

ORIGINAL ARTICLE**THE CORRELATION BETWEEN KNOWLEDGE LEVEL AND COMMUNITY BEHAVIOR REGARDING FIRST-AID FOR TRAFFIC ACCIDENT VICTIMS IN DENPASAR, BALI****Kadek Riskayani***, AA Istri Dalam Hana Yundari, Ni Luh Gede Intan Saraswati*Bachelor of Nursing Study Program, STIKES Wira Medika Bali, Denpasar, Bali, Indonesia**Corresponding author: kadekriskayani6@gmail.com**ARTICLE INFO***Article history:**Received: 19 January 2026**Revised: 29 January 2026**Accepted: 29 April 2026**Keywords:**Behaviour;**Emergencies;**First-aid;**Knowledge.***ABSTRACT**

Background: Traffic accidents are one of the leading causes of death and disability. To prevent serious injury and death, optimal efforts are needed, especially through the provision of prompt and appropriate first aid when victims are first found before medical personnel arrive. **Objective:** To determine the correlation between knowledge level and community behavior regarding first aid for traffic accident victims in Denpasar, Bali. **Method:** This study used a quantitative correlational design with a cross-sectional approach. A total of 222 respondents from Banjar Pesanggaran, South Denpasar District, were selected using purposive sampling. Data were collected using knowledge and behavior questionnaires and analyzed using the Chi-Square test. **Result:** Most respondents had sufficient knowledge (59.5%) and positive behavior (73.4%) in providing first aid. The Chi-Square test results showed a p-value = 0.001. **Conclusion:** Good knowledge plays an important part in escalating confidence and accuracy in emergency decision-making. Statistics found a significant correlation between knowledge level and community behavior regarding first aid for traffic accident victims in Denpasar, Bali.

BACKGROUND

One of the main problems faced in public health worldwide is traffic accidents. This issue relates to one of the Sustainable Development Goals for 2030: reducing traffic accident fatalities by 50% and lowering the number of traffic accidents resulting in injuries (Afandi et al., 2025). Proper first aid can help prevent disability or even save a person's life, but mistakes in providing first aid can actually worsen the accident situation and potentially cause death (Mai et al., 2020). In fact, many people still lack an adequate understanding of first aid due to limited awareness and knowledge regarding emergency situations. This situation is further exacerbated by the public's hesitation to administer first aid, stemming from concerns about worsening the victim's condition and a lack of knowledge regarding first aid procedures. People prefer not to intervene and instead wait for the police or medical personnel to arrive at the scene of the accident (Aji, 2017).

According to a World Health Organization report, road traffic accidents cause approximately 1.19 million deaths annually worldwide (World Health Organization, 2023). In Indonesia, there were 139,285 accidents resulting in 28,131 deaths, 13,364 serious injuries, and 160,449 minor injuries (Badan Pusat Statistik Indonesia, 2025). Based on data from the Bali Police Traffic Directorate in 2023, there were 8,311 traffic accidents in Bali, resulting in 85 serious injuries, 10,533 minor injuries, and 638 deaths. Of the 9 regencies, Denpasar had the highest number of traffic accidents, namely 2,114, with 2,624 people suffering minor injuries, 32 people suffering serious injuries, and 122 people dying.

The public's ability to provide first aid in traffic accidents remains low. Such actions require a sound understanding of appropriate emergency procedures (Kaleka, 2021). Limited knowledge leads to inappropriate and risky behavior, including moving victims without considering the potential for spinal injuries, which can result in disability or death. Similar findings have been reported; a proper understanding of first aid procedures is crucial to reducing mortality rates and the severity of injuries (Watung, 2021). Adequate knowledge enables individuals to recognize emergency conditions, apply correct first aid principles, and avoid dangerous interventions that can worsen the victim's condition. Knowledge serves as the foundation for developing positive attitudes, self-confidence, and practical skills. It enables individuals to act effectively and safely in emergencies. Previous research has found that adequate knowledge, attitudes, and skills among the public are crucial for improving the quality of first aid and reducing preventable complications before professional medical assistance arrives (Susilawati et al., 2022).

