INTER-SECTOR ACTIONS TO PREVENT ACCIDENTS IN CHILDREN EDUCATION: TEACHER’S ASSESSMENTS AND STUDENTS’ KNOWLEDGE

Edinalva Neves Nascimento¹, Sandra Regina Gimeniz-Paschoal², Luciana Tavares Sebastião³, Natália de Paula Ferreira⁴

Abstract

Introduction: public health politics and education privilege school for disease prevention and health promotion activities. Objective: this paper describes inter-sector action for childhood accidents prevention, teachers’ assessments and the knowledge of the students involved. Methods: it was done in a kindergarten City School in São Paulo interior. Thirty students from the Pre school second year, in the 5-6 age range and the teacher through a signed Consensus Term. The actions were performed in the classroom. Questionnaires were used with the teacher and school books with the children, formulated by speech and language pathology interns, who lead the actions in school. Results: the results showed an improvement in knowledge about children accident risks and forms of prevention by children and teacher. Conclusions: the educational activity was positively evaluated for both participant segments, being suggestive for other classes and/or schools, with health and education professionals’ partnership.

Key words: Accident prevention; health promotion; childhood education; speech and Language pathology.

INTRODUCTION

The current health politic considers the school environment a proficuous place to perform preventive and supportive health-related activities.

In 2002 the health ministry informed that the school time is fundamental to perform preventive and supportive health-related activities, as well as to realize disease prevention and strengthen the prevention factor involving educational and health sectors¹.

In 2003 The health ministry participative strategic management secretary (SGEP) have proposed the articulation of the existing health programs at the ministry aiming to identify the pedagogic strategies that could reorganizethe processes of education in health in order to make them more critical and reflexive. Such search led to a stronger partnership between health and education ministries that promoted the statement of directives for the national health educational in school².

In 2006, both of theministries settled the public politic named program health in school(PSE) whose objective is to strengthen up the health promotion of students’ health and to build a peace culture in schools. The actions on PSE health sector consider attention, promotion, prevention, assistance and they are performed in public schools under Brazilian United Health Service – Serviço Único de Saúde(SUS) rules. Seventeen proposals weremade in this program. The present article approaches the ninth, that is, the reduction of morbid mortality by accidents and violence³.

Accidents and violence are an important threat to health and welfare of world’s children and teenagers⁴. Besides that, its occurrence brings intensive clinical complications, hospitalizations, physical and emotional sequel that can last for good⁵,⁶.
Among all kinds of accidents, literature\textsuperscript{6-7} indicates that falling are the main responsible for children's injuries\textsuperscript{5-8-9}. They may occur because height itself, furniture, bikes, ladders, trees and other places. Regarding age groups, such accidents are more current among 3 to 5 children age range\textsuperscript{10}.

Federal government recommendations propose risk identification in school environment and project conceiving aiming safety promotion and accident prevention in school and its environment\textsuperscript{11}. Thus, this paper aims to describe inter sectorial action to prevent children accidents and mention teachers and students opinions on educational environment about children accidents.

**METHOD**

It is about descriptive study, performed from August to November 2007, with Children Education City School (EMEI – Escola Municipal de Educação Infantil) from Marília, in the interior of São Paulo. School selection, among the twenty four children education city schools, the presence of the Speech-language pathology students from FFC was considered and the authorization from the school director. In this case, the interns represent health sector and the school members, that is, educational sector thus promoting an inter sectorial action.

Research project was initially sent for the City Education Secretary and afterwards, to Science and Philosophy College from UNESP (Universidade Estadual Paulista), Marília campus ethics committee, approved under the protocol number 2458/2007.

The activity was developed with children form the second year of Pre school, in which there were 30 students with an age range of 5 to 6 years old. The teacher responsible for the research also participated. The option for working with such students is justified from a higher incidence of accidents, specially falling, as well as for the fact that the teacher and the students were very receptive in joining the activity.

A description of the material made by the Speech-Language pathology interns for the educational activity development will be made afterwards.

One of the materials made was a model with the Three little pigs story scenery adapted, containing a tree, three houses (brick, wood and straw), besides the little pigs and the wolf, all in accident situation. The model base was Styrofoam 100 centimeters long and 50 centimeters wide. The tree, the houses and the objects (scissors, bike, ladder) were also made in Styrofoam and colored with paint. The characters were drawled with coloring pen and attached on the model with ice cream sticks help.

