



Knowledge of and Attitude towards First Aid Measures among Drivers in Sharjah

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Abstract: Injury is an important cause of mortality and morbidity. First aid is the immediate assistance provided to a suddenly injured or sick person until professional help arrives or that person has recovered. Many lives would be saved if proper first aid was provided early. In the Middle East, there are limited studies that explore knowledge and practices towards first aid needed during RTA. The aim of this study is to investigate the knowledge and attitude towards first aid among drivers in Sharjah. A cross-sectional study was conducted through a self-administered questionnaire written in Arabic and the English language. Participants were 18 years or older holding a driving license in the city of Sharjah. Paramedics and certified participants with a certification from authorized organizations were excluded. A non-proportional convenient sampling method was used. A total of 343 participants completed the questionnaires. The majority of the study participants were less than 40 years old, and (56.76%) were males. Most participants (94.2%) indicated that they know the term 'First Aid'. However, (49.7%) of the participants knew the number to call for an ambulance, and (52.43%) of the participants indicated that the victim should be moved to the hospital without an ambulance. With regard to attitude, (34.86%) were not willing to provide first aid in the case of RTA. The main reason was lack of knowledge, followed by fear of legal consequences. Most participants (83.78%) were willing to participate in first aid classes to improve their knowledge and attitude. Most participants are aware of the basic terms of first aid; however, they are not willing to provide first aid in cases of RTA due to lack of knowledge and fear of legal consequences. Based on these findings, we recommend providing first aid classes to new drivers so that they can obtain certification.

Keywords: first aid; knowledge and attitude; Sharjah; RTA; cross-sectional

1. Introduction

First aid entails the primary care administered for a sudden illness or injury [1]. First aid plays an important role in minimizing the devastating consequences of road traffic accidents (RTAs), which are a major global public health issue. Many people get injured or lose their lives due to RTAs on a day-to-day basis, which in turn make RTAs one of the leading causes of mortality and morbidity worldwide, and this highlights the importance of first aid; we cannot underestimate or minimize the value it provides [2–4].

First aid serves as the first line of defense in saving people's lives, decreasing the rate of injuries, and providing instant care until an ambulance and a medical team arrive to help. For example, there was a 2014 study conducted in Northern Iran; the study was conducted on 500 drivers selected randomly from transport companies. The sample underwent first



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Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). aid training courses and was then evaluated after 0–3 months and 4–6 months. Improvement in giving first aid efficiently was observed; also, the rate of correct interventions was higher after 4–6 months than 0–3 months. The study concluded that first aid programs designed for drivers were beneficial and enhanced road traffic accidents as a prehospital care system [5].

First aid is defined as prompt assistance given to someone who has become suddenly injured until professional help arrives or until the injured patient regains health. The main and primary goals of first aid are to save life, relieve pain, prevent further harm or damage, and facilitate quicker recovery [2,6,7]. Promoting first aid education is crucial for every age group, including kindergarten children. This universal learning can happen through live classes, online courses, and public health campaigns [8,9].

According to the World Health Organization (WHO), road traffic accidents (RTAs) are responsible for approximately 50 million injuries and about 1.2 million deaths worldwide. Also, they are the eighth leading cause of disability-adjusted life years [5,10,11].

In the UAE, the top four causes of death are cardiovascular disease, injuries, cancer, and respiratory diseases [12]. RTAs are a leading cause of premature death and long-term disabilities, especially among men under 35 in the UAE, escalating the numbers of physical disabilities and enduring handicaps [13]. Many organizations, institutes, and even universities provide teaching courses regarding basic life support (BLS) and first aid; however, they are usually limited to medical students and paramedics [2].

There are very few published articles and research that assesses first aid knowledge here in the UAE, and even in the Middle East. As an illustration, a 2019 study conducted in the UAE found that approximately half of the population (54.2%) has limited understanding regarding first aid. And a mere 33.8% had undergone first aid training courses. The ultimate findings of this study were that first aid knowledge here in the UAE is lacking and insufficient. Also, the research suggests that first aid courses should be accessible to the public and undergo frequent updates [2].

2. Methods

2.1. Design of the Study

This cross-sectional study was executed in public spaces such as parks and malls within the Emirate of Sharjah from October 2020 to November 2020.