Based on observational studies conducted on August 28, 2025, in Banjar Pesanggaran, South Denpasar District, the area experiences heavy traffic and serves as a primary route to Benoa Port and Sanur, making it prone to traffic accidents. Initial interviews with five residents of Banjar Simpang Pesanggaran indicated that two respondents stated they would immediately assist in the event of a traffic accident because they understood the necessary actions to take. Meanwhile, the other three respondents said they would contact the authorities but remained unsure about the

appropriate steps to take due to their limited knowledge. This situation has the potential to delay first aid, which in some cases can result in increased injuries or even loss of life.

OBJECTIVE

The objective of this study is to determine the correlation between knowledge level and community behavior regarding first aid for traffic accident victims in Denpasar, Bali.

METHOD

Design, Population and Sample

This study design is cross-sectional. This study has been ethically reviewed and has obtained an Ethical Approval Letter from the Health Research Ethics Committee of STIKES Wira Medika Bali, number: 643/E1.STIKESWIK/EC/IX/2025, dated September 30, 2025. The study population consisted of 500 people living in Banjar Pesanggaran. Slovin's formula was used to determine the 222 respondents. A non-probability sampling technique using purposive sampling was conducted. This research was conducted in Banjar Pesanggaran, South Denpasar District, from October 11 to November 24, 2025.

Instrument and Data Analysis

Data were collected using two structured instruments: a First Aid Knowledge Questionnaire and a First Aid Behavior Questionnaire. The knowledge questionnaire measured respondents' understanding of first aid for traffic accident victims, while the behavior questionnaire assessed community practices in providing first aid during emergencies. These instruments were adapted from previous studies and had been tested for validity and reliability by researchers before data collection. Content validity was evaluated through expert assessment, and reliability testing was conducted using Cronbach's alpha. The results showed that both instruments were valid and reliable for use in this study, with Cronbach's alpha values greater than 0.60.

Data collection was conducted directly with respondents after they were given an explanation and consented to participate. The data obtained was processed through univariate analysis to describe the characteristics of the respondents and the distribution of each research variable. Furthermore, bivariate analysis was conducted using the Chi-Square test to assess the relationship between community knowledge and behavior. The entire research process complied with research ethics principles, including respondent consent (informed consent), respondent anonymity, and data confidentiality.

RESULTS

The results of this study included univariate and bivariate analyses. The presentation of respondent characteristics and the hypothesis test results regarding the variables of knowledge level and first aid behavior for accident victims is as follows:

Table 1. Respondent Characteristics (n = 222)

Variable	F	%
Gender		
Famale	134	59.8
Male	88	39.8
Age		
17-25	69	30.8
26-35	54	24.1
36-45	62	27.6
46-55	37	16.5
Education		
No Education	1	0.4
Elementary School	9	4.0
Junior High School	33	14.7
High School/Vocational School	105	44.6
Diploma 2	15	6.7
Diploma 3	4	1.8
Bachelor	55	24.7
Profession/ Employment Status		
Health Workers	2	0.9
Laborers	2	0.9
Teachers	6	2.7
Students	37	16.5
Government Employees	6	2.7
(PNS/Non-PNS)	49	21.9
Unemployed/Other Self-Employed/Private/Traders	120	53.6
Experience Helping Traffic Accident Victims		
Ever	74	33.5
Never	148	66.5
Sources of Information About First Aid		
Never Received	56	23.5
Information/Counseling	150	66.7
Mass Media	13	5.9
Health Counseling	3	0.4
Total	222	100

Based on Table 1 above, 222 respondents were surveyed, of whom 134 (59.8%) were female. Based on the characteristics of the majority, the average age was 17-25 years old, with 69 respondents (30.8%). Based on educational background, the majority of respondents were high school/vocational school graduates, with 105 respondents

(44.6%). By occupation, the majority of respondents were entrepreneurs/private sector employees/traders, totaling 120 (53.6%). Based on the characteristics, the majority of respondents (148, or 66.5%) had never helped accident victims. Based on characteristics, the majority of respondents (66.7%) obtained information about first aid from the mass media.

