



ORIGINAL ARTICLE

## Knowledge of first aid at home in mothers of children under five years of age attending the Julio Andrade Health Center

Conocimientos sobre primeros auxilios domiciliarios en madres de menores de cinco años que acuden al Centro de Salud Julio Andrade

Julio Rodrigo Morillo-Cano<sup>1</sup>✉, Melba Esperanza Narváez-Jaramillo<sup>1</sup>, Edid Tatiana Mejía-Álvarez<sup>1</sup>

<sup>1</sup>Universidad Regional Autónoma de Los Andes. Tulcán, Ecuador.

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### ABSTRACT

**Introduction:** accidents in childhood are largely preventable situations, which improve their prognosis if they receive adequate first aid.

**Objective:** to determine the knowledge of first aid at home in mothers of children under five years of age attending the Julio Andrade Health Center.

**Methods:** quantitative, observational, descriptive, cross-sectional, descriptive study in mothers of children under five years of age attending the Julio Andrade Health Center between June 2020 and June 2021. The sample consisted of 40 patients. Descriptive statistics were used.

**Results:** 27,5 % of the respondents reported that their child had choked and 20 % reported falls and blows. 55 % of the parents stated that they definitely could not identify the risk factors for accidents at home and 70 % did not know the main accidents that could happen to the infant. 45 % reported not having a first aid kit at home. A low number of mothers (<50 %) knew what first aid to give in domestic accidents such as bites, burns, wounds and falls.

**Conclusions:** in the study population there is a low knowledge of first aid to provide in the event of accidents in the home. There is a low perception of the implications of accidents at home, as well as a lack of means to provide first aid. It is necessary to develop educational interventions to improve the level of knowledge.

**Keywords:** First Aid; Home Accidents; Health Literacy; First Aid Kit; Wounds and Injuries.

## RESUMEN

**Introducción:** los accidentes en la infancia son situaciones en gran medida prevenibles, que mejoran su pronóstico si reciben los primeros auxilios adecuados.

**Objetivo:** determinar los conocimientos sobre primeros auxilios domiciliarios en madres de menores de cinco años que acuden al Centro de Salud Julio Andrade.

**Métodos:** estudio cuantitativo, observacional, descriptivo, transversal en madres de menores de cinco años que acuden al Centro de Salud Julio Andrade entre junio de 2020 y junio de 2021. La muestra la constituyeron 40 pacientes. Se empleó estadística descriptiva.

**Resultados:** El 27,5 % de las encuestadas refirió que su hijo sufrió atragantamiento y el 20 % caídas y golpes. El 55 % de los padres expuso que definitivamente no podría identificar los factores de riesgo de accidente en el hogar y el 70 % no conocer los principales accidentes que pueden ocurrir al infante. El 45 % refirió no tener botiquín de primeros auxilios en el hogar. Un bajo número de las madres (<50 %) supo que primeros auxilios brindar en accidentes domésticos como las mordeduras, quemaduras, heridas y caídas.

**Conclusiones:** en la población de estudio existe un bajo conocimiento sobre los primeros auxilios a brindar ante accidentes en el hogar. Existe una baja percepción de las implicaciones de los accidentes en el hogar, así como carencia de los medios para brindar primeros auxilios. Se hace necesario el desarrollo de intervenciones educativas para mejorar el nivel de conocimiento.

**Palabras clave:** Primeros Auxilios; Accidentes Domésticos; Alfabetización en Salud; Botiquín; Heridas y Lesiones.

## INTRODUCTION

An accident is defined as a damage or affectation produced by situations that are far from human will; it is a casual, unexpected or fortuitous event.<sup>(1)</sup> Accidents at home are recognized as a health situation with high incidence; the numbers of injuries at home are five times higher than traffic accidents and represent one of the first 10 causes of death in children from zero to 14 years of age.<sup>(2)</sup>

In the province of Sancti Spíritus, Cuba, it was reported by Erazo Estrada et al.<sup>(3)</sup> 9,2 % and 14,09 % of patients admitted to a Pediatric Intensive Care Unit in 2016 and 2017, respectively, were due to accidents.

A study conducted in Ecuador by Chacón Casanova et al.,<sup>(4)</sup> studied 1800 patients admitted to pediatric services of which only 54 presented fractures (3 %). They found that 54 % of fractures occurred in children under five years of age, with a higher incidence in males (57 %). In 51 % of the cases the accidents were domestic, showing the need to establish risk prevention in the home.

First aid is defined as the appropriate, provisional and immediate care given to injured persons or persons with sudden onset medical conditions before the arrival of specialized medical care or care in medical assistance centers. These are usually applied without sophisticated equipment or techniques, generally with minimal materials improvised at the site of the accident.<sup>(5)</sup>

In order to apply first aid to minors, it is necessary to have the necessary knowledge to act in certain circumstances that represent a threat to the physical integrity of the minor. Above all, because first aid acquires certain peculiarities in the first stages of life.

The level of knowledge of first aid has been studied in different population groups, showing a low level of knowledge, resulting from the absence or low effectiveness of educational interventions and awareness campaigns.

