ESI Preprints **Not Peer-reviewed**

Parental Knowledge, Attitudes, and Self-Efficacy in Pediatric First Aid in Tabuk City, KSA

Jesusa V. Gutierrez, RN, MAN, PhDNEd
Abdulaziz Alshehri
Talal Albalawi
Nawaf Alshehri
Mohmmed Asiri
Hasan Alatawi
University of Tabuk, Tabuk City, Kingdom of Saudi Arabia

Doi: 10.19044/esipreprint.4.2025.p435

Approved: 20 April 2025
Posted: 22 April 2025

Cite As:
Gutierrez J.V., Alshehri A., Albalawi T., Alshehri N., Asiri M. & Alatawi H. (2025). *Parental Knowledge, Attitudes, and Self-Efficacy in Pediatric First Aid in Tabuk City, KSA.* ESI Preprints. https://doi.org/10.19044/esipreprint.4.2025.p435

Abstract

Background: First aid (FA) is the initial care provided for an acute illness or injury. This study aimed to determine the impact of parents' knowledge, attitude, and self-efficacy on pediatric first aid in Tabuk City. **Methods:** A descriptive cross-sectional design study was conducted among 527 parents in Tabuk City. The participants completed a validated online questionnaire comprising 10 demographic questions, 25 knowledge questions, 11 questions on attitude, and 11 questions on parents' self-efficacy concerning pediatric first aid. **Results:** Most participants were females (76%) between the ages of 41 and 50 (34%). A total of 97% were Saudi, and 79% had a high level of education (university or higher). The majority of participants were knowledgeable about first aid. The results also indicated that most parents have an appropriate attitude toward pediatric first aid. Finally, the parents' self-efficacy revealed acceptable to high self-efficacy levels concerning pediatric first aid. Parents were confident and showed the necessary self-efficacy in nine out of 11 parts. **Conclusion:** Based on the present study's findings, most parents in Tabuk City, Saudi Arabia, have basic knowledge of but limited experience with first aid. However, they are

willing to improve their competence to ensure their household members, especially children, are safe from injuries and complications.

Keywords: First aid, pediatric, knowledge, attitude, self-efficacy, parents

Introduction

First aid is defined as "the initial care provided for an acute illness or injury." The goals of a first-aid provider include preserving life, alleviating suffering, preventing further illness or injury, and promoting recovery (Charlton et al., 2019).

Anyone can initiate first aid with themselves in any situation. There are general guidelines for providing first aid, which are not limited to recognizing, assessing, and prioritizing the need for it. Those performing first aid must use appropriate competencies and be cognizant of the limitations. They should seek additional care, such as providing emergency medical services or medical assistance, as required (Singletary et al., 2015).

According to the Centers for Disease Control (CDC), children reach milestones in playing, learning, speaking, acting, and moving. Developmental milestones include taking a first step, smiling for the first time, and waving "bye-bye." The aspiration of foreign body parts, defined as the suffocation, asphyxiation, or inhalation of solid matter by a child retained in the upper or lower respiratory tract, particularly in the bronchi, trachea, larynx, or glottis, could occur at the toddler stage of development (Centers for Disease Control, n.d.).

The fundamental concept of pediatric first aid lies in having the necessary basic awareness, knowledge, and practices to save the life of a suffering child in urgent critical condition. In pediatrics, children undergo developmental stages, beginning with weaning from breastfeeding and then becoming inquisitive about exploring the environment around them independently. Children spend most of their time under their parents' observation, whether at home or outside (Wani et.al., 2022).

Rafiefar et al. (2005) claimed that society must improve knowledge, attitude, and parents' self-efficacy, which will increase their motivation and self-competence in conducting first-aid measures for their children when needed. Most preschool-aged children (six years and under) require first-aid treatment for their injuries. Preschoolers are a critical venue for focusing on preventing injuries and infections in children since situations requiring first aid are commonplace. All patients with acute burn injuries who came to a children's hospital were given first aid (Chang et al., 1989; Cuttle et al., 2009).

A study undertaken in Egypt titled "Effect of Community-Based Intervention on Knowledge, Attitude, and Self-Efficacy Toward Home

Injuries Among Egyptian Rural Mothers Having Preschool Children" determined that health education improves mothers' knowledge, attitude, and self-efficacy regarding home injuries and first-aid measures. The study established that about 35% of male children experienced home injuries. The mean score of total knowledge increased from 10.21 ± 3.1 in the pretest to 18.90 ± 2.6 in the posttest, the total attitude increased from 6.19 ± 1.8 to 10.26 ± 2.3, and self-efficacy increased from 20.75 ± 6.1 to 34.43 ± 10.1, with $p < 0.001$ for all changes. Age, education level, and previous home injuries were significant predictive factors for total knowledge, attitude, and mothers' self-efficacy. It was recommended that home injuries be included in high school curricula and that universities hold training courses in first-aid measures for parents (El Seifi et al., 2018).