2.2. Sample of the Study

The target population included people with a valid driving license who were available at the time and place of distributing the survey. Exclusion criteria consisted of people who did not speak Arabic or English, paramedics, and anyone with a basic life support certificate (BLS). A non-proportional convenience sampling technique was used. The sample size was calculated using the following formula: $n = 4p (1 - p)/ME^{2}$, where n = sample size, p = prevalence, and ME = marginal error. Prevalence was adapted from neighboring countries as not enough similar studies were conducted in the UAE. According to that, the sample size was found to be 385. The final sample size collected regarding the exclusion criteria was 370.

2.3. Data Collection and the Tool of the Study

A self-administered anonymous questionnaire was constructed based on a previously established tool in a study conducted in the UAE [1]. The questionnaire consisted of 18 questions divided into 3 parts: demographics (6 questions), knowledge about first aid (4 questions), and attitude towards first aid (8 questions). Data collection was carried out using a structured questionnaire. The questionnaire included sections on demographics, occupation, driving experience, first aid knowledge and awareness, emergency contact knowledge, first aid actions, breathing assessment, bleeding control, willingness to provide first aid, immediate responses to road traffic accidents, interest in first aid training, and opinions on the necessity of first aid training for all driving license holders.

For each individual, a scoring system was calculated representative of overall knowledge score. The knowledge was assessed in both a broad and specific manner. Three different scoring levels were used; a score of 67% and above was labeled as 'good knowledge', and between 33% and 67% was labeled 'moderate knowledge', whereas any score below 33% indicated 'poor knowledge' [2].

2.4. Data Analysis

The data analysis for this study used the statistical software SPSS 22 (Statistical Package for Social Sciences). Univariate analysis was conducted to gain an understanding of individual variables. Descriptive statistics include measures to conduct data analysis, such as frequency and relative frequency; measures of central tendency, such as mean, median, and mode; and measures of variability. Inferential statistical tests, including chi-square, *t*-test, and Pearson correlation, as appropriate to the type of variables involved were used. The level of significance was set to be at 0.05 (*p* value).

2.5. Consent and Ethical Considerations

Ethical approval was provided by the medical research Committee of medical colleges, University of Sharjah, under reference number REC-20-02-04-02-S. All participants were informed of the purpose of the study and their confidentiality was ensured. This study adhered to all ethical guidelines, including obtaining written informed consent from all subjects; questionnaires without signed consent were excluded from the study.

3. Results

3.1. Demographics and Basic Information

A total of 343 questionnaires were completed out of 370 distributed questionnaires. Hence, the response rate was 92.7%. The sample consisted of 195 males (56.76%) and 148 females (43.24%). Also, most study participants were within the ages of 18–22 years (30.81%), participants over 40 years old were 26.22%, and 24.32% of the participants were within the ages of 23–29, whereas only a minimum number of participants were between 30 and 39 years old (18.65%). Based on their educational degree, 39.19% of participants, representing the majority, have a bachelor's degree followed by 33.785 participants attaining a high school diploma. Next, master's degrees are the third highest educational degree obtained, making them 11.08%, while a college diploma represents 1.54%, and the lowest education level in our questionnaire is primary school (1.08%). Regarding occupation, professional drivers/health professionals represent 95 participants (27.6%); of the total participants, 248 participants (72.4%) were not professional drivers/health professionals.

Most of the participants have experience driving for more than 4 years (57.84%). However, 48.38% of the participants drive an average of less than 2 h per day, while 38.11% of the participants drive between 2 and 5 h per day. And only a minority (13.51%) drive more than 5 h in a day, which represents a professional driver's work routine.

3.2. Knowledge about Basic FA Measures

Table 1 summarizes knowledge scores across various demographics. When comparing knowledge scores across different age groups, the highest knowledge was observed among individuals aged 18–22, with 34% scoring as 'Good Knowledge' and 29.5% scoring as 'Moderate Knowledge.' On the other hand, individuals aged 30–39 demonstrated a lower knowledge score in basic first aid, with 38.9% falling into this category. A significant relationship was found between current job/occupation and knowledge in our sample ($\chi^2 = 33.752$, df = 4, *p* < 0.001). However, no significant differences were observed in knowledge based on gender, age group, educational degree, years of driving experience, or hours spent driving regarding basic first aid information in our sample.