A study by Iparraguirre Salas et al.,<sup>(6)</sup> found that 43,3 % of sixth grade students had a low level of knowledge of first aid and 56,7 % a medium level.

A study conducted by Barboza Vargas et al.<sup>(7)</sup> in third year high school students in Peru was carried out to determine the level of knowledge about first aid in trauma and burns in 87 students. The 54,7 % presented deficient knowledge about generalities in first aid; 54,7 % with respect to trauma and burns in 53,7 %.

Espejo RE, et al.,<sup>(8)</sup> conducted a study to analyze the level of knowledge about first aid in basic education teachers of two educational institutions in the city of Portoviejo. The study found that most of the teachers evaluated had insufficient knowledge of first aid, requiring preparation in this regard.

Another study conducted on teachers by Malca Hernández et al.,<sup>(9)</sup> identified that 22,22 % of 45 teachers had a low level of knowledge of first aid, 71,11 % a medium level and 6,67 % a high level. Similarly, 53,33 % showed a negative attitude towards first aid.

A study conducted by Henríquez León,<sup>(10)</sup> in the Yuracruz community in the canton of Ibarra, Ecuador, of 108 people, found that 90 % were unaware of first aid in general. Sixty-three percent did not know the emergency number, did not know how to secure the accident site, 93 % did not know how to act in the event of a domestic accident and 100 % did not know how to act in the event of a fracture.

Fathers and grandparents are generally the main caregivers of infants; however, it should be noted that this function is mainly performed by mothers. In the case of parents, studies have also been carried out to determine the level of knowledge about first aid and prevention of domestic accidents. Yauli Flores et al.,<sup>(11)</sup> found that 45 % of mothers of children under five years of age had a fair level of knowledge about accident prevention, and 26 % had a poor level.

Given the problem of accidents in childhood and the need for first aid by caregivers, it was decided to carry out this study. The present investigation was carried out with the objective of determining the knowledge of first aid at home in mothers of children under five years of age who come to the Julio Andrade Health Center.

## METHODS

A quantitative, observational, descriptive, descriptive, cross-sectional study was conducted in mothers of infants under five years of age attending the Julio Andrade Health Center in the period between June 2020 and June 2021.

The study universe consisted of all mothers of infants under five years of age who attended the center during the study period. The sample consisted of 40 mothers selected by simple random sampling. Mothers of children under five years of age attending the Julio Andrade Health Center

who agreed to participate in the study were included in the study; mothers with mental or physical limitations and those who were minors were excluded.

For the development of the study, a group of variables were evaluated: age and age of the child, accidents that occurred to the child, ability to identify risk factors for accidents to children at home, importance given to first aid, existence of a first aid kit at home, knowledge of the most common accidents suffered by children at home, physical and psychological repercussions of a burn, as well as the first action to be taken in situations of falls, bites, burns and wounds.

A semi-structured survey was used to obtain the information, designed on the basis of other instruments such as the one used by Henríquez León.,<sup>(10)</sup> The data obtained were deposited in a database prepared for this purpose and curated.

For the statistical analysis of the data, the database was imported into the SPSS 21.0 statistical package. Descriptive statistics were used, calculating absolute and relative percentage frequencies.

The present study was approved by the ethics committee and scientific council of the Julio Andrade Health Center and the Universidad Regional Autónoma de Los Andes. The data were used for research purposes only. Informed consent was requested from each respondent. The principles of bioethics were respected.

## RESULTS

Among the children of the mothers surveyed, those aged four and two years (45 % and 30 %, respectively) and those of male sex (60 %) predominated. Among the most common accidents reported were choking (27,5 %) and falls and blows (20 %) (Table 1).

**Table 1.** Sociodemographic characteristics of the children of the mothers surveyed.

Characteristics of children	No	%
<b>Age</b>		
1 year	4	10
2 years	12	30
3 years	6	15
4 years	18	45
<b>Sex</b>		
Male	24	60
Female	16	40
<b>Accidents that have occurred to children</b>		
Burns	4	10
Cuts or wounds	3	7,5
Dog bite	1	2,5
Falls and blows	8	20
Choking	4	10
Drowning	7	17,5
Electrocution	2	5
Choking	11	27,5

With respect to the risk factors for accidents at home, it was found that 55 % of the parents said that they definitely could not identify them, 10 % were undecided and only 10 % could identify them.

**Table 2.** Distribution of parents according to knowledge of accident risk factors and the importance of first aid.

Ítem	No	%
<b>Identification of risk factors for accidents at home for children</b>		
Definitely yes	4	10
Probably yes	2	5
Undecided	8	20
Probably no	4	10
Definitely no	22	55
<b>Importance given to first aid</b>		
Improves life	6	15
Decreases pain	4	10
Prevents risky situations	15	37,5
Prevents worsening of health	8	20
Prevents panic and disorganization	7	17,5

The existence of a first aid kit in the home was consulted, where 45 % reported not having one, 30 % reported having some materials and 10 % did have one. Seventy percent of the parents said they did not know the most common accidents suffered by children at home. When asked about the physical and psychological repercussions of a burn for children, 55 % said they were unaware of them.