The study "Knowledge and Practice of First Aid Among Parents Attending Primary Health Care Centers in Madinah City, Saudi Arabia" indicated that among 390 parents, the majority (97.2%) were knowledgeable of first aid. More than half of the respondents (55.6%) were males, with 40% ranging between 31 and 40 years of age, while 31.5% were between 20 and 30 years of age. The most common source of information about first aid was the mass media (59%). Most parents (93.3%) believed there must be first-aid training, but only 34.6% had attended a training course. Highly educated parents with a moderate number of children (4–6) reported nurses as the main source of information. Those participants who had attended first-aid training and had experience with incidents involving their children expressed significantly higher first-aid knowledge than their counterparts (Al-Johani et al., 2018).

In Riyadh, Saudi Arabia, a study concerning parents' knowledge in the home management of their children's fever found that most parents (64%) correctly defined fever, and 56% correctly identified a high fever. Almost all parents (95%) believed that a fever was harmful and that febrile convulsion was the most concerning complication of a fever (74%), followed by a loss of consciousness, dehydration, brain damage, and hearing loss. Most parents (82%) touched their children to confirm fever, 68% used an oral thermometer, and 63% used an axillary thermometer. Most (84%) also applied cold compression, 75% gave their children nonprescribed fever medication, 61% gave them plenty of fluids, and 64% immediately took them to the doctor. Almost one-third of participants reported having difficulty choosing fever medicine or giving the proper dose and frequency. No difference in knowledge or practice was found in relation to differences in the participants' demographic characteristics. The study identified poor knowledge and practice regarding parents' management of febrile children and the overuse of nonprescribed fever medication, potentially resulting in a waste of health resources (AlAteeq et al., 2018).

Another cross-sectional study, which was undertaken in Taiwan, titled "The Self-Efficacy of First Aid for Home Accidents Among Parents with 0–4-year-old Children at a Metropolitan Community Health Center in Taiwan," collected data from 445 parents at eight metropolitan community health centers using purposive sampling. It found that parents' overall rate of knowledge of first aid was 72%. The mean score for 100% certainty in parents' self-efficacy of first aid was 26.6%. The lowest scores for self-efficacy concerned choking and cardiopulmonary resuscitation (CPR). A significant positive correlation was established between parents' knowledge and self-efficacy of first aid ($p < 0.01$); thus, knowledge of first aid was determined to predict parents' self-efficacy. Moreover, participation in first-aid programs, first-aid knowledge acquired from medical professionals, and self-efficacy concerning first aid are all partially mediated by the participants' first-aid knowledge. The researchers recommended that medical providers offer first aid information detailing how to handle choking and perform CPR to better manage accidents affecting children. A suitable program designed by health professionals could positively impact parents' confidence in their ability to respond appropriately to accidents at home (Wei et al., 2013).

Finally, a study evaluating Maternal Knowledge and Attitude Regarding First Aid for children was undertaken in Buraidah City, Saudi Arabia, found that about two-thirds of the studied mothers had a poor understanding of the concepts and components of first aid (65.5% and 69.8%, respectively). About two-thirds (67.4%) of the studied mothers also had incorrect knowledge of first aid for burns. Meanwhile, less than half (41.5%) had sufficient knowledge of first aid for fractured bones and nose bleeds. The study concluded that more than half of the mothers studied had an unsatisfactory knowledge level of first aid, and less than half had a positive attitude toward first aid. There was also a high positive correlation between total knowledge of and attitude toward first aid (Bassam, 2022).

Only limited studies on parental knowledge of pediatric first aid, attitudes toward it, and self-efficacy concerning it have been undertaken in Tabuk City. Therefore, this study established a database for future research and baseline data for conducting parental training and education programs. This study aimed to determine the knowledge, attitude, and self-efficacy of parents concerning pediatric first aid in Tabuk City by considering different demographic profiles, answering research questions on parental knowledge of pediatric first aid, determining how to describe parental attitudes toward pediatric first aid, and establishing the level of self-efficacy among parents concerning pediatric first aid.

Methods

This study employed a cross-sectional descriptive study of 527 parents in Tabuk City using purposive and convenience sampling. The study obtained permission to use an online web-based pre-validated questionnaire developed and tested for reliability, for which Cronbach's α coefficient equaled 0.82 and 0.85 for knowledge and attitude, respectively (El Seifi et al., 2018). The questionnaire included four parts: 1) questions about the participants' demographics, 2) questions about their knowledge of pediatric first aid, 3) questions about attitudes toward pediatric first aid, and 4) questions on self-efficacy concerning pediatric first aid.

