

EDUCACIÓN PARA LA SALUD EN PRIMEROS AUXILIOS A COMUNIDAD EDUCATIVA RURAL DEL HUILA - COLOMBIA, 2021

EDUCATION FOR HEALTH IN FIRST AID TO RURAL EDUCATIONAL COMMUNITY FROM HUILA - COLOMBIA, 2021

Jesús Stivent Zúñiga Meneses*
Ingrid Yolercy Troche Gutiérrez**
Juan Camilo Calderón Farfán***

Recibido: Marzo 29, 2022

Aceptado: Junio 29, 2022

Tipo de Artículo: Investigación científica y tecnológica

* Magíster en Educación de la Universidad Surcolombiana. Docente Universidad Antonio Nariño.
jesuszuniga56@yahoo.com
0000-0002-6513-6000

** Magíster en Salud Pública de la Universidad de Antioquia. Docente de la Universidad Surcolombiana.
ingridtroche06@gmail.com
0000-0001-5861-2964

*** Doctor en Ciencias de la Salud de la Universidad Surcolombiana. Docente de la Universidad Surcolombiana.
juan.calderon@usco.edu.co
0000-0001-5965-5771

How to cite this article:

Zúñiga, J., Troche, I. & Calderón, J. (2022). Educación para la salud en primeros auxilios a comunidad educativa rural del Huila - Colombia, 2021. *Revista PACA 13*, pp. 17-30.

Abstract: Student population is at high risk of accidents which require an adequate risk management to preserve students' integrity and life. This makes first aid education meaningful to handle these situations, especially in rural contexts with constraints regarding access to health services. Objective: To build by means of a participatory process an educational program in first aid with the educative community from Quituro-Tarqui in the Department of Huila, Colombia. Method: Mix Research Study – with action research methodology. This study used as data collection techniques pre-test and post-test type surveys, workshops, and knowledge dialogues with a sample of teachers, school administrators, students, and parents. Results: The study permitted to identify educational needs in first aid of the participant community. A virtual educational program in first aid was built and developed, which helped increasing a 40% of level of knowledge in first aid and permitted to identify popular knowledge about the management of these type of situations in the community. Conclusion: It should be noted the relevance and pertinence that educational programs have for health issues through knowledge dialogues, in correspondence with educational needs in health issues that affect specific realities from different contexts.

Keywords: health education, first aid, educational community, rurality, educational program.

Introduction

World statistics estimate that approximately 1,928,342 boys and girls have died from traumas or accidents that require first aid (WHO, 2013), with higher morbidity in Latin American countries. Previous research affirms that the mortality rate in minors is very high due to situations that require first aid care, but unfortunately they do not have it.

An adequate management of an out-of-hospital emergency situation improves survival and prevents future sequelae between 60% and 90% (Navarro, Arufe and Basanta, 2015) (Ariza, Betancourt and Reyes, 2017); In contrast, if adequate care is not available, the probability of preventing neurological consequences, amputations and death decreases significantly (WHO, World Report on Injury Prevention, 2004). In this sense, school children and young people constitute a population susceptible to presenting any type of accident, this being a population to prioritize in terms of first aid.

18

In Colombia, childhood accidents are considered a public health problem, due to the loss of human capital, the implications of rehabilitation processes, and the costs in social security (Ariza, Betancourt, and Reyes, 2017). The problem exposed becomes more complex in rural areas that require special monitoring by health personnel, due to the difficulty of timely management of those situations that put the lives of individuals at risk. In this sense, education is essential to intervene in this complex situation, as evidenced in studies carried out in Spain, Cuba and Colombia, which suggest that by implementing ludic and formative activities with teachers and students, the percentage of knowledge grows, generating as a result convenient actions in any situation that requires it, reducing the mortality rate and the negative consequences on the health of individuals (Ariza, Betancourt and Reyes, 2017). (Abralde and Ortin, 2010), (Rodríguez, Sanabria and Hernández, 2007), (Arteaga, 2011), (Tenorio and Escobar, 2009), (Navarro, Arufe and Basanta, 2015).

Some studies agree that teachers often have limited knowledge to provide first aid. Among the associated factors are that in their academic

training they do not develop educational processes in first aid (Felpeto, Paton and Basanta, 2015), they lack solid bases to transmit knowledge on this subject to students in educational institutions (Aldrete, Mireles, Mendoza and Camila, 2004) and there are minimal higher education institutions that implement subjects related to first aid in their study plans (Ariza, Betancourt and Reyes, 2017). It stands out from some studies that a high percentage of teachers have a favorable attitude and willingness to provide a first aid service (Cardona, Londoño and Mosquera, 2014) (Aldrete, Mireles, Mendoza and Mendoza, 2004).

