to explain the content of the material in their own sentences. At this stage, students not only memorize, but can convey the reason or meaning of a first aid action. For example, they can explain why the wound should be cleaned, why the victim fainted should be tilted, or why the victim's breathing needs to be checked first. This understanding shows that students are already able to process information simply and build relationships between concepts and action goals.

The highest level that high school students usually achieve is application, which is the ability to apply knowledge in simple situations. In the context of PMR, students can practice the first aid steps that have been taught, such as putting on bandages, doing simple spraying, calming the victim, or assessing the initial condition in the simulation. Although the application is not perfect, the students' success in the application stage shows that they are already able to connect theory with practice and adapt it to the conditions given in the exercise.

Meanwhile, higher levels of knowledge such as analysis, synthesis, and evaluation are generally not fully developed in high school students. Analytical skills that require complex problem-solving, the ability to synthesize new strategies, as well as the evaluative ability to assess the quality of actions, usually arise at higher levels of education, when students' cognitive development and experience become more mature. Therefore, in the study of the knowledge of PMR students at the high school level, measurements can realistically only be focused on the three initial cognitive levels.

Based on these results, the researcher assumes that the high level of knowledge of PMR students at SMAN 1 Telaga is inseparable from the role of PMR extracurricular activities which routinely provide basic first aid materials. The material provided is applicable and relevant to conditions that are often found in the school environment, such as handling fainting, wounds, and bleeding. In addition, student involvement in UKS activities and school events allows students to gain indirect experiences that strengthen their understanding of the concept of first aid.

Attitude Univariate Analysis

Based on the results of the study, the attitude of PMR students at SMAN 1 Telaga in performing first aid shows a very positive tendency. Most of the respondents were in the high attitude category as many as 24

people (70.6%), medium category as many as 7 people (20.6%), and low category as many as 3 people (8.8%). These findings illustrate that the majority of students have a sense of caring, empathy, and readiness to help others in the event of an emergency. This positive attitude is an important basic capital in the implementation of first aid, because P3K actions not only require knowledge, but also maturity of attitudes that reflect social responsibility and concern.

The high attitude category (70.6%) indicates that most students have a good willingness and preparedness to provide help. This can come from the experience of participating in training, habituation through simulations, and the positive influence of the social environment such as PMR coaches and peers. According to Nababan et al. (2023), a person's attitude is greatly influenced by the conditioning process and imitation of behavior from role models. Thus, routine PMR activities such as simulation exercises, safety discussions, and field practice have a great contribution in forming a responsive and empathetic attitude in students.

The moderate attitude category (20.6%) may be due to a lack of confidence or lack of direct involvement in training activities, so students are still hesitant to take first aid measures. While the low attitude category (8.8%) describes the presence of a small percentage of students who have not shown optimal empathy and preparedness, which can be influenced by a lack of motivation, infrequent participation in training, or lack of hands-on experience in the field. However, overall the PMR coaching environment has proven to be able to form a positive attitude in most students, as can be seen from the dominance of the high attitude category in the research results.

Theoretically, the results of this study are in line with the concept of affective domain according to Notoatmodjo (2021) which explains that attitude is an individual's closed response to an object or situation. Attitudes do not appear suddenly, but are formed through the process of learning, experience, habituation, and social interaction. In the context of PMR, routine activities such as first aid exercises, accident simulations, and teamwork serve as a stimulus that encourages students to develop caring, empathetic, and responsible attitudes towards victims. A supportive social environment, such as coaches and seniors who set an example, also strengthens the development of this attitude.

This theory is also in line with the concepts of conditioning and modeling proposed by Nababan et al. (2023). Through habituation, students are accustomed to responding to emergency situations appropriately and calmly, while through modeling, students imitate the calmness, empathy, and professionalism of role models. In addition, research by Daulay et al. (2025) and Widiastuti and Adiputra (2022) supports that extracurricular activities such as PMR play a major role in increasing students' sense of responsibility and preparedness for emergencies.

Although Notoatmodjo's (1996) theory divides attitudes into four levels of accepting, responding, appreciating, and taking responsibility not all of these levels are realistically fully achieved by high school students. In early adolescence, the dominant developing affective ability is at the initial three levels.

