DOMESTIC ACCIDENTS AMONG CHILDREN: PRACTICAL CONCEPTIONS OF COMMUNITY HEALTH WORKERS*

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ABSTRACT: This qualitative, descriptive-exploratory research aimed to understand the practical work of the Community Health Workers regarding domestic accidents among children below five years old. It was undertaken with eight professionals registered in a Primary Healthcare Center in the municipality of Floriano, in the Brazilian State of Piauí. The data were collected in March 2014, the method was action-research, and the data were analyzed in accordance with thematic analysis, in which three categories emerged: Surveillance of the domestic environment, Educational strategies aimed at the caregivers, and Conducts regarding the occurrence of accidents. The data show that it is essential to plan an appropriate methodology to be undertaken with the Community Health Workers, which favors the qualification of their practice in the ambit of children's health in the context of domestic accidents. These results may contribute to the re-discussion of the Continuous Education in Health practices and encourage investment from the managers of the Unified Health System in formative and emancipatory educational actions.

DESCRIPTORS: Domestic accidents; Child; Community health workers.

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INTRODUCTION

In childhood, in particular in the preschool phase, the external causes are increasingly responsible for the injuries and deaths affecting innumerable children in Brazil and worldwide. Due to the set of characteristics which make them more vulnerable to accidents, such as their physical, mental and behavioral immaturity\(^{(1)}\), children are more prone to domestic accidents such as falls, wounds caused by sharp objects, poisoning, electric shocks and burns\(^{(2)}\).

Currently, domestic accidents in children below five years old are indicated as one of the main causes of mortality and morbidity in the population aged between one and 14 years old worldwide\(^{(3)}\). These are complex situations and reveal a serious public health problem, as – besides the social, economic and emotional costs – they are also responsible for nonfatal events and sequelae which, in the long term, have repercussions for the family and for society, penalizing children and adolescents\(^{(4)}\).

Regarding the international context of the problem, one study undertaken in the Ugandan city of Kampala, with children below 13 years old who had been accidentally injured, noted that of the 556 patients recorded in the hospital, 47% were below five years old. In relation to the domestic environments, these represented 54.8% of the places of greatest occurrence of non-intentional injuries in childhood\(^{(5)}\). In Brazil, a study undertaken with 7123 children aged below 10 years old evidenced that 96.8% had been the victims of accidents, the majority of which (66.6%) occurred in the home, with cuts being the most frequent injury (35.7%). In addition, out of the total of children, 18.9% were aged up to one year old, and 41.6% between two and five years old; 60.5%, therefore, were aged up to five years old\(^{(6)}\).

In the light of this problem, health professionals have a major responsibility in guiding and alerting families, as they actively intervene in changing behaviors and attitudes so as to prevent accidents and minimize the consequences which can arise from these\(^{(7)}\). As a result, for the caregiver to be able to exercise the conducts necessary for preventing harm to health in childhood, it is essential that educational actions – both individual and collective – should be intensified, requiring the work of the professionals involved in this context\(^{(8)}\).

Within the context of Primary Health Care, the Community Health Worker (CHW) appears as an important component, both in the perspective of surveillance, including the detection of environments likely to lead to accidents with children and the provision of guidance for preventive measures, as well as in the management of cases in which it was not possible to avoid them. The CHW comes to be a character of major significance for the primary level of health care, due to her closeness to the community, which configures her as the link between the health team and the population\(^{(7)}\), contributing in the implementation of preventive interventions for the domestic context.

Bearing in mind the relevancy of the role which the CHW takes on within the health team, and of her potential for identifying risk factors for children to suffer accidents in their homes, it is necessary to investigate her work regarding this issue, so as to list forms of support which assist in the improvement of the preventive strategies. In the light of the above considerations, the following guiding question emerged: How do the CHW work in the perspective of child safety in the domestic environment?

The present study, therefore, aims to understand the practical work of the CHW in relation to domestic accidents among children below five years old.