In particular, this project was carried out in Quituro, a town in the municipality of Tarqui in the department of Huila, located two hours from a hospital with an emergency service; situation that increases the probability that a student or member of the educational community will die or present some type of sequel to an accident, a situation that has been recognized as a risk in the educational project of the Institution (Institución Educativa Quituro-Tarqui, 2016).

Method

Mixed research with a participatory action-research approach (Van Dalen and Meyer, 2006), which integrated pre-test and post-test surveys, workshops and knowledge dialogues. Participatory action research made possible meetings (Fernández, 2001) adapted to the situation of the COVID-19 pandemic on digital platforms, facing the handling of real problems, seeking to solve them, through specific responses to these social problems.

For this investigation, the entire educational population belonging to the Quituro Institution of the municipality of Tarqui-Huila was taken; however, it is specified that an intentional direct sampling exercise was carried out. This type of sampling, also known as sampling by judgment, convenience or criteria, is the one that is selected based on knowledge of a population or purpose of the study. On this line, the group made up of all the teachers and teaching directors and a subsample made up of students and parents of the Institution was selected as the unit of analysis (Otzen and Manterola, 2017).

For the selection of the sample, **inclusion criteria** were taken into account such as being a teacher, director, student or parent of the Quituro Educational Institution for a period of not less than one year; be over thirteen years of age and express their willingness to participate in the study. Among the **exclusion criteria** were: Presenting some type of disability or particular limitation that prevented them from participating in the study.

The sample was made up of all the teachers and managers, a subsample made up of students and parents of the Institution, as detailed in table 1.

Table 1
Selection of study participants.

N.	Distribution of study participants	N	Women		Men		Age Years	Range of permanence in the institution (years)
			n	%	n	%		
1	Managers	3	3	100	0	0	36-60	3:29
2	Teachers	25	21	84	4	16	25-69	2:20
3	Parents	5	4	80	1	20	22-48	3:10
4	Students	8	5	63	3	38	13-17	2:11
Total		41	27	66	14	34	13-69	2:29

Source: self made.

The information collection techniques used in this study were the survey and the dialogue of knowledge applied virtually through the virtual platform Google meet. It is important to specify that the dialogue of knowledge proposed for this study was conceived as a communicative and dialectical process in which different opinions, knowledge and logics can interact, in which scientific, empirical and everyday knowledge converge, in a harmonious scenario, which seeks understanding, recognition and respect for otherness (Leff, 2004).

The research was structured in four different stages or phases in compliance with the proposed objectives, being: assessment, construction, implementation and evaluation, which are developed below.

The **assessment** was achieved with an approach with the educational community since January 20, 2021, with an endorsement by the rector of the institution to carry out the entire process. In accordance with the proposed phases of the study, a pre-test type knowledge survey in first aid was applied to the participants, in order to demonstrate the needs of the topics to be raised and establish behaviors in the formative process, after an active listening through a dialogue of knowledge about the perception that the educational community had on the subject.

The **construction** phase began with the elaboration of the educational program articulating dialogues of knowledge, with the study participants belonging to the educational community. To this end, different questions, interests and knowledge were addressed in topics such as: typology and management of traumas, wounds, burns, vital signs, ophidian accidents, cardiopulmonary respiration (CPR), fractures, wound management, seizures and choking.

The **Implementation** phase refers to the development of the educational program in first aid with the teachers, directors, parents and students of the Quituro Educational Institution. After the preparation of the pretest, twelve educational and theoretical-practical sessions were designed with the active participation of the community, which were characterized by the development of a masterful explanation, viewing of informative videos, explanation of key slides for the theme, listening and constant participation. The topics developed in the sessions were: Assessment of the initial situation (Pretest), Concepts of vital signs and components, hemorrhages, fractures, seizures, snakebite accidents and compression method, burns, choking, cardiopulmonary resuscitation, Wounds; In addition, practical workshops were held in two sessions: one on seizures, burns and fractures, and another on snakebite accidents, hemorrhages and vital signs.