At the receiving level, students show a willingness to pay attention to materials and directions related to first aid. They begin to be open to information and realize the importance of knowledge and correct attitudes in emergency situations. This level is the basic foundation of the formation of a positive attitude.

The next level is responding, where students begin to actively react to stimuli, such as answering questions, following practices, or following instructions during simulations. At this level, students show interest and active engagement, even if their reactions are not yet completely stable or consistent.

The highest level that high school students can generally achieve is valuing. At this stage, students already consider first aid activities as something valuable. They show commitment by participating in training, helping friends, or showing empathy when faced with emergency situations.

From these results, the researcher assumes that the high positive attitude of PMR students towards the implementation of first aid is influenced by the human values instilled in PMR activities, such as empathy, social concern, and a sense of responsibility. PMR activities not only emphasize the aspect of knowledge, but also shape the character of students to have the will to help and preparedness in emergency situations.

CONCLUSION

The level of knowledge of SMAN 1 Telaga Youth Red Cross (PMR) students regarding first aid was mostly in the good category as many as 23 people (67.6%), the adequate category as many as 8 people (23.5%), and the poor category as many as 3 people (8.8%). These results show that the majority of students have a good understanding of the Skills of first aid procedures, such as handling fainting, bleeding, minor fractures, choking, as well as insect bites.

The attitude of SMAN 1 Telaga Youth Red Cross (PMR) students towards the implementation of first aid was mostly in the high category as many as 24 people (70.6%), medium category as many as 7 people (20.6%), and low category as many as 3 people (8.8%). This shows that the majority of students have positive attitudes, such as willingness to help, empathy, and preparedness in dealing with emergency situations in the school environment.

SUGGESTIONS

It is hoped that the students of the Youth Red Cross (PMR) of SMAN 1 Telaga can continue to improve their knowledge and attitude towards first aid actions through active participation in training and simulation activities organized by schools and PMR coaches. Students are also expected to be able to apply first aid skills appropriately and responsibly both in the school environment and the community.

Educational institutions need to pay attention to and improve these competencies through ongoing training and ensuring emergency response readiness in schools. This research is also expected to be a reference material for educational institutions and health workers in designing training programs or cooperation in PMR activities in schools to improve students' knowledge and attitudes towards first aid.

It is recommended to conduct follow-up research that assesses not only the student's knowledge and attitudes, but also the student's practical skills in performing first aid, as well as analyzing other factors that may be influential such as experience, motivation, or the intensity of the training followed.