METHOD

This is qualitative research, of the descriptive-exploratory type, linked to a research project registered in the Department for Research of the Federal University of Piauí, titled “Accident or carelessness: the domestic environment and its risk factors for trauma in children”. Data collection, the exploratory phase of the action-research, occurred in March 2014.

The study was undertaken in a Primary Healthcare Center, in the city of Floriano, in the Brazilian state of Piauí (PI). The study participants were eight CHW, registered in the above-mentioned center. It is worth noting that the total quantity of CHW providing services to this community was nine, but that this number was not achieved, as one declined to participate.

For the consolidation of the sample, the process
of sampling and representativity was used in order to define the field of empirical observation\(^8\). This was made up of all the CHW who attended the meeting, or who were later approached and voluntarily accepted to participate in the study and in the data collection strategies. The inclusion criteria was: to be a CHW, duly registered in the Family Health Strategy, having undertaken activities for a minimum of one year.

For data collection, the framework of the action-research method was used. The technique used was the individual interview applied in depth\(^8\). In order to undertake this, during the exploratory phase, a script was used soliciting information regarding the sociodemographic aspects of the study participants, and with guiding questions addressing the theoretical and practical conceptions of the CHW relating to domestic accidents involving children below five years old; this manuscript presents that part relating to the practical aspects.

It is emphasized that there was no monopolization in the construction (collection proceedings) of the results by the researchers. In this regard, the participants were not only considered as members providing information, that is, attempts were made to articulate the stages of the study such that they would also perform an interrogative function, with the possibility of asking questions and clarifying the subjects inquired upon collectively. In this way, the CHW raised problems and situations from their professional praxis with the families which care, and this information led to this investigation’s constructs\(^8\).

The responses collected were organized in accordance with the themes arising from the study’s guiding questions, and in the analysis, the practical conceptions of the CHW regarding domestic accidents among children below five years old were interpreted. In order to begin the analysis of the information from the CHW, the accounts were listened to and transcribed in full, with the content being analyzed in three stages. First, a pre-analysis was undertaken through skim reading of the material. Next, the material was explored for defining the categories. Finally, the information was condensed for reflexive and critical interpretation. The criteria of categorization used, which permeated the whole process, was semantic, with thematic categories being established which brought together the record units under generic titles\(^9\), which were listed as: Surveillance of the domestic environment; Educational strategies aimed at the caregivers and Conducts regarding the occurrence of accidents.

This investigation respected the ethical rules for undertaking studies with human beings\(^10\) and was approved by the Research Ethics Committee of the Federal University of Piauí, under Opinion 530.717/2014.

RESULTS

A total of eight CHW – six female workers and two males – were interviewed in this study, their age range varying between 32 and 47 years old. Most were married. In relation to educational level, all had completed senior high school, three had undertaken a technical course, and one was finishing a degree. The majority did not undertake another role and had worked in the profession for over 10 years. Two CHW reported undertaking extra activities to complement the monthly family income, which varied from one to three minimum salaries.

In relation to undertaking courses and training related to children’s health, the CHW mentioned having undertaken few courses, pointing to a greater predominance of refresher courses on vaccination calendars, monitoring growth and weight (both mainly related to malnutrition), and conducts in cases of diarrhea and fever.

In the category Surveillance of the domestic environment, it was observed that the risk factors existing in the domestic environment are varied. This diversity was revealed by the CHWs’ discourses, which mentioned various places observed during the home visits which were likely to give rise to the occurrence of accidents, emphasis being placed on the kitchen and living room. Regarding the kitchen, the CHW emphasized that, in the exercising of their profession, they observed various materials, instruments and situations which can predispose to domestic accidents involving children:

\[\text{[\ldots] in the kitchen there are knives, lighters, matches [\ldots] The person lights them and leaves them lying around all over the place. (CHW I)}\]

\[\text{[\ldots] Badly positioned saucepans, with handles projecting outward, knives [\ldots]. (CHW II)}\]
I observe the kitchens most [...]. The kitchen, to see if there is something by the sink, the oven, children generally have the tendency to get things from the cupboard [...], he could grab on the fridge, which the paint is peeling off [...]. (CHW IV)