In the **evaluation** phase, a post-test was carried out to assess knowledge in comparison with the pre-test when relating it to the same questions; It was possible to show an increase in the percentage of correct answers, which suggests a certain degree of appropriation of the subject by the educational community. The evaluation was not only quantitative, but also qualitative, taking into account the participation, exercises and workshops that were carried out, specifying that in general terms the degree of commitment, punctuality and respect of the working group was excellent.

In the analysis of the quantitative information, descriptive statistics were used in accordance with the nature of each of the variables of the survey applied in the pretest and posttest, in accordance with the operationalization of study variables. For the qualitative analysis, the perceptions, interests, needs, opinions and knowledge of the participants chosen for the study were systematized, prioritizing that information that was most significant and pertinent.

Results

During this investigative process, the participants were asked how they perceived the need or the importance of developing an educational process in first aid. It was found that 53.66% of the teaching population considered it to be very important, added 12.20% of the population of parents, 7.32% of the population of students and another 7.32% of administrators. teachers (for a total of 80.5% of the study participants); In contrast, a small margin of the sample of students and teachers considered that the educational process was "important" (9.76%; 2.44%) or "moderately important" (4.88%; 2.44%) that they felt the same way (See figure 1).

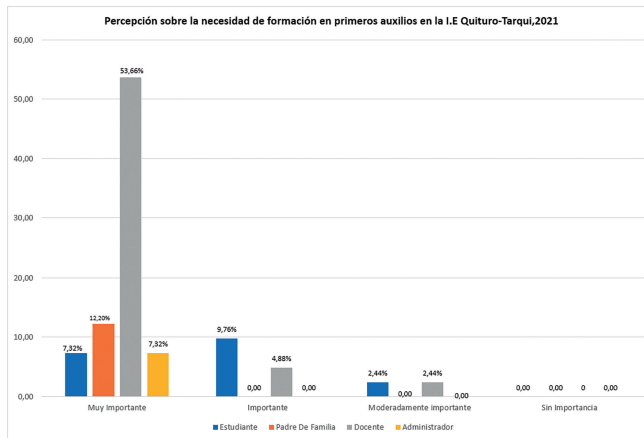


Figure 1. Perception of the need for first aid training in the I.E. Quituro-Tarqui, 2021.

Source: self made.

Evaluation of the educational program in first aid with the educational community of the Quituro-Tarqui Institution.

This study began with a pretest-type diagnostic process that inquired about the knowledge that the selected population had about first aid prior to the sessions; It was followed by the formative process and finally a post-test type evaluation was carried out that allowed analyzing and contrasting the initial knowledge with the final knowledge. The initial and final diagnostic tests asked about the same topics of interest, asking the same question in a different way. The results obtained in this process are presented and compared below.

Table 2

Comparison of the level of knowledge between pre-test and post-test by topics developed in the First Aid Educational Program.

N°	Main theme	Actors	Frequency of correct response Pre-test (n)	Pretest percentage (%)	Post-test correct response frequency (n)	Post-test percentage (%)	Improvement Percentage (%)
1	Bleeding	Students	3	7,32	4	9,76	+2,44
		Parents	3	7,32	5	12,2	+4,88
		Teachers	13	31,71	20	48,78	+17,07
		Administrat.	0	0,0	3	7,32	+7,32
		Total	19/41	46	32/41	78	+32
2	Fractures	Students	4	9,76	6	14,63	+4,87
		Parents	4	9,76	5	12,2	+2,44
		Teachers	10	34,15	20	48,78	+14,63
		Administrat.	0	0,0	3	7,32	+7,32
		Total	18/41	44	34/41	83	+29,26
3	CPR	Students	4	9,76	5	12,2	+2,44
		Parents	4	9,76	5	12,2	+2,44
		Teachers	14	34,15	18	43,9	+9,75
		Administrat.	0	0,0	3	7,32	+7,32
		Total	22/41	54	31/41	76	+22
4	PAS Behavior	Students	2	4,88	5	12,2	+7,32
		Parents	0	0,00	4	9,76	+9,76
		Teachers	3	7,32	17	41,46	+34,14
		Administrat.	3	7,32	3	7,32	0
		Total	8/41	19	29/41	71	+52
5	Seizures	Students	2	4,88	5	12,2	+7,32
		Parents	1	2,44	4	9,76	+7,32
		Teachers	0	0,00	19	46,34	+46,34
		Administrat.	0	0,00	3	7,32	+7,32
		Total	3/41	7	31/41	76	+69

