

OCCUPATIONAL ACCIDENTS AMONG CHILDREN AND ADOLESCENT WORKERS IN RIBEIRAO PRETO-SP

Renata Cristina da Penha Silveira*
Maria Lúcia do Carmo Cruz Robazzi**

ABSTRACT

To identify occupational accidents and their characteristics among working youths in a Brazilian interior city. A retrospective, descriptive study was carried out during one year by surveying medical files of children and adolescents attended at a basic health unit. A total of 1 589 files were analyzed, 56 (3.6%) of which referred to youth victims of work accidents. Sixty-four percent of these were boys and 75% were 17 years old. The most common accidents were: contact with various substances and objects (39.4%) followed by traffic accidents and collisions (19.6%). Further research and action are needed in terms of child and adolescent work in Brazil, such as the creation of prevention and health promotion programs and orientations to families about the problem of child work and accident risks.

Key words: Child Labor. Occupational Health. Occupational Accidents.

INTRODUCTION

Work has always been part of underprivileged children and adolescents' lives. The work of young people is an important social issue all over the world, in both developed and developing countries. Countries with established policies on labor and work conditions have demonstrated a downward trend in child and adolescent work; hence, child/youth work is primarily concentrated in developing countries⁽¹⁾. As a result of child work eradication actions, led by the International Labor Organization (ILO), official statistics for these countries show a reduction in the number of children at work. Nonetheless, studies have reported new forms of youth participation in work, which do not appear in official records. Therefore, child work and families' dependence on their children's work for survival are a permanent source of concern⁽¹⁾.

It is estimated that there are 352 million children and adolescents under 18 years who work throughout the world. Some perform remunerated activities, but others work in the informal sector of the economy and receive no salary⁽²⁾. In this population, 88% of those are 5 to 14 years of age and 42% of those aged 15 to 17 work in inappropriate activities, which should be

eliminated according to the ILO⁽²⁻³⁾.

In Brazil, child labor has dropped 30%, due to eradication and prevention programs, allied with greater social awareness of children and adolescents' rights⁽⁴⁾. According to data from the Brazilian Institute of Geography and Statistics (IBGE), since 2000, Brazilian law has evolved after the government signed the ILO Convention and raised the age limits for work. Thus, the minimum age for Brazilian workers, which used to be 14, is now 16 years⁽⁴⁾. Brazilian legislation prohibits individuals under 18 to work in any unhealthy, hazardous, or nocturnal activities; those under 16 are not allowed to work at all, except as apprentices⁽⁵⁾.

The latest survey published in 2001 by the Brazilian National Research by Household Samples and the ILO showed that 7.2% of Brazilian workers were children and adolescents, with 5 482 515 between 5 and 17 years. More boys than girls work; in 2001, there were 3 570 216 boys and 1 912 299 girls working in Brazil⁽⁶⁾. Concerning their ages, 296 705 were between 5 and 9 and 1 935 269 between 10 and 14, totaling 2 231 974 working-children under the age of 14⁽⁷⁾. In the same year, Brazilian youths between 5 and 17 years old were employed in field work, coal-mines, brick-yards,

*RN, M.Sc., Doctoral Student (Interunidades Program), University of São Paulo at College of Nursing and University of São Paulo at Ribeirão Preto College of Nursing, Assistant Professor at Federal University of Juiz de Fora, Brazil.

**RN, PhD, University of São Paulo at Ribeirão Preto College of Nursing, Brazil. Occupational Health Nurse.

quarries, in the informal market, as well as domestic work. Half of them did not have a fixed wage⁽⁴⁾. The wages of these underprivileged minors made up part of their family's budget and withdrawing them from work would mean losing their income⁽⁴⁾. Such situations compromise compliance with existing laws. Work conditions for children and adolescents do not differ from those of adult workers. In fact, they are submitted to inhumane situations, usually tiring and precarious, with no social security, and with consequences to their own and the nation's future, such as illnesses and occupational accidents⁽¹⁾.

This study aims to identify occupational accidents (OA) among working youths in a Brazilian interior city, as well as these victims' characteristics in terms of gender and age; the causes of these OA and the medical diagnoses that compelled them to seek healthcare.

MATERIAL AND METHODS

The study was carried out in Ribeirão Preto, a city in the interior of São Paulo state, Brazil, with a population of 559 923 in the year 2002, according to the Brazilian Institute of Geography and Statistics. The population consisted of 243 032 men and 261 891 women; 38 295 children were 0 to 4 years; 40 806 5 to 9 years; and 94 351 10 to 19 years.

The city is located in one of the main agricultural regions in the country, characterized by its large crop production, particularly sugar-cane and soy. The region is the largest producer of sugar and alcohol in the world⁽⁴⁾.

A quantitative, retrospective and descriptive study was carried out from June 1st 2001 to May 31st 2002. Data were obtained by means of a survey and a document review of the files from a Basic Health Unit (BHU), where accident victims receive emergency care on a 24-hour basis, offering trained health teams and fully equipped ambulances.