A survey was conducted on the first action to be taken in different situations; the responses are shown in Table 3. In the case of a fall, 35 % stated that the first action they would take was to observe the area; in the case of bites, 37,5 % stated that they would clean the wound with plenty of water and soap. In the case of burns, 47,5 % of the parents stated that their first action was to let cold water run over the burn or soak it with cold water, and in wounds, 37,5 % stated that their first action was to clean and wash the wound with plenty of soap and water and 37,5 % stated that they would disinfect the wound with alcohol.

**Table 3.** Distribution of parents by first action in different situations.

Situation	First action	No	%
Falls	Observe the affected area	14	35
	Apply poultice	9	22,5
	Bandage	5	12,5
	Go to health center	12	30
Bites	Clean and wash the wound with plenty of water and soap	15	37,5
	Clean the wound with alcohol	10	25
	Clean the wound with hydrogen peroxide	6	15
	Place a bandage on the wound	9	22,5
Burns	Run cold water over burn or soak with cold water	19	47,5
	Just clean the burn	10	25
	Places cooking oil on the burn	6	15
	Unknown	5	12,5
Wound	Cleans and washes the wound with plenty of soap and water	15	37,5
	Disinfects the wound with alcohol	15	37,5
	Go to Health Center	6	15
	All	4	10

## DISCUSSION

The characteristics of neurodevelopment and motor development of children make situations that are normally harmless for a person become life-threatening. This generates the need to know important elements about accidents in this age group, which escapes an epidemiological characterization to identify factors that may influence the occurrence of these accidents. In this line, the capacities and knowledge of caregivers for prevention and first aid in these situations acquire greater connotation.

Yauli Flores et al.,<sup>(11)</sup> found in a study of 215 mothers that 88 % of the children had suffered accidents, the main ones being falls (32 %) and burns (25 %). The study by Chacón Casanova et al.,<sup>(4)</sup> reported that 80 % of the fractures were caused by falls. Erazo Estrada et al.<sup>(3)</sup> found that the main accidents were traumas, followed by intoxications.

These results partially coincide with those of the present study, where choking and falls predominated. The divergence of results in this aspect is multifactorial, and depends mainly on the existence of the main risk factors. However, in general, the most common types of accidents are similar in each pediatric population: falls, burns, poisoning, choking, drowning, wounds and bites.

Regarding falls, the study by León Yaurí et al.,<sup>(12)</sup> found that 74 % (n=37) do not know how to prevent accidents and falls. In many cases these are related to fractures, hence their clinical-epidemiological characterization constitutes an element of great value in the field of pediatric orthopedics.<sup>(13)</sup>

A fall or injury can have repercussions on the state of health, resulting, depending on its location, in physical or neurological sequelae, or death. This conditions the need not only to know how to act in this situation, but also how to prevent them.

Henríquez León,<sup>(10)</sup> found that in 100 % of the houses in the community of Yuracruz there was no first aid kit, which is higher than that identified in the present investigation. In addition, 95 % of those surveyed considered it necessary to know about first aid, and 95 % said they would like to receive training in this area.

The existence of a first aid kit in the home is a key element, since it is useless to know the theory of first aid if one does not have the materials to provide it. Although first aid generally requires the improvisation of the first aider, if it is known that a significant number of accidents in children occur at home, having the basic means at home is a factor that speaks in favor of a better care and recovery of the patient if they are used by properly trained hands.

León Yaurí et al.,<sup>(12)</sup> found that 80 % of the mothers surveyed do not know how to prevent burns. This fact constitutes an alarming situation, since Aguilar Infante et al.<sup>(14)</sup> pointed out that in children under 10 years of age, the greatest number of burns admitted to the Caumatology services are intradomiciliary.

Aldunate et al.,<sup>(15)</sup> carried out a literature review to determine the knowledge of parents and/or caregivers of children under six years of age about first aid for burns. The study analyzed the results presented in 13 articles, where 100 % showed a deficient knowledge of parents about burns management, prognosis and treatment. The study identified as risk factors for burns in children the deficient vigilance of the caregiver, low cultural and economic level of the caregivers, lack of health literacy, low home risk prevention.

Arias Medina et al.,<sup>(16)</sup> conducted a study to show the effectiveness of an educational program in the acquisition of first aid knowledge in mothers of the Cuna Más Program, Tarma district, during the year 2020. This study identified that in the diagnostic stage only 20 % of the mothers knew what first aid to apply in the event of an injury.

The present study has several limitations, among which is the descriptive nature of the study, preventing the generalization of the results, as well as the determination of causal or related factors. Another limitation is the size of the sample, requiring replication of this research in other centers, communities and with larger samples.

It is concluded that in the study population there is low knowledge about first aid to provide in case of accidents at home. There is a low perception of the implications of accidents at home, as well as a lack of means to provide first aid. It is necessary to develop educational interventions to improve the level of knowledge.



### Conflict of interests

The authors declare that does not exist an interest conflict.

### Contribution of the authors

All authors participated in the conceptualization, formal analysis, administration of the project, writing - original draft, writing - revision, editing and approval of the final manuscript.

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