Parents' knowledge of the predisposing factors, ways of prevention of the selected types of injuries, and the immediate measures that should be taken were determined using 25 questions, four of which concerned a general knowledge of home injuries, five about drug and chemical poisoning, five about burns, six about wounds and fractures, and five about choking. Each question has to be answered with "yes," "no," or "I don't know." Mothers' attitudes toward exposure to home injuries included 11 questions. The response was measured using a modified 3-point with an agreement scale. For self-efficacy, mothers were asked 11 questions concerning caring for their children based on the validated Sherer's General Self-Efficacy Standard Scale (El Seifi, et.al, 2022).

The responses for knowledge were interpreted based on wrong and right answers. "Yes" answers were given two points, "no" answers one point, and "I don't know" answers were given zero points, resulting in a range of knowledge from 0–50. At the end of the knowledge section, the participants were asked to note their knowledge sources. For mothers' attitudes toward exposure to home injuries, the response was measured with a modified 3-point agreement scale (one: disagree; two: neutral, and three: agree), for which every mother could obtain a score of 1–133. Regarding self-efficacy, the response to the questions consisted of a 5-point scale. A summary of the scores, which had a range of 0–44, indicated overall self-efficacy. The higher the total score was, the higher the participants' self-efficacy was.

The researchers prepared a letter of permission to conduct the study, which the group's research adviser noted, with the approval of the head of the Nursing Department. They then sent it to the Local Standing Committee on Research Ethics. Ethical Committee clearance was obtained from the University of Tabuk Institutional Review Board. Once the study was approved, the researchers began gathering data. The researchers distributed the invitations for participants via Google Forms. A survey was distributed electronically via Google Forms in February 2023 to parents in Tabuk City. After providing full consent, the participants completed the questionnaires using their smartphones, tablets, and laptops.

The collected data were entered into Microsoft Excel and analyzed by a professional statistician. The researchers determined the respondents' profiles, knowledge, attitudes, and self-efficacy by frequency and percentage.

Results

Table 1 shows the respondents' demographic profiles. The first column represents the variables, the second column represents the frequency, and the third column represents the percentage.

Table 1: Participants' Demographic Profiles

Demographic Profile		Frequency	Percentage
Age	20–30	140	27
	31–40	158	30
	41–50	178	34
	51-60	45	9
	61 and >	6	1
Gender	Male	125	24
	Female	402	76
Nationality	Saudi	513	97
	Non-Saudi	14	3
Education	Read and write	6	1
	Middle school education	16	3
	High school education	91	17
	University and higher	414	79
Occupation/job	Employee	325	62
	Retired	40	8
	Student	33	6
	Housewife	116	22
	Other	13	2
Number of family members	1–2	55	10
	3–4	129	24
	5–6	213	40
	7 and >	130	25
With children <6 yrs. old	None	29	6
	1–2	388	74
	3–5	44	8
	6 >	66	13
Training	With	350	66
	Without	177	34
Experience providing first aid	With	243	46
	Without	284	54
Need for training	Yes	522	99
	No	5	1

Among the 527 participants, 178 (34%) belonged to a 41–50 year age group, 158 (30%) to a 31–40 year age group, 140 (27%) to a 20–30 year age group, 45 (9%) to a 51–60 age group, and 6 (1%) to a 61 year-and-over age group. Regarding gender, 402 (76%) of respondents were female, while 125

(24%) were male. A total of 513 (97%) were Saudi nationals, and 14 (3%) were non-Saudis.

A total of 414 (79%) participants studied in colleges and universities, 91 (17%) obtained a high school education, 16 (3%) achieved a middle school education, and six (1%) never attended school. Most respondents (325 [62%]) were employed, 116 (22%) were homemakers, 40 (8%) were retired, 33 (22%) were students, and 13 (2%) were categorized as others, a classification including entrepreneurs and mobile maintenance jobs.

Regarding the number of families, 213 (40%) of the participants had 5–6 children, 130 (25%) had seven or more children, 129 (24%) had 3–4 children, and 55 (10%) had 1–2 children. Among the 527 respondents with children less than six years old, 388 (74%) had 1–2-year-old children, 66 (13%) had children six years old and over, 44 (8%) had 3–5-year-old children, and 29 (6%) did not have children.

Most parents (350 [66%]) had first-aid training, while 177 (34%) did not. More than half of the respondents (284 [54%]) had never performed first aid, while 243 (46%) had. Almost all the respondents (52 [99%]) identified a need for every parent to receive first-aid training, while 5 (1%) did not believe this need existed.