Saucepans with the handles projecting outward [...]. The child can grab the handle, turn the saucepan over her own head, and cause a burn. (CHW VI)

In relation to the environment of the living room – the second-most observed place – the CHW showed that they mainly notice the electrical installations within the child’s reach, the placing of electrical equipment to which the child has access, and furniture such as the sofa, as factors which predispose to shocks and falls:

In the sitting room, for example, there are plug sockets at ground level, and the child goes and sticks her finger in [...]. They leave the child watching television in the sitting room on her own and sometimes she wants to sit there pushing the plug into the socket and pulling it out again all the time. (CHW I)

I tend to observe just the plug sockets [...] where the plug sockets are [...] When I see a floor-level plug socket, I tend to observe it [...] People buy protectors for these plug sockets, these plug sockets are real dangerous [...] What caught my attention the most is precisely this, when I see these low plug sockets in a house, I like to observe this detail. (CHW III)

A sofa where they sit, because children fall off. (CHW VII)

In the category Educational strategies aimed at the caregivers, the CHW gave varying reports relating to the issue, evidencing that they have knowledge regarding some preventive measures against domestic accidents, and that they advise caregivers to adopt such conducts, so as to avoid the risk factors for accidents such as poisoning by cleaning products and medications, electric shocks, and drownings:

When I see these cleaning materials right there, I say – oh, please put these cleaning materials somewhere else, out-of-the-way, so the baby can’t get them [...]. (CHW III)

Medications are risky, you know, because the child can get them and poison themselves with the medication if it is easy to get at [...] Because there are children who, when they see medication, think ‘wow, I want to take one too!’ [laughs] and if it were child-formula aspirin, oh dear [...]. (CHW VII)

People buy a few protectors for the plug sockets, ah those plug sockets are a danger! (CHW III)

Plug sockets, they need to be placed higher [...]. Let’s get these plug sockets higher [...]. (CHW VI)

Is it necessary to store water? It is. Let’s be careful, and secure it [...] And cover the container properly, so the child can’t mess with it and fall in [...]. (CHW VI)

In other accounts, the subjects described strategies for preventing burns, cuts and falls:

If you cook on charcoal, let’s do the following [...] When you finish cooking, put the fire out [...] Let’s put the handles like this [gestures, as if positioning the saucepans with their handles to the side] [...] take care so that it can’t land on top of them [...]. (CHW VI)

Guidance, for them to be more careful, not to make it so easy, so that the children don’t have access, and to pay better attention to what she is playing with, sometimes it is even scissors [...] with sharp tips and there are some that cut, so we always say to put them away in the appropriate places, not to make them easy to get hold of [...] Not to leave things within the children’s reach [...]. (CHW VII)

The cradles need to be deeper, so that the child can’t hook their leg over the top [...] In the case of a child who sleeps in a hammock [...] put
the hammock as low as possible, you know? [...] Because that way even if she falls, it’s less of a fall [...] lighter [...]. (CHW VI)

[...] When a child falls, sometimes he dislocates his arm, his leg [...] I advised them to pay better attention, not to let them climb trees [...] And when the fruit is ripe, instead of waiting for the child to climb, go there and get the fruit for the child. (CHW II)

The category of Conducts regarding the occurrence of accidents seeks to present the types of accidents which occur in the area of the CHW, as well as the conduct practiced in relation to the occurrence of the same. In relation to episodes of falls and the conducts of the time these occurred, the CHW reported the following cases:

Falls [...] on the pavement, I don’t know how many stitches he had [...]. There was a lot of blood [...]. So I got a cloth to try to staunch the blood more, you know [...] and called the ambulance and all that [...] and they took him to hospital. (CHW III)