The accident scenes with the pigs illustrated the following situations: finger cut, when one of the pigs cut the straw with a thin pointed scissor without adult supervision; a bike fall when riding it without the little wheels on a road with stones and holes, falling off a tree when climbing it to play with the branches, as well as falling from a window with no protection. The accidents with the wolf illustrate falling from the stairs situation when trying to climb the roof from the house made of brick, burning when entering the chimney of the house made of brick and falling inside a boiling pot, drilling the hands with nails when pushing the wooden house, falling of the roof on the head when knocking over the straw house. To represent the pigs' injuries and the wolf's as well, yellow drawled stars and red drops made with paper were attached on the model with toothpicks.
A book with the safe version of the story was made on poster paper containing five pages. This book illustrates preventive situations and accident safety behavior for the accidents showed on the model. For instance, the pigs asked for their mother's help to cut the straw, the rode bikes with protective wheels on the grass, they built a wooden house using glue (and not sharpen nails) to avoid hand perforation. The wolf rang the houses bells, asked for a piece of bread and left. On this version of the story, the wolf did not climb the roof of the houses, which prevented the accident involving falling and burning.

Together with the book illustrations, the following informative sentences were inserted, which would be later pointed out when counting the story:

- When using pointed object, we must always ask for adult supervision;
- The pig decided to ride his bike on the grass. If he falls, he will not hurt, because the grass will soften the fall;
- We must not use pointed and cutting materials, such as nails, pointed scissors, stiletto, knives, etc.;
- The trees were not made to be climbed, but to provide flowers, fruit and shadow;
- It is dangerous to climb high, unprotected by webbing or grate places;
- We must always go up and down the stairs really slow and with care. If there is a bannister, we must hold it firmly. Do not go up or down the stairs with a lot of luggage, backpacks for instance and whenever it is possible, an adult hand must be hold.
- Fire must not be played with. We must be careful with pan handles, boiling water, fire and hot oil.

Besides the model and the book, a panel made with kraft paper and a marker. On this paper the information told by the children during the story debate were pointed out. Paper, black and colored pencil for children to drawl accident situations were used. Puppets representing the characters of the story were used as well. These puppets were made with fabric and were available at the toy space at the Study Center of Health Education (Centro de Estudos de Educação em Saúde – CEES) from UNESP – Marilia for the interns use.

PROCEDURES

Before the educational work with the students, a quiz with the teacher was applied. This initial quiz was appreciated by the researchers from the Group "Education and Accidents" (EDACI), which presented suggestions regarding the structure and content of the questions. Eventually, the instrument was composed by seven open questions that aimed to investigate the following aspects: prior accomplishments of any other type of educational activity over children accident in school, as from the teacher as from any other professional; the knowledge from the educator regarding the City laws 6.435/200612 and 6.508/200713 that approach the accident theme; the teacher opinion about the professionals able to propose educational practices over the issue, as well as their opinion about the partnership between teacher and Speech-language pathology professional in the development of an intersectorial educational activity. This quiz was evaluated by two judges with experience on research of children accidents, in a way to adequate data collection to the segment investigated.

Activities were performed in the classroom, in a time set with the teacher in a way not to meddle on the activities planning of this class and other ones that used the classroom in a system of turns.

Finishing this stage, the development of educational practices about children accident prevention with students from the selected class was initiated.

There will be presented the activities performed on each meeting.

First meeting

The goal of this meeting was to identify the concept of the students involved regarding children accidents, as well as to identify their personal experiences regarding this issue. It also aimed to identifying risky situations for children accidents and falling. The information related by the children was pointed out on kraft paper for register and posterior recall.

Finishing this collection, each student received a white paper, black and colored pencil for making representative drawings from the objects and situations related on a prior moment. This activity
aimed the systematization of the situations discussed with the group of students. Considering the aspects mentioned by the students, the Speech-language pathology interns made a dialog exhibition with the children, aiming to inform them on how to avoid the stated situations. This first meeting lasted about an hour.

**Second meeting**

The aim of this meeting was the exhibition of the aspects related to behavior and risk situations for children accidents, as well as care strategies that must be adopted for its prevention. It must be stated that this exhibition was made in a playful way considering the age and school experience of the students involved.