Table 2: Sources of Information

Sources of Information	Frequency	Percentage
Media (e.g., TV, internet, social media, and newspapers)	452	85.77
Relatives (e.g., family members, close friends, and neighbors)	154	29.22
Health practitioner (doctor, nurse, and health educator)	147	27.89
Awareness campaigns	205	38.90
Training courses	5	0.95
Self-education	2	0.38
Family member doctor	1	0.19
Personal experiences	1	0.19
Sessions	1	0.19
Daily life as a mother	3	0.57

Table 2 shows the respondents' information sources. Parents' sources of information on first aid were primarily mass media, such as television, the internet, social media, and newspapers (452 [85.77%]). A total of 205 (38.90%) obtained information from awareness campaigns; 154 (29.22%) from relatives, such as family members, close friends and neighbors; 147 (27.89%) from health practitioners, such as doctors, nurses, and health educators; five (.959%) from training courses; three (0.57%) from a mother's daily life experience; two (.38%) from self-education; one (.19%) from a family member who is a doctor; one (.19%) from personal experience; and

one (.19%) from sessions on first aid. Table 3 indicates parents' knowledge of pediatric first aid, including first aid for home injuries.

Table 3: Knowledge of First Aid

Knowledge	Yes 2		No 1		I Don't Know 0	
	f	%	f	%	f	%
Home injuries and death are prevalent among preschool children.	440	83.4%	45	8.54%	42	797%
Home injuries can be prevented by following home safety guidelines.	495	93.9%	25	4.74%	7	1.33%
Do you have any instructions for first aid that should be followed in case of home injuries?	378	91.2%	118	3.04%	31	1.90%
Should the mother not leave young children to play alone?	442	83.8%	69	13.0%	16	3.04%
Leaving detergent and medicine on a cabinet's bottom shelf endangers children.	495	93.9%	23	4.36%	9	1.71%
One must put locks on cabinets used to store medicine and detergents.	509	96.5%	14	2.66%	4	0.76%
Is the correct place to keep detergent and medicine on the highest shelf of the cabinet?	435	82.5%	75	14.2%	17	3.23%
If children swallow chemicals, should you always make them vomit?	231	43.8%	170	32.2%	126	23.9%
A child who swallowed chemicals should drink milk and eggs.	150	28.46%	191	36.2%	186	35.2%
Leaving sharp instruments in front of children may increase their risk of injury.	507	96.2%	15	2.85%	5	0.95%
When a child is injured, one must first apply pressure to the wound.	358	67.9%	115	21.8%	54	10.2%
Should one allow children to go up and down stairs without assistance?	84	15.9%	423	80.27	20	3.80%
The mother must choose the right games for her baby, avoiding toys with sharp edges.	434	82.35	56	10.6%	37	7.02%
Do you think one should not move a child's limb when suspecting a fracture?	475	90.1%	29	5.50%	23	4.36%
Should you prevent your child from walking and running on wet floors?	496	94.1%	22	4.17%	9	1.71%
Should restrictions be placed on children entering the kitchen?	466	88.4%	42	7.97%	19	3.61%
When hot oil or boiled water spills on a child's chest, is the first step removing their clothes?	274	51.9%	161	30.5%	92	17.4%
In case of a burn, should one place ice packs on the affected part as the first	222	42.1%	204	38.7%	101	19.1%

Knowledge	Yes 2		No 1		I Don't Know 0	
action?						
Hot food and boiling water should be removed from the elements of stove.	488	92.6%	20	3.80%	19	3.61%
Should you test the water temperature before giving a child a shower?	502	95.2%	13	2.47%	12	2.28%
In case of choking, one must first lower the child's head and then strike his back.	395	74.9%	70	13.2%	62	11.7%
Will removing small objects from the mouth of a child reduce the risk of choking?	510	96.7%	7	1.33%	10	1.90%
Should one put small, suitable amounts of food in a child's mouth?	503	95.4%	17	3.23%	7	1.33%
Is ensuring the baby chews food well before swallowing necessary?	492	93.3%	19	3.61%	16	3.04%
Should a child be prevented from laughing while eating?	490	92.9%	28	5.31%	9	1.71%

The results of this study revealed parents' knowledge of pediatric first aid. They were found to be knowledgeable and answered 21 out of the 25 questions. Home injuries are a significant cause of injury and death for preschool children (440 [83.49%]), and they can be prevented by following home safety guidelines. A total of 495 (93.93%) parents had information on first aid that should be followed in case of home injuries. A total of 378 (91.27%) mothers knew not to leave young children playing alone, while 442 (83.87%) knew that leaving detergent and medicine on the bottom shelf of a cabinet is dangerous for children, 495 (93.93%) knew to put locks on cabinets used to store the drugs and medicine, and 509 (96.58%) knew that they should keep detergent and medicine on the highest shelf in the cabinet. A total of 435 (82.54%) knew that detergent and medicine should be kept on the highest shelf of the cabinet, and 507 (96.20%) knew that leaving out sharp instruments may expose children to injuries