[...] Falls, exactly this type, the child fell and broke her arm [...] She fell from the hammock, fell on her arm [...] They didn’t put the child in the hammock again, they put her in a bed [...] pay more attention. (CHW IV)

In relation to the occurrence of burns, the following event was narrated:

[...] There was a saucepan of water, the child climbed on a stool and grabbed the handle of the saucepan [...] it was a milk pan, she got all burned and still has a scar now [...]. It was the mother who ran to my house because she was all red, they took her straight to hospital. (CHW V)

Regarding the occurrence of electric shocks, and the conducts in these situations, the CHW reported that they referred them to the hospital center, and gave advice necessary for increasing supervision of the child, as well as regarding changes in the house’s structure and throwing out defective electrical goods so as to avoid further accidents:

 [...] Electric shock, that’s already happened [...] The girl still suffers the sequelae today [...] In this case, she was immediately taken to hospital [...] keep them as far away as possible from the energy [...] The second case, he went to grab the fan and got a shock on his finger [...] It actually burned his finger [...] put the plug sockets high up, and keep the fan out of reach. (CHW VI)

In relation to the occurrence of choking/asphyxia, and the management of victims in this event, the CHW mentioned the following episodes:

[...] The boy swallowed a piece of leaf, I don’t know how it was, I just know that it didn’t go down and he was short of air and began to suffocate, I think it was a hairy leaf [...] I grabbed the child and picked him up, you know! I remembered that business [tries to simulate the Heimlich maneuver, but not correctly] on how to save the newborn, so I remembered, and I did the maneuver on him, and lifted his arm, and then another of my neighbors arrived [...] and gave the child water [...] and another neighbor called the ambulance, but before the ambulance arrived another neighbor managed to get the piece out [...] pulled it out. (CHW III)

[...] My granddaughter choked on a small pill [medicine] [...] The girl was short of air and couldn’t breathe. So there I go again with the technique. So I grabbed her, put on my chest here, and squeezed, raising her arms, and she breathed deeply. These little accidents put you through bad moments! If you don’t know how to act at the time, you end up losing your head and sometimes the child can even die. (CHW III)

DISCUSSION

In relation to the category Surveillance of the domestic environment, it is ascertained that the living room and kitchen are the environments observed most by these professionals. However, the little – or even absent – reference to observation in relation to other locales which are prone to domestic accidents among children reveals a gap in their knowledge.
One study for identifying the places where domestic accidents among children occur identified the living room as the principal environment where accidents occur in the domestic environment\(^{(1)}\). It was observed that the presence of loose wires and plug sockets without special protectors, placed within children’s reach could result in electric shocks\(^{(12)}\). It was also identified that the kitchen is the most dangerous place in the domestic environment for the child, as that is where the majority of burns, cuts, lacerations and poisonings take place, among other accidents\(^{(13-14)}\). Factors were mentioned by the CHW and observed during home visits in the area which they cover.

One can perceive the importance of the observation made by these CHW in these rooms, so that in this way they can mediate information for the caregivers – with a view to the adoption of measures which reduce the risks for accidents in these environments. However, there were few reports from the participants regarding the analysis of other rooms of the domestic environment which also pose risks to a child, such as: the bedroom, the bathroom, the utility area and the yard.

Regarding the category Educational strategies aimed at the caregivers, it was also understood that the CHW have knowledge regarding specific preventive measures against domestic accidents, and that they advise the caregivers to adopt such measures when the risk factors are identified. These actions corroborate some recommendations stipulated by the Ministry of Health, to advise the CHW in the promotion of children’s safety in the domestic environment\(^{(15)}\).

Considering the occurrence of domestic accidents which involve children, the CHW must be prepared to act through measures which can, if undertaken appropriately, avoid sequelae and even deaths, emphasizing that an inappropriately-undertaken conduct can entail irreversible consequences. In emergency treatment of burns, the recommendation is: to clean the wound with water and neutral soap; and not to place ice or any chemical product on the injured region, as this can worsen the burned area\(^{(16)}\).