On this day, the telling and retelling the Three Little Pigs story adapted to the educational purpose was done. In the story were inserted situations and risk behaviors for children accidents, especially fallings. The story showed the consequences of an accident, such as the pain and the diminishing of the motor agility of the little pigs when running from the wolf. For telling the story, puppets of the characters were used, as well as the model previously mentioned.

The story was told by the interns and retold by the students, pointing out the dangerous situations and safety measures that could be accomplished.

Afterwards, a book made from poster paper with drawings that showed the safe version of the story was presented. Again, it was performed the telling and retelling of the story, pointing out the advantages obtained by the little pigs and by the wolf when preventing from accidents.

Statements from children during discussion and the retelling of the story were pointed out on the panel.

This second meeting had the duration of approximately one hour and a half.

**Third meeting**

The aim of this meeting was the result evaluation from the activities performed on the first two meetings. The interns presented a panel containing statements of risk situations and accidents pointed by the children on the first day. Afterwards, the students were questioned about the actions that were supposed to be performed to avoid falling, as well as other accidents. It was aimed to provide children reflections over the preventive measures that should be adopted at school and at home.

When the activity was accomplished, each student received once more a sheet of white paper, black and colored pencil. They were required to make another drawing, but this time, representing the preventing measures discussed. This activity also aimed the systematization of the situations approached with the group of students, focusing on the prevention of children accidents.

This third and last meeting lasted approximately an hour.

It is important to point out that the teacher responsible for the students took part in all of the meetings and activities performed. Finishing the educational work, this educator answered a new quiz that, as well as the one applied before the beginning of the activity with the students, there were seven open questions and it was evaluated by two judges. This data collection instrument searched, this time, to analyze the opinion of the teacher about the educational work developed, as well as over the materials used. It also aimed to analyze the educator vision over the participants from different segments involvement (teacher, students and interns) on the activities and, still, their opinion regarding work partnership established with the Speech-language interns.

**RESULTS**

**Obtained during quiz application**

According to data collected on this quiz, it was checked that the teacher had never taken part in any kind of activity related to children accident prevention. Besides that, this educator claimed to have no prior knowledge over City laws 6.435/200612 and 6.508/200713 that deal with the need of accident prevention action regarding children accidents on school environment.

Regarding the opinion of the teacher over the professionals able to propose educational practice over this topic, the contestant preferred to think that this would be an activity to be developed by health professionals.

Questioned about the partnership between the teacher and the Speech-language pathology professional toward the development of an educational work regarding the prevention of children accidents, it was answered that the interns could be partners when performing a course over the topic, justified by the fact that these interns talk and tell stories in a pleasure and informative way. It was also said to think that although the class is numerous and talkative, the course produced good results.

**Obtained from the development of the educational actions with the students**

On the first meeting, when questioned about the concept of accidents, the students presented the following answers: to hurt, when the car hits and people die, fire truck, being committed to a hospital, motorcycle, car, bus and bike accident, accident with people, plane crash, donate blood, hit a tree and be run over. The students also related such children accident situations as: car hit a bike, car crash because the driver was speeding and oven burn.

When asked to relate their experiences in falling, the children responded: "I have already fallen from a tree", "my friend has fallen from a window", "I have already fallen from a window"
Inter-sector actions to prevent accidents in children education: Teacher’s assessments and students’ knowledge


“I run on a wet floor”, my uncle has fallen from the stairs and broke his arm”.

Regarding accident risk situations, according what was explained on the item Methodology, as the students pointed out such situations, Speech-language interns performed a dialogue exhibit aiming to inform the class about safe behavior.

When the children related that they ran up and down the stairs, the importance of walking slowly and with attention was explained and, as well as hold the banister, avoid going up and down carrying a lot of luggage and, if possible, hold an adult’s hand.

Before the children statements of falling from high places (trees, windows, wardrobes, sliding, wall and table), as well as chairs, bikes and buses, the interns pointed out the relevance of avoiding such accidents considering possible consequences, as: hurt the head, the arms, the legs, or even death.