REFERENCES

- Alifitah, S., Mumpungtias, E., & Oktavianisya, N. (2023). PMR training in providing first aid in school accidents. *Journal of Community Service*, 10(2), 227–231. <https://doi.org/10.33795/abdimas.v10i2.4464>
- Anggraini, R., Fian, N., Kanita, M. W., & Astuti, A. B. (2025). Improvement of Open Wound First Aid Skills in Adolescent Red Cross Member Students Using the Two Stay Two Stray Learning Method. *Journal of Nursing Studies*, 6(1), 25–29.
- Anwar, A. L., & Rembang, S. (2021). The Relationship between Knowledge Level and Professional Behavioral Attitudes in Synchronous First Aid. [University Name] .
- Daulay, F. A., Aspika, F., Pane, P., Kharisma, M. I., & Usiono, U. (2025). The Role of Leadership in Improving the Performance of PMR Members in the School Environment. *Scholar: Journal of Social Sciences, Language and Education*, 5(1), 235–239.
- Erni Suprapti, Diana Dayaningsih, Adinda Putri Azzahra, Agung Widodo W, Mutiara Sukma, Salbila, & Ajeng Andina. (2022). Counseling on the Types of Accidents in Children and How to Prevent Them. *Journal of Community Service Sisthana*, 4(1), 14–18. <https://doi.org/10.55606/pkmsisthana.v4i1.57>
- Harlin, L. W. B., & Susilawati. (2024). Analysis of Factors Affecting Students' Cognitive, Affective, and Psychomotor Learning Outcomes in Economics Subjects. *CIRCULAR: Journal of Social and Economic Education*, 2(2), 99–108. <https://doi.org/10.70115/circular.v2i2.267>
- Ibrahim, S. A., & Adam, M. (2021). The level of knowledge of adolescent Red Cross (PMR) members about first aid in an injury. *Jambura Nursing Journal*, 3(1), 23–31.
- Imron, A., Heryyanor, H., Martapura, S. I., Syamil, A., & Wardhana, A. (2023). Health Research Methodology (S. Ishak, R. Choirunissa, Agustawan Yati Purnama, Viyan Sepiyana Achmad, Estelle Lilian Mua, Heryyanor, A. Syamil, Ina Debora Ratu Ludji, Robi Adikara Sekeon, A. Wardhana, Y. Dafroyati, A. Fahmi, Y. Avelina, Nurbaety, M. Anggreyni, & H. Lubis (eds.); November issue). CV. MEDIA SAINS INDONESIA. <file:///C:/Users/yaser/Downloads/2023ebookAhmadSyamilMetodologiPenelitianKesehatanMSI.pdf>
- Ismail, S., Odland, M. L., Malik, A., Weldegiorgis, M., Newbigging, K., Peden, M., Woodward, M., & Davies, J. (2021). The relationship between psychosocial circumstances and injuries in adolescents: An analysis of 87,269 individuals from 26 countries using the Global School-based Student Health Survey. *PLoS Medicine*, 18(9), 1–29. <https://doi.org/10.1371/journal.pmed.1003722>
- Kartikasiwi, A. (2022). PROVISION OF FIRST AID EDUCATION IN ACCIDENTS (P3K) IN INCREASING THE KNOWLEDGE AND MOTIVATION OF YOUTH RED CROSS (PMR) MEMBERS (Study at SMAN Bandarkedungmulyo Jombang).
- Nababan, D., Pangarbuan, M., & Surbakti, L. (2023). Pediaqu : Journal of Social Education and Humanities Volume 2 Number 1 (2023) 74. *Social Education and Humanities*, 2(2), 11576–11584. <https://publisherqu.com/index.php/pediaqu>
- Notoatmodjo, S. (2021). Health Promotion and Health Behavior. Rineka Cipta.
- Nurhasanah, S., & Sasono, A. (2022). Introduction to First Aid in Accidents (for Elementary School Teachers). In M. D. Wijayanti (Ed.), [https://books.google.co.id/books?hl=id&lr=&id=G36fEAAAQBAJ&oi=fnd&pg=PA1&dq=Wijaya,+P.+P.+\(2022\).+First+Aid+at+Accident+\(for+teacher+SD\).+CV.+Pajang+Putra+Wijaya.&ots=sImAC-jB6b&sig=Mo441m3sTSWoc2EOOL_rAWrCAN4&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=G36fEAAAQBAJ&oi=fnd&pg=PA1&dq=Wijaya,+P.+P.+(2022).+First+Aid+at+Accident+(for+teacher+SD).+CV.+Pajang+Putra+Wijaya.&ots=sImAC-jB6b&sig=Mo441m3sTSWoc2EOOL_rAWrCAN4&redir_esc=y#v=onepage&q&f=false) (Pe Print). CV. Pajang Putra Wijaya. [https://books.google.co.id/books?hl=id&lr=&id=G36fEAAAQBAJ&oi=fnd&pg=PA1&dq=Wijaya,+P.+P.+\(2022\).+First+Aid+at+Accident+\(for+teacher+SD\).+CV.+Pajang+Putra+Wijaya.&ots=sImAC-jB6b&sig=Mo441m3sTSWoc2EOOL_rAWrCAN4&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=G36fEAAAQBAJ&oi=fnd&pg=PA1&dq=Wijaya,+P.+P.+(2022).+First+Aid+at+Accident+(for+teacher+SD).+CV.+Pajang+Putra+Wijaya.&ots=sImAC-jB6b&sig=Mo441m3sTSWoc2EOOL_rAWrCAN4&redir_esc=y#v=onepage&q&f=false)