Risks of choking and suffocation can also occur in the home. Approximately 80% of the cases of aspiration of a foreign body occur in children, with a peak of incidence between one and three years of age. In this age range, the children are exploring the world around them with their mouths, and have the fine motor coordination to place a small object in the mouth; however, when a large object is aspirated, it causes respiratory difficulties, aphonia and cyanosis, and can rapidly be lethal. In these cases, measures must be used such as tapping on the back for breast-feeding babies, or the use of the Heimlich maneuver in bigger children\(^{(17)}\).

It was noted that the practice of the CHW in relation to domestic accidents with children is directed towards the more common types of accidents; among the educational strategies in health, no mention was made of some accidents which are highly relevant in childhood due to their potential for causing sequelae and death, such as accidents caused through suffocation, asphyxia and strangulation.

Within the category Conducts regarding the occurrence of accidents, it can be understood that some conducts of the CHW regarding the occurrence of the types of accidents mentioned were appropriate. One can observe the limitation in the lack of theoretical and technical knowledge regarding notions of first aid. For this, there is a need for more refresher courses in first aid and efficient management of emergency conditions, with the CHW themselves suggesting the inclusion of the issue of first aid as a course in the Technical Course for Community Health Workers\(^{(18-19)}\).

In the light of the results, it was possible to perceive the absence of courses directed towards CHW for preventing domestic accidents, as, for this topic, there were only reports of refresher courses in first aid. It is essential to emphasize that the prevention of domestic accidents involving children must be part of these professionals’ training, as specified by the ministerial publication the Practical Guide for the Community Health Worker\(^{(15)}\). However, it is possible to state that the emphasis is given to the epidemiological and health surveillance aspects\(^{(20)}\).

It is known that the process of training these professionals, still incipient, contributes such that gaps in their knowledge make it impossible for activities relating to the prevention of domestic accidents involving children to be undertaken consistently and based in theoretical-practical knowledge. Thus, appropriate training is necessary, in which situations of risk may be
addressed through practical workshops with simulations, such that the help for the victim, and the maneuvers used in situations where there is risk of death, mentioned by the participants, may be undertaken based on an appropriate understanding and basis\textsuperscript{(21)}.

It follows that, in addition to the training of the CHW, the actions for advising and empowering the families to protect their children and prevent accidents must be increased, considering the caregivers’ protagonism in contributing to the child’s right to enjoy physical well-being and have her health promoted\textsuperscript{(22)}.

All these questions require political-programmatic commitment from the managers of the Unified Health System (SUS) and supervisors of the CHW who ensure appropriate training for these professionals, as well as continuing education strategies for the Health teams, in relation to comprehensive care for the child\textsuperscript{(23)}.

In the light of the discussion undertaken, this study presents – to assist with the reader’s understanding – a summary of the categories of the findings of this study, and their proposals, in the matrix presented in Figure 1, below:

Figure 1 – Aspects of the work of the CHW regarding domestic accidents, and the proposals for improvements in the preventive practices. Floriano, 2014
The data from this study evidenced that the intervention strategies of the CHW in relation to domestic accidents with children are focused in three main dimensions: the observation of the environment, guidance regarding protective measures, and management when accidents occur. However, important gaps in their practice were evidenced, demonstrating a knowledge which is built much more through empirical experience than arising from specific and consistent training.

Further studies of an interventionist nature need to be undertaken in other contexts, allowing the reorientation of the teams’ model of care in relation to the prevention of accidents in childhood. This study was limited, as it was constructed using qualitative data from a specific context in one region of Brazil.

These results, therefore, can contribute to a re-discussion of the Continuous Education in Health practices, and encourage SUS managers’ investment in formative and emancipatory educational actions and in appropriate methodologies to be undertaken with Community Health Workers, promoting the strengthening of their assistential praxis for the benefit of the community in general.

REFERENCES