| | Poor | Moderate | Good | Pearson's Chi-Square | <i>p</i> -Value |
|------------------------------------|------------|-------------|-------------|-------------------------|-----------------|
| Q1 Gender | | | | | |
| Male | 13 (72.2%) | 112 (58.9%) | 85 (52.5%) | =3.339, df = 2 | 0.188 |
| Female | 5 (27.8%) | 78 (41.1%) | 77 (47.5%) | | |
| Q2 Age groups | | | | | |
| 18–22 | 3 (16.7%) | 56 (29.5%) | 55 (34.0%) | =8.870, df = 6 | 0.181 |
| 23–29 | 6 (33.3%) | 46 (24.2%) | 38 (23.5%) | | |
| 30–39 | 7 (38.9%) | 33 (17.4%) | 29 (17.9%) | | |
| 40+ | 2 (11.1%) | 55 (28.9%) | 40 (24.7%) | | |
| Q3 What is the highest educational | | | | | |
| degree obtained? | | | | | |
| Primary school | 0 (0.0%) | 2 (1.1%) | 2 (1.2%) | =18.277, df = 12 | 0.108 |
| Secondary school | 3 (16.7%) | 7 (3.7%) | 5 (3.1%) | | |
| High school diploma | 8 (44.4%) | 57 (30.0%) | 60 (37.0%) | | |
| College diploma | 3 (16.7%) | 25 (13.2%) | 11 (6.8%) | | |
| Bachelor's degree | 4 (22.2%) | 77 (40.5%) | 64 (39.5%) | | |
| Master's degree and above | 0 (0.0%) | 21 (11.1%) | 20 (12.3%) | | |
| Others | 0 (0.0%) | 1 (0.5%) | 0 (0.0%) | | |
| Q4 Current work/occupation | | | | | |
| Professional Drivers | 6 (33.3%) | 14 (7.4%) | 2 (1.2%) | =33.752, df = 4 | 0.000 |
| Health profession | 0 (0.0%) | 27 (14.2%) | 30 (18.5%) | | |
| Other | 12 (66.7%) | 149 (78.4%) | 130 (80.2%) | | |
| Q5 Years of experience of driving | | | | | |
| Less than 1 year | 2 (11.1%) | 23 (12.1%) | 23 (14.2%) | =2.289, df = 4 | 0.683 |
| Between 1 and 4 years | 4 (22.2%) | 52 (27.4%) | 52 (32.1%) | | |
| More than 4 years | 12 (66.7%) | 115 (60.5%) | 87 (53.7%) | | |
| Q6 What is the approximate | | | | | |
| number of hours you spend driving | | | | | |
| per day? | | | | | |
| Less than 2 h | 5 (27.8%) | 98 (51.6%) | 76 (46.9%) | =7.978, df = 4 | 0.092 |
| between 2 and 5 h | 7 (38.9%) | 70 (36.8%) | 64 (39.5%) | | |
| More than 5 h | 6 (33.3%) | 22 (11.6%) | 22 (13.6%) | | |

Table 1. Distribution of knowledge scores across different demographic, educational, and behavioral categories with statistical significance results.

df: degrees of freedom; *p*-value < 0.05.

3.3. Knowledge about Responses in Life-Threatening Situations

As seen in Table 2 Knowledge of life-threatening situations in RTAs is essential. Almost all the participants (97.03%) agreed that calling for help is an action to perform in RTAs. Most participants (87.84%) chose that we need to make sure that the victim is still breathing by checking chest movement (71.90%). Checking that the victim is conscious was the next commonly chosen correct answer (86.49%) by the participants.