6	Choking	Students	2	4,88	5	12,2	+3
		Parents	2	4,88	2	4,88	0
		Teachers	9	21,95	19	46,34	+10
		Administrat.	3	7,32	3	7,32	0
		Total	16/41	39	29/41	71	+32
7	Ophidic accident	Students	4	9,76	6	14,63	+4,87
		Parents	2	4,88	5	12,2	+7,32
		Teachers	9	21,95	20	48,78	+26,83
		Administrat.	2	4,88	3	7,32	+2,44
		Total	16/41	41	34/41	83	+42
8	Mobilization of an individual with cervical trauma	Students	4	9,76	5	12,2	+2,44
		Parents	1	2,44	4	9,76	+7,32
		Teachers	7	17,07	16	39,02	+21,95
		Administrat.	2	4,88	3	7,32	+2,44
		Total	14/41	34	28/41	68	+34
Average			36%		76%		+40%

Source: self made.

Regarding the issue of bleeding, in the initial diagnostic test, 46.35% answered the question correctly, a quantity that rose to 78.06% in the post-test; it means, there was an increase of 31.71% success in the answers after the sessions. When analyzing by subgroups, there is evidence of an increase in the level of knowledge of 2.44% in students, 4.88% in parents, 17.07% in teachers and 7.32% in administrative staff.

About the topic of fractures, only 9.76% of the students, 9.76% of the parents, 34.15 of the teachers and 0% of the administrative teachers had the basic knowledge to manage these situations. Once the educational process in first aid was carried out, this margin was reduced, achieving that 14.63% of the students, 12.20% of the parents, 48.78% of the teachers and 7.32% of administrators achieve the approval of the mentioned contents.

In cardiopulmonary resuscitation, during the initial diagnostic test, 9.76% of students, 9.76% of parents, 34.15% of teachers and 0% of administrators had basic knowledge on the subject. In contrast, once the educational process in first aid was carried out, the level of knowledge increased, achieving that 12.2% of the student population, 12.20% of parents, 43.9% of teachers and 7.32% of administrators achieved the approval of said contents.

Regarding the issue of seizures during the initial diagnostic test, it was found that 4.88% of the students, 2.44% of the parents, 0% of the teachers and administrators answered assertively. Once the educational process in first aid was carried out, it was achieved that 12.2% of the students, 9.76% of the parents, 46.34% of the teachers and 7.32% of the administrators achieved the approval of such content.

Regarding the issue of choking, during the initial diagnostic test, the members of the participating population were informed about this issue, finding that only 4.88% of the students, 4.88% of the parents, 21.95% of teachers and 7.32% of administrators had basic knowledge on the subject. However, after addressing the educational process in first aid, the correct answers increased, achieving that 12.20% of the students, 4.88% of the parents, 46.34% of the teachers and 7.32% of the administrators achieved the approval of said contents. In this sense, it is highlighted that the results of the parents and the administrators did not present any variation between the pre-test and the post-test.

In the investigation on the topic of ophidic accidents, during the initial diagnostic test it was found that 9.76% of the students, 4.88% of the parents, 21.95% of the teachers and 4.88% of the the administrative teachers showed adequate knowledge to treat this situation.

In summary, there was an increase between the pretest (36%) and the posttest (76%), with an average of 40% in the level of knowledge of the first aid topics developed in this educational program. In particular, it stands out that the topics with the greatest increase were seizures (69%) and PAS behavior (52%); In contrast, the topics of CPR (22%), hemorrhages (32%) and choking (32%) presented the least variations in the level of knowledge.

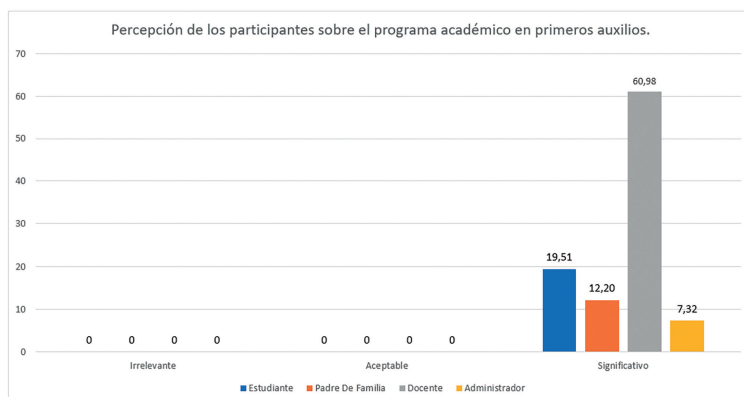


Figure 2. Perception of the participants about the academic program in first aid.