The target population for data collection was those children and adolescents who attended at the BHU during the study period. A total of 1 589 youths, 11 to 18 years old, who were victims of general accidents, was selected for the study. A manual review was carried out of all medical records of children and teenagers victims of

general accidents who were helped at a Worker's Health Service Unit.

Before data collection, the research project obtained the necessary authorization from the Municipal Health Secretary. In order to verify ethical procedures and comply with the National Health Council, the project was also approved by the Research Ethics Committee of the Ribeirão Preto College of Nursing (protocol number: 0159/2001).

Next, the 1 589 files of the youths attended for general accidents were carefully reviewed to identify the type of OA. It was observed that, many times, the accident had some characteristics that demonstrated its relation to work; however, it had not been registered as an OA by the health team members. A careful search for exclusively work-related cases revealed 56 files containing descriptions that characterized an OA⁽⁸⁾. According to the seventh Accident Law of July 24th 1991, an OA is defined as "...that which occurs due to performing work as a service to a company, causing body lesion or a functional disorder that may cause death or the loss or reduction, permanent or temporary, of the capacity to work" ⁽⁹⁾. Causes and medical diagnoses were coded according to the International Statistical Classification of Diseases and Related Health Problems, regularly reviewed by the World Health Organization (WHO), known as the ICD-10th revision⁽¹⁰⁾.

RESULTS AND DISCUSSION

Cases represented 3.6% of the total number of child and adolescent accidents registered at the BHU. The analysis showed that the health team did not fill out or misplaced a series of information items. When stating cause and consequence of the accident and its description, for example, ambiguous information was found because, although it was made clear that the accident occurred at the work place, it was not characterized as an OA. Therefore, it was noted that health professionals often experience difficulty in differentiating victims of occupational accidents from those of general accidents. This results in underreporting of OA and, consequently, cases are not referred to Social Welfare. Of the youth experiencing an

OA, 64.3% were boys and 33.9% were girls. One file did not indicate the victim's gender. Ages ranged from 11 to 17 and 11 months. The most frequent age was 17 (75%), followed by 16 (19.6%) years. Accident causes by group and the corresponding ICD code are found in Table 1.

The group of varied substances and objects (n=22) refers to the children's contact with hot liquids, cutting glass, knives, spades, manual tools, farming machinery and other non-specified equipments. Contact with farming machinery represented 39.3% of the causes; followed by traffic accidents and collisions (19.6%). The third most frequent cause, overexertion and strenuous or repetitive movements, was experienced by 5 adolescents

(8.9%) and 4 (7.1%) encountered a fall. Accidental intoxication by exposure to noxious chemical substances refers to poisoning by fertilizers, corrosives, acids and soaps, among others, which were involved in two accidents (3.6%). The other accidents (5.4%) resulted from diversified causes, such as impacts caused by projected objects, foreign body or object entering through skin. In addition to this, 16% referred to the causes that were not registered in the victims' files by the health professionals.

Due to the variety of the observed medical diagnosis, they were grouped with a view to providing the reader with a better description, as shown in Table 2.

Table 1. Children and adolescent victims of occupational accidents attended at the BHU, according to cause group. (Ribeirão Preto - SP, Brazil, 2002)

Cause group	Codes of ICD - 10	N	%
Contact with substances and various objects	X 12; W 25, W 26, W 27, W 30, W 31	22	39.3
Traffic accident, collision	V 13, V 17, V 12, V 19.9	11	19.6
Overexertion and strenuous or repetitive movements	X 50.5	5	8.9
Fall	W 01.4, W 01.9, W 18, W 19	4	7.1
Struck by thrown, projected or falling object	W 20.4, W 20.5	2	3.6
Accidental intoxication by exposure to other noxious chemical substances	X 49	2	3.6
Foreign body or object entering through skin	W 45	1	1.8
Non specified		9	16.0
Total		56	100

Table 2. Children and adolescent victims of occupational accidents attended at the BHU, according to medical diagnosis group. (Ribeirão Preto - SP, Brazil, 2002)

Medical diagnosis group	Descriptions according to ICD-10	Codes of ICD - 10	Total	
			N	%
Injuries	Of the wrist and hand, head, abdomen, and lower limbs (legs and feet)	S 01.5, S 05.6, S 31, S 61, S 81, S 91	25	44.6
Traumas	Of the wrist and hand, head, thorax, upper limbs, lower limbs, and foot	S 00, S 05, S 20, S 40, S 56.8, S 60, S 85.7, S 90, S 90.9	12	21.4
Disorders of Soft tissue/tendons	Use, overuse, and pressure	M 65.9, M 70.9	6	10.7
Multiple	Contusion of the eye lid and periocular area, superficial injury of thorax, superficial injury of ankle and foot. Injury of head and unspecified fall; superficial injury of shoulder and upper arm, hip and thigh, dislocation, sprain and strain.	S 20 e S 90; S 01e W 19; S 40, S 70 e S 83; S 85.7; T 29.0	5	8.9
Fractures	Fracture of facial bones and upper limbs	S 02.7, S 62	2	3.6
Dislocation, sprain, strain	Of lower limbs	S 83.6, 93.6	2	3.6
Intoxication	Use of chemical products	J 68.9, L 23	2	3.6
Contusion	Of the eye lid	S 00.1	1	1.8
Falls	Unspecified	W 19	1	1.8
Total			56	100

Concerning the medical diagnoses, there were 25 general accidents (44.6%); traumas to the wrist, hand, head, and limbs which totaled 12 cases (21.4%) and the remaining 34% refer to use and overuse, fractures, contusions, sprains, intoxications and others.