Because of the statements of situations as falling on a wet floor, the interns explained about the different kinds of floors and invited the children to imagine that they were walking on it. The first was the floor made of rock, pointing out that you cannot run on it but walk firm and slow. Afterwards it was approached the wet floor, pointing out that the children must avoid it or give short steps and walk slow. Finally, they mentioned the grass that offers higher safety.

It is important to point out that on this first meeting, the children all took part in it when asked, and they all mentioned personal experiences.

On the second meeting, even during the activity of telling stories, the students related, spontaneously, some situations that would avoid the accidents mentioned in this story. This behavior indicated that the activities developed on the prior meeting had contributed to call the attention over risky situations for accidents and prevention strategies.

The students made the following comments: “I only use scissors with no pointed end”; when the situation in which one of the little pigs used a pointed scissor and cut his finger was presented. “I do not climb trees anymore”, when the pig climbed the tree, fell and hurt his arm; “he has fallen off the bike because it does not have the wheels”, referring to the pig that fell with his bike in a hole.

As well as on the first meeting, the children also had an active participation, but this time, listening to the story and properly retelling it.

On the third meeting, which aimed the evaluation of the content built, children related that for not falling from stairs like the ones in school, it was necessary to “hold onto the mother’s hand” and “walk slowly” and “not use heavy backpack because it falls back”.

When the interns presented the panel made on the first meeting and asked about opinions about actions that could avoid falling in school and at home, the following answers were given:

Wet floor: “walk slowly and with flip flops for not falling down”.

Grass: “You may run”.

Bike: “Ride the bike on the grass for not hurting yourself”.

No banister stairs: “go up the stairs holding the banister”, “you must not run up the stairs”, “careful so you do not get you hand stuck”.

Stairs with banister: “you have to go up holding it” “you must not go up and down the stairs running” and “fall forward and backward”.

Swing: “not swing high”, “do not pass behind the swing”, “and hold the chains”.

Window without a grade: “you must not go up the window because you may fall”, “you must keep your window shut”.

Window with a grade: “When there is a grade you may look out the window because you will not fall”.

Chair, tables and trees: “You may not climb the chairs because they are made for sitting”, “you cannot climb on trees because you may fall” and “trees provide flowers and fruit”.

Cutting objects: “you must not put your hand in the fan”, you must not put your hand in a blender”, you may not put your hand in a mixer because it cuts, blood comes out and you have to go to a hospital”.

Analysis made on the drawings made on the first and third meetings, which represented concepts and risk situations for accidents, as well as preventive measures, it was noted that the drawings that were more common were: the little pig cutting the finger with the pointed scissor, car accident; fall from trees and stairs, as well as happy little pigs in the house made of brick.

Obtained during the quiz application with the teacher after the educational activity

The teacher said that her expectations were accomplished. She said the educational material used was well conceived, especially the models, pointing out that the children loved them.

Regarding the participants involvement on different segments, she evaluated that she participated of the activity as a listener, only interfering when the students were not behaving. She mentioned the dedication of the interns and the high interest and participation of the children.

When talking about her opinion regarding the work partnership established with the interns, she mentioned that this partnership on the development of a project about children accident prevention should be enlarged on a way to involve all the school and the community.

DISCUSSION

The law number 8069 from 1990 present the Children and Teenager bylaw. It is mentioned on the 7th article that “children have the right of protection and health, through effectiveness of public social politics that allow the healthy and harmonious birth and development under conditions of dignity”14.
The protection and promotion of health are also contained on the Federal Constitution of 1988 and on the health Organic Law number 8080 from 1990. For over twenty years, national legislation foresees preventive actions on health care, but despite this time, educational preventive actions are still not valued by managers, health professionals and communities.

In 2001, The Health Ministry implanted the National Politics for Reduction of Morbid mortality through accidents and violence. The Decree number 737 from 2001 was approved by the Inter management Tripartite (CIT) and by the National Health Council (CNS), aiming to encourage group actions, articulated and systemized for the reduction of the effects of accidents and violence on the country.

The conceiving of the city laws number 6435/2006 and 6508/2007 about children accident prevention in Marília mentioned the importance of preventive actions to preserve children’s health again. At this same time appeared the Health at School program which also comprised in its directions the accident prevention and violence on the school environment.