Table 2. Knowledge about Responses in Life-Threatening Situations.

| | Correct Answers | Wrong Answers | | |
|--|----------------------|-------------------------|--|--|
| Have you ever heard about first aid? (Yes) | 92.7% ($n = 343$) | 7.3% (<i>n</i> = 27) | | |
| Ambulance number in UAE (998) | 49.7% (n = 184) | 50.3% (n = 186) | | |
| The priority first aid action that can be done to a victim of a road traffic accident. | | | | |
| a. Victims should be moved from the accident site (No) | 67.3% (n = 249) | 22.7% ($n = 121$) | | |
| b. Make sure that the victim is breathing properly (Yes) | 87.84% (n = 325) | 12.16% (n = 45) | | |
| c. Pour water on the victims to revive/refresh them (No) | 54.2% (n = 200) | 45.8% (n = 170) | | |
| d. Try to stop bleeding (Yes) | 73.78% (n = 273) | 26.22% (<i>n</i> = 97) | | |
| e. Try to give fluid to drink (No) | 55.68% (n = 206) | 44.32% (n = 164) | | |
| f. Transport victims to a hospital (No) | 37.30% (n = 138) | 62.7% $(n = 232)$ | | |
| g. Call for help (Yes) | 97.03% ($n = 359$) | 2.97% (<i>n</i> = 11) | | |
| h. Check if the victim is conscious/awake (Yes) | 86.49% (n = 220) | 13.51% (n = 50) | | |

Wrong answers were there, such as 52.43% of the participants wanting to move the patient to the hospital from the accident site, which caused further complications in the victim's life. In addition, nearly a quarter (23.8%) think that providing fluid is beneficial for the victim. Participants chose the wrong practice over the 'I don't know' option, which is not a safe attitude in RTAs.

In road traffic accidents/life-threatening situations, it is critical to know how to approach an injured human being. For instance, we assessed the participants' knowledge regarding stopping heavy bleeding from a wound. We found out that 47.3% of our participants chose applying pressure on the wound, which is the correct option. Then, the next common option was firmly wrapping a cloth above the wound, where 38.7% chose that. Then came the minority of the participants (3.8%) and the remaining percentage of answers (10.27%) chose 'I don't know'.

Furthermore, we asked participants about their willingness to provide first aid in case of road traffic accidents. The answers were approximately distributed equally between yes (35.14%), no (34.86%), and uncertain (30.0%). To follow up the question, reasons for not having the willingness or being uncertain were mentioned. For instance, the majority of people (62.45%) are not willing to provide aid due to a lack of knowledge; they do not want to make the situation worse because they do not have an idea about first aid. And 14.77% of participants have a 'fear of legal consequences, because it is illegal to participate in first aid in the UAE without a certificate. A total of 10.55% do not help because they feel nervous, while 9.28% think that performing first aid is not their responsibility at all.

The initial response to witnessing a road traffic accident is a significant factor of assessment. The majority (61.35%) would respond to traffic accidents by 'calling the ambulance', which is the correct practice, while 27.03% want to call the police. The 'Do nothing' group (5.14%) wanted to not respond in the case of a road traffic accident. A total of 4.59% wanted to provide first aid action. On the other side, 1.89% wanted to transport the victim to the hospital.

3.4. Attitude of the Participants towards FA

Participate in a free first aid course?

Table 3 Summarizes in the majority (83.78%) are interested in attending a first aid course to gain knowledge and learn basic life support, while only 16.22% are not interested in attending a first aid course.

Correct AnswersWrong AnswersAppropriate method to stop heavy bleeding in the arm47.3% (n = 175)52.7% (n = 195)Willingness to provide first aid in RTA35.14% (n = 130)65.86% (n = 240)Willingness to participate in a First Aid course83.78% (n = 310)16.22% (n = 60)First aid training should be provided to all driving license holders85.95% (n = 325)14.05% (n = 45)

Table 3. Attitude of the participants towards FA.

Finally, should all driving license holders be provided with first aid training? Almost eighty-six percent (85.95%) of participants agree that first aid should be provided along with a driving license to help prevent further injury and preserve life in the case of car accident injury, and only a small percentage disagree (14.05%) that first aid should be given with a driving license.

4. Discussion

In this study, we have assessed the knowledge of and attitude towards first aid among car drivers in Sharjah. Our results showed that almost all the participants (94.2%) indicated that they know what the term 'first aid' means. However, almost one-third (39.99%) did not know the correct ambulance number and almost half (52.43%) assumed that RTA victims could be transported to hospital without an ambulance.