Table 2. The Correlation Between Knowledge Level And Community Behavior Regarding First-Aid For Traffic Accident Victims (n = 222)

Variable Knowledge	Behavior						P-Value
	Positive		Negative		Total		
	f	%	f	%	f	%	
Good	45	21,6	3	1,4	51	23,0	0,001
Enough	114	51,4	18	8,1	132	59,5	
Less	3	1,4	36	16,2	39	17,6	
Total	165	74,3	57	25,7	222	100	

Based on the results of the above study, the majority of the community in Banjar Pesanggaran, Pedungan Village, South Denpasar District, who have sufficient knowledge and positive behavior, are 114 people (51.4%). The analysis test results show that the P-value = 0.001 (< 0.05), indicating a significant relationship between knowledge and community behavior in providing first aid to traffic accident victims in Banjar Pesanggaran, Pedungan Village, South Denpasar District.

DISCUSSION

A person's knowledge plays a crucial role in shaping how they act. Knowledge is one of the factors that influence a person's behavior. Good knowledge helps shape appropriate actions (Leangwatu, 2021). The results of this study found that respondents with adequate knowledge were able to apply appropriate first aid measures when encountering traffic accident victims. These respondents demonstrated awareness of emergencies, a willingness to help, and confidence in performing basic first aid. Adequate knowledge will help recognize risks, understand appropriate first aid procedures, and translate that understanding into appropriate actions in real situations. Behavior shaped by knowledge is more stable and sustainable because it stems from cognitive understanding rather than spontaneous reaction (Li et al., 2026). The desire to help victims and the awareness to act also generate internal motivation that drives respondents to act.

Knowledge about how to treat traffic accident victims is very important for non-medical communities, because with adequate understanding, communities can provide first aid, including appropriate bleeding control measures, before victims receive further treatment by health workers. A sound understanding of first aid for traffic accident victims fosters attitudes and behaviors associated with emergency preparedness. Such understanding can be acquired through health education (Kaleka, 2021). Information obtained shapes understanding, and understanding shapes individual behavior. Knowledge

enables individuals to identify emergencies, apply appropriate first aid principles, and avoid actions that could worsen the victim's condition. Sound knowledge of emergency care fosters a responsive attitude, self-confidence, and practical skills (Bernando Aldo et al., 2024). Previous research has shown that adequate knowledge, attitudes, and skills improve the quality of first aid and reduce complications for the victim before the arrival of medical assistance (Susilawati et al., 2022).

Knowledge of first aid must be enhanced through continuous training so that the public is better prepared to provide first aid in the event of traffic accidents (Bernando Aldo et al., 2024). Previous studies have found that good first aid knowledge aids individual readiness in making decisions during emergency situations. A solid understanding of emergency first aid is crucial for the general public (Nurhidayah et al., 2025). Every minute from the administration of first aid to follow-up care can determine the difference between life and death during an emergency in the community (Mohammed et al., 2024). Many people remain unaware of the proper first aid measures to take. They often panic and feel unable to take any action to assist accident victims, feeling confused about what to do when encountering such situations. This lack of knowledge is believed to be the underlying cause (Yari et al., 2025).

Previous research has found that the lack of information to the public about first aid remains a primary factor contributing to this knowledge shortfall (Yari et al., 2025). Knowledge is important for human beings because it is a distinctively human characteristic. It originates from humans and is intended for them as a means to improve their health. This is particularly relevant to first aid for emergency traffic accidents. Public knowledge and attitudes regarding first aid are often inadequate. This knowledge gap impacts the attitudes and skills applied when administering first aid to accident victims. Research has found that the public's lack of knowledge regarding first aid can be addressed through adequate education and training (Tse et al., 2023).

CONCLUSION

Based on the research and discussion, it can be concluded that most respondents in Banjar Pesanggaran have sufficient knowledge (59.5%) and positive behavior (73.4%) when providing first aid. The analysis in this study yielded a p-value of 0.001, which is < 0.05 , indicating a significant relationship between knowledge level and the community's behavior in providing first aid for traffic accidents in Banjar Pesanggaran, South Denpasar District.

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