A total of 358 (67.93%) parents were aware that in the event of their children's injury, the first action is to apply pressure to the wound; 475 (90.13%) knew not to move a child's limb if suspecting a fracture, and 502 (95.26%) knew to test the water temperature before giving their children a shower. A total of 84 (15.94%) parents knew that a child should be supervised when going up and down stairs, 496 (88.43%) knew to prevent children from walking and running over wet floors, and 434 (82.35%) knew that they should choose toys without sharp edges or protrusions for infants to play with. A total of 466 parents (88.43%) were aware that children should not enter the kitchen unsupervised, and 488 (92.60%) knew that hot food and boiling water should be removed from a stove's front elements. A total of

510 (96.77%) knew that removing small objects from a child's mouth may reduce the risk of choking, 503 (95.45%) knew to put small amounts of food in a child's mouth, 492 (93.36%) ensured that the baby chews food well before swallowing, 490 (92.98%) were aware that the child should be prevented from laughing while eating, and that for choking, one must lower the child's head and strike their back (395 [74.95%]).

High knowledge among parents (507 [96.20%]) was revealed in question 10, which asked whether they were aware that leaving children with access to sharp instruments could expose them to potential injuries; question 11, which asked whether a child should drink milk and eat egg after swallowing chemicals (150 [28.46%]); and question 14, which asked if one thinks one should not move a child's limb if suspecting a fracture (475 [90.13%]). For question 17, 274 (51.99%) of parents knew that when hot oil or boiling water is spilled on a child's chest, the first step is to remove their clothes, and for question 18, 222 (42.13%) knew that in case of a burn, one should immediately put ice packs on the affected part.

Table 4: Parental Attitudes Toward Pediatric First Aid

Attitude	Agree 3		Sometimes 2		Disagree 1	
	f	%	f	%	f	%
Do you support including training in basic first aid and avoiding injuries in school and university curricula?	501	95.0%	20	3.80%	6	1.14%
Is having a complete first aid kit in your home necessary?	502	95.2%	20	3.80%	5	0.95%
Do you think that raising families' awareness of home injuries will reduce their incidence?	481	91.2%	36	6.83%	10	1.90%
"Home injuries are preventable"?	354	67.1%	138	26.1%	35	6.64%
Do you want to attend awareness seminars on how to reduce and manage home injuries?	455	86.3%	59	11.2%	13	2.47%
In the event of a home injury, do you think the first action is to visit health service at the nearest hospital or clinic?	409	77.6%	101	19.1%	17	3.23%
Do you think traditional home injury treatment methods are beneficial?	228	43.2%	232	44.02%	67	12.71%
When a home injury occurs, do you think one should first consult with relatives or neighbors?	138	26.1%	243	46.1%	146	27.7%
Do you think monitoring a child at all times is necessary?	440	83.4%	65	12.3%	22	4.17%
Can you perform first aid on your injured child before going to the hospital?	321	60.9%	164	31.1%	42	7.97%
Do you think protecting your child from exposure to home injuries is easy?	262	49.7%	227	43.0%	38	7.21%

The results revealed parents' attitudes toward pediatric first aid. Parents showed an appropriate attitude in nine out of 11 questions. These included teaching the basics of first aid and how to avoid injuries in school and university curricula: 501 (95.07%) agreed, 20 (3.80%) somewhat disagreed, and six (1.14%) disagreed; the necessity of having a complete first aid kit in your home: 502 (95.26%) agreed, 20 (3.80%) somewhat disagreed, and five (.95%) disagreed; raising families' awareness of home injuries will reduce their incidence: 481(91.27%) agreed, 36 (6.83%) somewhat disagreed, and 10 (1.9%) disagreed; and home injuries are preventable: 354 (67.17%) agreed, 138 (26.19%) somewhat disagreed, and 35 (6.64%) disagreed. The appropriate attitude was also shown in their responses to whether one should attend awareness seminars on how to manage and avoid home injuries: 455 (86.34%) agreed, 59 (11.20%) somewhat disagreed, and 13 (2.47%) disagreed; whether the first action following a household injury should be visiting the nearest hospital emergency room or clinic, 409 (77.61%) agreed, 101 (19.1%) somewhat disagreed, and 17 (3.23%) disagreed; one should always monitor one's child: 440 (83.49%) agreed, 65 (12.33%) sometimes, and 22 (4.17%) disagreed; one should perform first aid on an injured child before going to the hospital, 321 (60.91%) agreed, 164 (31.12%) sometimes, and 42 (7.97%) disagreed; protecting your child from exposure to home injuries is easy: 262 (49.72%) agreed, 227 (43.07%) somewhat disagreed, and 38 (7.21%) disagreed. The results indicated that 320 (60.72%) of the participants strongly agreed that safety measures should be implemented at home; 291 (55.22%) of the participants were optimistic about preventing home injuries even after failing, while 103 (19.54%) did not want to give up easily on preventing home injuries.