Health problems originated through children accidents crossed the boundaries of the city and the country, also being noted at different places in the world. In a bibliographic review of 71 articles published during the years of 1997 and 2007 showed epidemiologic data from Iran Saudi Arabia, Egypt, Kuwait, Pakistan, Tunisia, Jordanian, Morocco, Iraq, Afghanistan, Oman, United Arabian Emirates. On these countries, the largest accident index is with children on the 0-5 age range. Most of them happen inside their own residence.

Data analysis from a Canadian information system called “Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP)” also revealed the epidemiology of children accidents in this country. Among the years of 1999 and 2002, 5876 children that suffered accidents were helped, from which 3141 suffered a fall from the same level as other places. A total 1160 children were 1 to 3 years old.

Although children accidents happen predominantly inside the houses, school environment is not free from risks of fall and other kinds of accidents, especially during the time they are playing. A study made in Brazil and in Portugal showed that at school, the children prefer to play with activities of motor category in opposition to cognitive. This way, the risk is higher.

The participation of undergraduate students on the Health was fundamental for improving a culture of intersectoriality since the early formation proposed by the Ministry of Health and Education.

Children accident prevention is a responsibility of any professional. Health professionals from Fortaleza, Ceará, made different activities for health promotion, including accident prevention, in a children school. The authors related that the intersectorial actions were fundamental, but there is still a challenge regarding interaction with the educational team, once the health themes are still seen as a responsibility of only health professionals.

Although Educational practices performed aimed to work with children accident prevention, it can be said that such practices still aimed health promotion, in a way that gave the students knowledge that contributed for the adoption of healthy individual and group behaviors regarding the play safe situation.

According to Czeresnia, health promotion involves such the environment as the physical, psychological and social aspects. Besides that, strategies of promotion face lice condition transformation, and demand intersectorial actions.

It is pointed out that the work now presented involved the actions of professionals graduated on health and educational fields and strengthen the school worked in its role as Health Promotion School.

The Health Promotion Schools are those ones that aim the construction of healthy environments and educational and health practices in its total. They consolidate with participative methodologies and involve the community in actions integrated with different sectors, including health and education.

Education in health is one of the strategies suggested by the Ministry of Health to accomplish practices that promote health. It is defined as a set of educational practices of a participant and emancipator character, which involve many fields of actions and aim to sensible, aware and mobilize to face individual and group situations that interfere in life quality.

In this sense, health education features itself as a powerful children accident preventive work tool. The teacher and health professionals may use this tool as educational strategies as storytelling and playful activities at parks and all the outside areas at school, identifying the risks with the children and reflecting over possible changes on the environment and on the behavior.

Cardoso, Reis and Iervolino relate that for the school to become health promoter, it is necessary an interdisciplinary and interseterioral action planning between Health and Education Secretaries, with the purpose of planning transversal themes that may be approached on the school curriculum. However, it is necessary to capacitate teachers, suggesting for instance, the articulation between Family Health Unit and the schools in the approaching area.

Paes and Gaspar affirm that is essential health professionals understanding over the importance of injury prevention, because it may act in a systemic way, broadening the action beyond the Health field strictly, in an intersectorial process, the possibilities of accident indices reduction will be real.

Such practices are based on health and education public politics that are current for some years, as well as recent politics that also approach this them, such as Decree number 227 from 2011.
which complete and strengthen Decree number 737 from 2001. One of the aims of this decree from 2011, it is mentioned on Article 6th the support to Preschool projects and programs inside schools, with visits to contribute to the development of children in risky situations, as well as the vulnerability to violence. It is also mentioned the environment and school surroundings intervention.

Besides the importance of intersectorial action, to strengthen or change the school in a health production space, it is necessary the inclusion of this theme on the Political Educational Project of the school.23

It is expected that the paper now presented contributes for the dissemination of the experience here related and to foment discussions over the importance of intersectorial educational practices aiming accident prevention and stimulated new actions toward this sense.

CONCLUSION

This paper presents an intersectorial action regarding children accident prevention performed in a school environment, involving one of the themes recognized by current public politics in Brazil over health and education themes. The opinions of the teachers and the children showed that the proceedings performed may be redone in other series and/or schools.

REFERENCES

4 Mattos IE. Morbididades por causas externas em crianças de 0 a 12 anos: uma análise dos registros de atendimento de um hospital do Rio de Janeiro. Inf. Epidem. SUS. 2001; 10(4): 189-98.