- Indonesian Red Cross. (2021). Pocket Book of Pmr Builders | PDF. PMI.or.Id. <https://www.scribd.com/document/840889526/Buku-Saku-Pembina-Pmr>
- Pengpid, S., & Peltzer, K. (2020). Unintentional injuries and socio-psychological correlates among school-going adolescents in Mozambique. *Vulnerable Children and Youth Studies*, 15(1), 32–39. <https://doi.org/10.1080/17450128.2019.1679936>
- Pomalango, Z. B., Nurrohinta Djuwarno, E., & Author, C. (2024). First Aid Education (P3K) for Students of State Vocational School 3 Gorontalo City Accident First Aid Education (P3K) for Students of State Vocational School 3 Gorontalo City. *ARSY: Research Applications to Society*, 5(2), 126–131. <http://journal.al-matani.com/index.php/arsy,Online>
- Ramadhina, A., Nasution, N. I., & Habibah, N. (2025). First Aid Efforts in Accidents. *Journal of Indonesian Education Stars*, 3(1), 107–118. [file:///C:/Users/yaser/Downloads/JUBPI+Vol+3+no+1+Januari+2025+hal+107-118 \(2\).pdf](file:///C:/Users/yaser/Downloads/JUBPI+Vol+3+no+1+Januari+2025+hal+107-118 (2).pdf)
- Regar, M. P. B., Pane, J. P., & Manullang, M. S. D. (2024). Overview of Student Knowledge Level about First Aid in Accidents in Class XI of St. Petrus High School Medan in 2024. *PANNMED Scientific Journal (Pharmacist, Analyst, Nurse, Nutrition, Midwifery, Environment, Dentist)*, 19(3), 360–370.
- Rizky, P., Putriana, A., & Azzura Jaffa, Z. (2024). First Aid in an Accident in Medan City Happy Service Meeting. *Scientific Journal of Health and Medical Sciences*, 2(1), 208–216. <https://doi.org/10.55606/termometer.v2i1.2842>
- So'o, R. W., Ratu, K., Folamauk, C. L. H., & Amat, A. L. S. (2022). Factors that affect public knowledge. *Cendana Medical Journal*, 10(1), 76–87.
- Sudirtha, I. G., Widiana, I. W., & Adijaya, M. A. (2022). The Effectiveness of Using Revised Bloom's Taxonomy-Oriented Learning Activities to Improve Students' Metacognitive Abilities. *Journal of Education and E-Learning Research*, 9(2), 55–61. <https://doi.org/10.20448/JEELR.V9I2.3804>
- Sugiyono. (2020). *Quantitative, Qualitative and R&D Research Methods in Alvabeta*. CV.
- Sugiyono. (2023). *Qualitative Quantitative Research and R&D Methods (Kedu Edition)*. CV Alfabeta.
- Suryana, Wingkolitin, & Majid, N. (2024). The Role of Youth Red Cross (PMR) Extracurricular Activities in Improving the Self-Concept Ability of Students at SMP Negeri 6 Samarinda. *Journal of Education and Psychology*, 1(March), 285–292. <https://journal.pipuswina.com/index.php/jippsi/about>
- Uktutias, S. A. M., & Setijaningrum, E. (2025). EDUCATION AND TRAINING OF FIRST AID IN ACCIDENTS WITH SIDORA (SIMULATION OF ADOLESCENT DOCTORS). *Journal of Abdimas Jatibara*, 3(2).
- Wibawana, W. A. (2022). What Is PMR and Its Duties? Role, Function and History of PMR. https://News.Detik.Com/Berita/d-6265250/Apa-Itu-Pmr-Dan-Tugasnya-Peran-Fungsi-Dan-Sejarah-Pmr?utm_source=chatgpt.Com. https://news.detik.com/berita/d-6265250/apa-itu-pmr-dan-tugasnya-peran-fungsi-dan-sejarah-pmr?utm_source=chatgpt.com
- Widiastuti, N. K. P., & Adiputra, I. M. S. (2022). Overview of Students' Knowledge Level of First Aid in Accidents in High School. *Baiturrahim Jambi Academic Journal*, 11(1), 23–31. <https://doi.org/10.36565/jab.v11i1.409>
- Yunus, P., Damansyah, H., Umar, A., & Monoarfa, S. (2023). First Aid Training on Blindfolding for PMR Students at SMKN 2 Limboto. *Journal of Community Service Creativity (PKM)*, 6(1), 132–140. <https://doi.org/10.33024/jkpm.v6i1.8058>
-