Lower attitude scores were observed concerning whether traditional methods are useful for treating home injuries: 228 (43.26%) agreed, 232 (44.02%) somewhat disagreed, and 67 (12.71%) disagreed; and whether one must first consult with relatives or neighbors when home injuries occur: 138 (26.19%) agreed, 243 (46.11%) somewhat disagreed, and 146 (27.70%) disagreed.

Table 5: Self-Efficacy Concerning First Aid

	Strongly Agree 4		**Agree 3**		**Sometimes 2**		**Disagree 1**		**Strongly Disagree 0**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
1. I can apply first aid to my child in emergencies before seeking health care.	172	32.6%	134	25.4%	198	37.5%	23	4.36%	0	0.00%
2. I can educate	178	33.7%	145	27.5%	162	30.7%	40	7.59%	2	0.38%

	Strongly Agree 4		Agree 3		Sometimes 2		Disagree 1		Strongly Disagree 0	
	F	%	F	%	F	%	F	%	F	%
my family about first aid for various injuries.										
3. I can prevent home accidents with planning.	217	41.1%	168	31.8%	132	25.0%	10	1.90%	0	0.00%
4. If I have failed to prevent home injuries, I will still try to successfully prevent them.	291	55.2%	167	31.6%	51	9.68%	14	2.66%	4	0.76%
5. If I have failed to prevent home injuries, I will not try to prevent them again.	137	26.0%	83	15.7%	75	14.2%	146	27.7%	86	16.32%
6. I will immediately implement safety measures in my household.	320	60.7%	151	28.6%	46	8.73%	7	1.33%	3	0.57%
7. Implementing safety measures to prevent home injuries is too difficult for me.	124	23.5%	76	14.4%	109	20.6%	146	27.7%	72	13.66%
8. Failure makes me try harder.	281	53.3%	158	29.9%	67	12.7%	19	3.61%	2	0.38%
9. I feel insecure about my ability to protect my child.	127	24.1%	75	14.2%	117	22.2%	143	27.1%	65	12.33%
10. I give up easily.	116	22.0%	72	13.6%	83	15.7%	153	29.0%	103	19.54%
11. I am incapable of undertaking household injury prevention measures.	120	22.7%	71	13.4%	98	18.6%	154	29.2%	84	15.94%

The participants showed acceptable to high self-efficacy levels concerning pediatric first aid. They were confident and showed the necessary self-efficacy in their responses to nine out of 11 questions. These included the ability to apply first aid to my child in emergency situations before seeking health care: 72 (32.64%) strongly agreed, 134 (25.43%) agreed, 198

(37.57%) somewhat disagreed, 23 (4.36%) disagreed, and none strongly disagreed; educating my family on first aid for various injuries: 178 (33.78%) strongly agreed, 145 (27.51%) agreed, 162 (30.74%) somewhat disagreed, 40 (7.59%) disagreed, and two (.38%) strongly disagreed; the ability to plan for preventing household accidents: 217 (41.18%) strongly agreed, 168 (31.88%) agreed, 132 (25.05%) somewhat disagreed, 10 (1.90%) disagreed, and none strongly disagreed; if I fail to prevent household injuries once, I will not give up and try to be even more successful next time: 291 (55.22%) strongly agreed, 167 (31.69%) agreed, 51 (9.68%) somewhat disagreed, 14 (2.66%) disagreed, and four (.76%) strongly disagreed; if I fail to prevent home injuries once, I will not try again: 137 (26%) strongly agreed, 83 (15.75%) agreed, 75 (14.23%) somewhat disagreed, 146 (27.7%) disagreed, and 86 (16.32%) strongly disagreed; I implement safety measures at my home: 320 (60.72%) strongly agreed, 151 (28.65%) agrees, 46 (8.73%) somewhat disagreed, seven (1.33%) disagreed, and three (.57%) strongly disagreed.

Regarding the question concerning whether the implementation of measures to prevent home injuries is difficult, 124 (23.53%) strongly agreed, 76 (14.42%) agreed, 109 (20.68%) somewhat disagreed, 146 (27.7%) disagreed, and 72 (13.66%) strongly disagreed. For the question of whether failure makes one try harder, 281 (53.32%) strongly agreed, 158 (29.98%) agreed, 67 (12.71%) somewhat disagreed, 19 (3.6%) disagreed, and two (.38%) strongly disagreed. Then, for the question of whether parents feel insecure about their ability to protect their children, 127 (24.1%) strongly agreed, 75 (14.23%) agreed, 117 (22.2%) sometimes, 143 (27.13%) disagreed, and 65 (12.33%) strongly disagreed.