A similar study conducted in the UAE on the general population showed that almost half (54.2%) of the participants lacked sufficient knowledge about basic first aid [2]. Regarding attitudes towards first aid, only one-third of the participants indicated that they were willing to provide first aid to an RTA victim and the majority (83.78%) of participants were interested in attending first aid courses. These findings are consistent with a previous study conducted in Jordan [14]. Based on these results, we recommend providing first aid courses, especially targeting professional car drivers to equip them with the basic knowledge of how to react upon witnessing an RTA while waiting for the ambulance. As the study relies on self-reported information, this can cause recall bias, and respondents can also modify their answers on attitude and behaviors to meet the proper norms. Secondly, the study population was only in the Emirate of Sharjah and did not include the rest of the Emirates.

Obtaining a driving license can be performed without the need for first aid training according to the regulations and rules in the UAE of the Road and traffic authority (RTA). On the other hand, in countries such as Austria and Switzerland, obtaining a first aid certificate or completing specific first aid courses and training is a requirement to obtain a driving license [15].

Changing the rules in the future is beneficial, according to a study conducted in Egypt (Port Said) which shows that implementing a session about first aid to drivers in Port Said improved their knowledge. Before the session, more than three-fourths of the drivers had unsatisfactory knowledge about first aid and after completing all the sessions less than three-quarters of them had satisfactory knowledge in all items of first aid. But the study showed that after 3 months of follow up knowledge dropped down due to forgetting. So, not only implementing sessions and tests for drivers, but also follow-up and revision of knowledge and practices is needed [16].

According to the Heart Association's Emergency Cardiovascular care committee, they encourage reviewing and practicing skills at least every 6 months, at least annually for life-threatening emergencies, and periodically for non-life-threatening situations [17].

Another study conducted in Northern Iran also concluded that the first aid training course for drivers is beneficial and helpful for the prehospital care system in road traffic accidents. In addition, it also showed that there is a drop in the fear of the participants in practicing first aid after obtaining a training course, which will increase the quality of intervention in cases of road traffic accidents.

First aid training courses must be conducted by professionals because the quality of the course will differ in the outcome of the knowledge and practice. An experience-based first-aid 16 h training course focusing mainly on knowledge, skills, and the psychological setup in cases of road traffic accident emergencies showed better outcomes and remarkable differences in the knowledge and skills of first aid of people who did normal 4 h first aid courses.

To conclude, implementing a community program aimed at the entire population and making the course compulsory would greatly enhance the participants' understanding and self-evaluated first aid skills [18]. But also, we do not need to neglect the quality of the course itself. Adding a well-developed course about multiple aspects of first aid would be beneficial not only for the drivers but also for the community itself [19].

4.1. Limitations of the Study

In this study, we used a non-proportional convenience sampling method. Our study was conducted in the city of Sharjah, which limits the applicability of the findings among the UAE.

Our target population was individuals above 18 years with a driving license, which limits the generalizability of the study. There was no tool to refer or derive from in our questionnaire.

Some taxi drivers refused to participate in our study as they were busy with work. On the other hand, some participating taxi drivers have language barriers as they do not read or speak English or Arabic.

4.2. Implications and Future Research

The results suggest that most of the participants are willing to acquire knowledge of first aid and obtain first aid certificates; however, they were not willing to provide first aid in cases of RTAs due to a lack of knowledge and fear of legal consequences. The result of our study suggests the need to implement first aid courses along with driving license learning procedures provided by the Emirates Driving license Institute. Such recommendations can reduce the severity of disabilities and death rates when applied in the appropriate manner.

In the future, research should explore if introducing a mandatory first aid (FA) course can boost both FA knowledge and people's willingness to help. It is also important to consider how the timing of taking an FA course could impact outcomes, requiring further examination. Lastly, future studies should assess how various courses handle real-life RTAs.

5. Conclusions

This research underscores the crucial role of first aid in addressing the global public health challenge posed by road traffic accidents (RTAs). Conducted in Sharjah, UAE, the study reveals a significant lack of first aid knowledge among drivers. Despite a high awareness of the term, participants demonstrated deficiencies in essential knowledge, such as ambulance numbers and appropriate responses to life-threatening situations. The findings suggest a need to integrate mandatory first aid training into the process of obtaining a driving license, aligning with practices in countries like Austria and Switzerland. While participants expressed a willingness to attend first aid courses, the study acknowledges limitations, including its sampling methods. The conclusion advocates for proactive measures, such as comprehensive training and policy adjustments, to enhance community responsiveness and reduce the severity of injuries in RTAs.

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