Source: self made.

100% of the participants indicated that the educational process was significant, and related to the group dialogues, they highlighted that their development seemed appropriate, necessary, pertinent, practical and adequately structured for the contextual reality of the institution. Finally, once all the field work was done with the educational community, it became clear that the first aid educational process was significant and pertinent.

Discussion

Different studies reflect similarity with the results found in this one. Some highlight that the teacher population in the school environment does not have sufficient preparation in first aid, lacking basic knowledge and having a tendency to despair in the presence of any situation that indicates danger in Peru (Cardona, Londoño and Mosquera, 2017) and Mexico (Aldrete, Mireles, Mendoza and Mendoza, 2004). Likewise, during the teacher training process, their curricula do not have courses, subjects or training on first aid, except in careers such as physical education, in which some didactic content on the subject was observed (Cruz and Gamboa, 2016), (Navarro, Arufe and Basanta, 2015). These approaches were ratified in this study, since through daily experiences desperation and ignorance are evidenced in a situation that requires first aid.

A relevant difference in this study was the inclusion of administrative staff, students and parents, in whom greater knowledge gaps were identified than teachers; In this sense, it is important to target programs to these population groups that are part of the educational community. An outstanding element is the receptivity and interest of the educational communities regarding training and developing learning processes on first aid. In this regard, different authors (Aldrete, Mireles, Mendoza and Mendoza, 2004) (Arteaga, 2011) affirm that most of the time these communities consider first aid education as something necessary and significant, for which they are interested; This situation was similar to what was identified in the Quituro Institution.

The literature highlights that people's perceptions of providing first aid is conceived as a complex task and delegated only to health personnel, who have completed specialized training in it (Abralde and Ortin, 2010), despite the fact that different authors specify that the service can be provided by anyone (Park, 2000) (UNESCO, 2020) (Muñoz and Villa, 2017). In this study, and especially during the first sessions, these same perceptions were evident; directors, teachers, parents and students expressed incapacity, ignorance and fear of acting.

The exposed challenge is consistent with studies from countries such as Spain (Felpeto, Paton and Basanta, 2015) (Abralde and Ortin, 2010) and Cuba (Felpeto, Paton and Basanta, 2015) (Abralde and Ortin, 2010) that highlight the need for a public health policy that protects the integrity of the educational community through permanent health education programs in school environments. The results of this study show that the educational community is not prepared to face a situation that requires first aid, since it did not know basic concepts and, although they recognize the need for an educational program, there are shortcomings in practices and some measures to take into account in relation to the theme. It should be noted that this type of problem is even more of a priority in rural areas, where the percentages of mortality and sequelae are higher. In this way, the need to move towards a public policy that positions health as a cross-cutting and central theme of the educational system and environments is emphasized.

At the national level, bibliography is found in Risaralda (Tenorio and Escobar, 2009), Tunja, Bogotá (Cruz and Gamboa 2016), Armenia (Ariza

and Betancourt, 2015) and Córdoba (Navarro, Arufe and Basanta, 2015) that indicates the lack of research related to first aid, which was ratified with the process of tracking and bibliographic search of this study. In this sense, it is considered important to increase scientific production on the subject of first aid from a community or collective health perspective, especially in rural areas, to overcome the existing marginality in terms of intellectual production and scientific publication.

Regarding the training processes, the bibliographic background indicates that if training sessions are held, the level of knowledge increases by almost 70%, as well as the interest of the educational community on the subject. After carrying out the virtual education process with the educational community of the Quituro-Tarqui Institution, it is observed that the figures were not so high (40%). Some variables that could have conditioned this scope may be related to interruptions in digital connectivity and the lack of attendance that these processes require. In that order of ideas, it is pertinent to continue developing studies that delve into teaching pedagogies for first aid with heterogeneous communities, from virtual platforms, attending to the current moment that the entire world is going through due to the COVID 19 pandemic.

Conclusions

The perceptions of the community regarding a first aid educational program identified in this study showed that 80.5% considered it very important; perceptions associated with the exclusivity of the topic for health professionals who provide first aid, feelings of ignorance, nervousness, as well as the existence of knowledge and beliefs for handling different situations were also identified.

The identification of educational needs to implement a first aid program by the community was carried out based on the frequency of situations that warrant first aid, training background, and pre-test evaluation. The most frequent situations were: animal bites, choking, burns, injuries with blunt objects, hemorrhages and fractures.