The participants showed a lack of self-efficacy in their responses to two statements. First, for the responses to “I give up easily,” 116 (22.01%) strongly agreed, 72 (13.66%) agreed, 83 (15.75%) somewhat disagreed, 153 (29.03%) disagreed, and 103 (19.54%) strongly disagreed. Second, 289 (54.84%) showed hesitation or an inability to undertake household injury prevention measures, with 120 (22.77%) strongly agreeing, 71 (13.47%) agreeing, 98 (18.6%) somewhat disagreeing, 154 (29.22%) disagreeing, and 84 (15.94%) strongly disagreeing. A total of 54% stated they were incapable or sometimes unwilling to do so.

Discussion

Parents’ knowledge, attitude, and self-efficacy concerning first aid are essential for the safety of children and other household members. Anybody can be susceptible to injury either inside or outside the home.

This study included demographic profiles. Most participants were employed 41–50-year-old female Saudis with a university education. More

than half had not previously attended first aid training courses, with family sizes ranging from five to six and the age of children mostly between one and two years of age. The demographics in this study do not align with those in El Seifi et al.'s study (2018), which included rural mothers in Egypt. The gap between rural and urban communities could be their respective education levels. The participation of this study's attendees in first-aid training was low, which differs from Joseph et al.'s (2015) study of teachers in Mangalore, South India, who had received first-aid training in response to reports of injuries arising at their school.

In El Seifi et al.'s (2018) study, rural Egyptian mothers had poor basic first-aid knowledge. However, most participants in this study were knowledgeable about basic first aid and various household injuries, except for burns and chemical poisoning. This may have the advantage of the luxuries of cities and current technology, which represent an urban city's high level of civilization. They have a high level of education, which provides them with information and continuous development, and they use more contemporary learning methods than rural residents.

This study showed the significant role of mass media and the lesser importance of awareness campaigns, relatives, and physicians as knowledge sources. These findings align with El Seifi et al.'s (2018) study, which similarly showed the significance of the mass media in providing information that improved health education, awareness, and self-efficacy. Indeed, most information can be easily accessed on the internet or social media. These sources offer free access and provide a wealth of information anywhere at any time.

The total score for the participants' attitudes was high, except for using traditional treatments for home injuries and consulting with relatives or neighbors before treatment. The participants consulted relatives or neighbors because they lacked the confidence to perform first aid. The use of traditional treatments for home injuries aligns with the findings of Bayomi et al.'s (2013) study of preschool children's injuries in rural and urban areas. They observed that in rural areas, traditional methods are still used for treating injuries, such as placing coffee grounds on wounds to stop bleeding.

There was a higher score for self-efficacy than for attitude among parents, excluding their ability to apply first aid to their children before seeking health care and to take preventive measures for household injuries due to their trust in health care providers.

Conclusions

Most participants were 41–50-year-old Saudi females from Tabuk City with a university education, and most had 5–6 family members. Their information on pediatric first aid came mostly from the media. Most had no

experience performing pediatric first aid, and almost all agreed that parents should undergo training. Based on this study's findings, it can be concluded that most parents in Tabuk City, Saudi Arabia, have basic knowledge of first aid but limited experience with it. However, they are willing to improve their competence to protect their household members, especially children, from injuries and complications.

There is no specific scale to measure the self-efficacy of parents in case n injuries, so the researchers were forced to use the general one, which was not suitable for some items in this research. Moreover, the self-reported data may lead to some sort of inaccuracy.

It is humbly recommended that further studies must be done to determine the impact of health education intervention on decreasing home injuries, the need for including knowledge about prevention of home injurie in the educational curriculum of high schools and University and providing training courses about first aid measures for both parents to develop community-based awareness and sound practice.

Conflict of Interest: The authors reported no conflict of interest.

Data Availability: All data are included in the content of the paper.

Funding Statement: The authors did not obtain any funding for this research.

References:

1. AlAteeq, M. M., AlBader, B. O., Al-Howti, S. Y., Alsharyoufi, M., & Abdullah, J. B. (2018). Parent's knowledge and practice in home management of fever in their children in Riyadh, Saudi Arabia. *Journal of Family Medicine and Primary Care*, 7(5), 1012–1018. https://doi.org/10.4103/jfmpc.jfmpc_18_18
2. Al-Johani, A. A. S., Sabor, S., & Aldubai, S. A. R. (2018). Knowledge and practice of first aid among parents attending primary health care centers in Madinah City, Saudi Arabia, a cross sectional study. *Journal of Family Medicine and Primary Care*, *7*(2), 380–388. https://doi.org/10.4103/jfmpc.jfmpc_64_18
3. Bandura, A. (1995). *Self-efficacy in Changing Societies*. Cambridge University Press.
4. Bassam SEA. Evaluate Maternal Knowledge and Attitude Regarding First Aid Among their Children in Buraidah City, Saudi Arabia Kingdom (KSA). *Med Arch. 2022* Jun;76(3):164-169. doi: 10.5455/medarh.2022.76.164-169. PMID: 36200120; PMCID: PMC9478825.

5. Centers for Disease Control. Child Development, Positive Parenting Tips: Toddlers (2–3 years old). May 16, 2024. Positive Parenting Tips: Toddlers (2–3 years old) | Child Development | CDC
6. Chang, A., Lugg, M. M., & Nebedum, A. (1989). Injuries among preschool children enrolled in day-care centers. *Pediatrics*, *83*(2), 272–277.
7. Charlton, N. P., Pellegrino, J. L., Kule, A., Slater, T. M. , Epstein, J. L., Flores, G. E., Goolsby, C. A., Orkin, A. M., Singletary, E. M., & Swain, J. M. (2019). American Heart Association and American Red Cross focused update for first aid: Presyncope: An update to the American Heart Association and American Red Cross guidelines for first aid. *Circulation*, *140*(24), e931–e938. https://doi.org/10.1161/CIR.0000000000000730
8. Cuttle, L., Kravchuk, O., Wallis, B., & Kimble, R. M. (2009). An audit of first-aid treatment of pediatric burns patients and their clinical outcome. *Journal of Burn Care & Research*, *30*(6), 1028–1034. https://doi.org/10.1097/BCR.0b013e3181bfb7d1
9. El Seifi OS, Mortada EM, Abdo NM. Effect of community-based intervention on knowledge, attitude, and self-efficacy toward home injuries among Egyptian rural mothers having preschool children. PLoS One. 2018 Jun 21;13(6):e0198964. doi: 10.1371/journal.pone.0198964. PMID: 29927950; PMCID: PMC6013117.
10. Joseph N., Narayanan, T., Bin Zakaria, S., Nair, A. V., Belayutham, L., Subramanian, A. M., & Gopakumar, K. G. (2015). Awareness, attitudes and practices of first aid among school teachers in Mangalore, South India. *Journal of Primary Health Care*, *7*(4), 274–281. https://doi.org/10.1071/Hc15274
11. Rafiefar, S. H., Attarzada, M., & Ahmadzadeasl, M. (2005). *Systematic empowerment of people to take care of themselves* (1st ed.). Mehrravesh Publishing.
12. sayed Bayomi, S., & Mobarak, A. A. (2013). Preschool children injuries in rural and urban communities at Assiut Governorate: A comparative study. *Journal of American Science*, *9*(5).
13. Singer, A. J., Gulla, J., Thode, H. C., Jr, & Cronin, K. A. (2004). Pediatric first aid knowledge among parents. *Pediatric Emergency Care*, *20*(12), 808–811. https://doi.org/10.1097/01.pec.0000148028.53598.5c
14. Singletary EM, Zideman DA, De Buck ED, Chang WT, Jensen JL, Swain JM, Woodin JA, Blanchard IE, Herrington RA, Pellegrino JL, Hood NA, Lojero-Wheatley LF, Markenson DS, Yang HJ; First Aid Chapter Collaborators. Part 9: First Aid: 2015 International

Consensus on First Aid Science With Treatment Recommendations. Circulation. 2015 Oct 20;132(16 Suppl 1):S269-311. doi: 10.1161/CIR.0000000000000278. Erratum in: Circulation. 2017 Jun 13;135(24):e1143. doi: 10.1161/CIR.0000000000000514. PMID: 26472857.

15. Tomruk, O., Soysal, S., Gunay, T., & Cimrin, A. H. (2007). First aid: Level of knowledge of relatives and bystanders in emergency situations. *Advances in Therapy*, *24*(4), 691–699. https://doi.org/10.1007/BF02849962
16. Wani JI, Almushayt NO, Abbag WF, Buhran LA, Nadeem M. Pediatric first aid, trauma knowledge, and attitude among parents and general population in Aseer region, Southern Saudi Arabia. SAGE Open Med. 2022 Oct 14;10:20503121221126762. doi: 10.1177/20503121221126762. PMID: 36267494; PMCID: PMC9577076.
17. Wei, Y. L., Chen, L. L., Li, T. C., Ma, W. F., Peng, N. H., & Huang, L. C. (2013). Self-efficacy of first aid for home accidents among parents with 0- to 4-year-old children at a metropolitan community health center in Taiwan. *Accident Analysis and Prevention*, *52*, 182–187. https://doi.org/10.1016/j.aap.2012.12.002