The design and implementation of the first aid educational program was integrated by twelve theoretical-practical sessions of the topics. The development made it possible to identify popular and community

knowledge about handling situations that require first aid, being valuable for the development of topics based on the dialogue of knowledge. Such a process implied not demeaning or questioning the knowledge of the community, since these come from traditions and culture that have meant in many cases the only tool that the population has had to manage these emergency situations.

Finally, the relevance and pertinence of the construction of health education programs from knowledge dialogues is highlighted, taking into account all the educational needs and specific realities of each context, since the realities and needs differ between one and other community. With the above, it is highlighted that the objective is aimed at building a participatory educational program in first aid with the community of the Quituro - Tarqui Educational Institution in the department of Huila.

Bibliographic references

- Aldrete, M & Mireles, M & Mendoza, P & Aranda, C. (2004). La actitud de los profesores de educación primaria ante los primeros auxilios. *Revista de educación y desarrollo, volumen (núm. 1)*, pp. 20-24. https://www.cucs.udg.mx/revistas/edu_desarrollo/antiores/1/001_Red_Aldrete.pdf
- Ariza, F. & Betancurt, P (2017). *Cuáles son los conocimientos que adquieren los estudiantes del grado noveno en una institución educativa en primeros auxilios después de una capacitación por estudiantes de atención prehospitalaria*. [Tesis de pregrado]. Universidad FUCS – CES. <https://repository.ces.edu.co/bitstream/10946/2949/1/Conocimientos%20Estudiantes%20Grado%20Noveno.pdf>
- Cardona, J. & Caro, A. (2014). Construcción y evaluación de una escala sobre conocimientos en primeros auxilios en estudiantes de educación media Medellín-Bello. *Revista Ces Medicina, volumen (núm. 1)*, pp. 35-48. <https://www.redalyc.org/pdf/2611/261132141004.pdf>
- Cazul, A. & Rodríguez, A. (2007). Enseñanza de primeros auxilios a escolares de cuarto y noveno grados. *Revista Cubana Salud Pública, volumen (núm. 2)*, pp. 25-28. http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0864-34662007000200006&lng=es&nrm=iso&tlng=es
- Educación para la salud: definición y métodos fundamentales. (2018). *Ciencia de la Salud. Educación para la salud; definición y métodos fundamentales*. <https://www.universidadviu.com/educacion-para-la-salud-definicion-y-metodos-fundamentales/>
- López, R. & Navarro, R. & Basanta, S. (2015). Formación y actitud del profesorado de educación física en educación primaria con respecto a los primeros

auxilios en la Provincia de Lugo. *Revista Transmisión del Conocimiento Educativo y de la Salud*, volumen (núm. 7), pp. 91-112. https://fb39c223-56a9-4ed3-91f4-073579bde094.filesusr.com/ugd/fa6be1_226a62cd46444cd6839f20f3c32ac004.pdf

Leff, E. (2004). Racionalidad ambiental y diálogo de saberes. Significancia y sentido en la construcción de un futuro sustentable. *Polis Revista Latinoamericana*, volumen (núm. 7), pp. 290-334. <https://dialnet.unirioja.es/servlet/articulo?codigo=2798847>

Muñoz, D. & Villa, E. (2017). Paulo Freire en la Educación popular latinoamericana, el porqué y el para qué de estarse formando como pueblo político. *Revista Kavilando*, volumen (núm. 1), pp. 276-286. <https://dialnet.unirioja.es/servlet/articulo?codigo=6110066>

CICR. (2013). *Primeros Auxilios en conflictos armados y otras situaciones de violencia*. <https://www.icrc.org/es/doc/assets/files/other/icrc-003-0870.pdf>

OMS. (2004). *Informe mundial sobre prevención de los traumatismos causados por el tránsito. Publicación científica y técnica No 599*. <https://iris.paho.org/bitstream/handle/10665.2/726/92%2075%2031599%20X.pdf?sequence=1>

Navarro, R. & Arufe, V. (2015). Estudio descriptivo de la enseñanza de primeros auxilios desde el profesorado de Educación Física en centros de educación primaria. Sportis. *Revista Técnico-Científica del Deporte Escolar, Educación Física y Psicomotricidad*, volumen (núm. 1), pp. 35-52. <https://dialnet.unirioja.es/servlet/articulo?codigo=4942270>

UNESCO (2020). *Educación para la salud y el bienestar*. <https://es.unesco.org/themes/educacion-salud-y-bienestar>