Studies carried out in other countries have shown that occupational accidents are common among children and adolescents⁽¹¹⁻¹²⁾. In Brazil, the reasons children and adolescents work vary according to region, age groups, gender, and according to urban or rural area.

Child-adolescent work is often seen as something natural, and work is thought to be ennobling and dignifying, and that it is better for children and adolescents to work than to wander around in the streets, exposed to the urban violence of the modern world and involved in criminal activities⁽¹⁾. These ideas are mainly reflective of those in lower social classes. Although professional education projects and policies have addressed part of the problem, they do not contribute to widespread civil awareness and eventually reinforce a situation of social exclusion⁽¹⁾.

Similar results were found in a previous investigation carried out at a university hospital in Ribeirão Preto, Brazil. The researchers analyzed 607 medical records of victims of accidents assisted at a school hospital in Ribeirão Preto, SP, in 1997. They found out that these victims included 14-year-old children. Those children were victims of OA, and the health team had made some notes in only six (0.9%) records. Out of those six records, four (67%) were boys. The study also showed that health professionals do not recognize children who work, as they do not make any records regarding the accidents⁽¹³⁾.

In another study⁽¹⁴⁾ based on the evaluation of handbooks of trauma victims patients ranging from 0 to 12 years old, during the period of the study 1 815 handbooks were analysed, being 1.080 children male (62.42%) and 650 children female (37.58%).

Previous estimates for Brazil and the world⁽²⁾ also showed boys were a majority in child work. However, more recently, the last ILO⁽³⁾ estimate did not show significant differences in terms of gender. This may be due to the fact that boys and girls are actively working in different sectors.

Girls tend to work in domestic services. Many times, when an accident occurs during work, they do not seek medical care; thus, the OA is eventually considered as inevitable, natural and inherent to the activity⁽¹³⁾.

In terms of age, the present study found that most working youths were 16-17 years old. No cases were found of victims under 11 years old. This is likely because the BHU only attends children older than 11. The Pediatrics Service attends younger children, and occupational accident cases are not coded by that service.

These statements demonstrate that the OA caused severe and multiple injuries, including cuts, perforations, traumas and contusions. These not only affected the victims' health and possibly led to absence from work, but infringed Brazilian legislation regarding the prohibition of dangerous and hazardous work⁽⁵⁾. In addition, "[...] the work is capable to influence the personality of the human being, being able to play a basic role for its balance, its social insertion, its physical and mental health"^(15: 73).

With regard to medical diagnoses, wrist, hand, and head injuries corresponded to 44.6% of all cases, probably due to the cutting and piercing objects involved in 37.5% of OA causes. Traumas corresponded to 21.4%, probably due to the accidents/collisions involving working children and adolescents. The unspecified soft tissue disorders (10.7%) were possibly related to use, overuse and pressure caused by an excess of physical activity. Other OA-related diagnoses included fractures, sprains, intoxication, and contusion.

CONCLUSION

Brazil has one of the worst income distributions in the world. The number of children and adolescents who have to work instead of studying, playing, and enjoying their childhood and adolescence in a healthy way is significant. The family, in order to survive, sends their children to work, reproducing the existing exploiting conditions of the capitalist world.

This problem is associated with insecure relationships and work conditions that contribute to poor young people entering the job market in order to help with home expenses and leaving

the streets.

In the 1990's, the Brazilian government created Special Groups for the Prevention and Eradication of Child Labor and Protection to Adolescent Workers, with the aim of eliminating child and adolescent work. Periodically, the Map of Child and Adolescent Labor Indicators is created, an instrument that summarizes the actions produced by surveillance, indicates the activities and places where children or adolescents work and presents an overall framework of work conditions and the possible impacts on the health of this population. Thus, the Program for the Eradication of Child Labor, started in 1996, pays US\$ 9.3 in the rural area and up to US\$ 14.8 in the urban area per child or adolescent to families that withdraw their children from work and see that they attend school and additional recreational activities⁽¹⁶⁾.

In addition, to minimizing the number of working children in the country is the objective

of programs that help needy families, such as School Bonus (created in 2001), where children are selected according to their age, income and school attendance. So, all families with a monthly income lower than \$ 45.00 receive the bonus if their children between 6 and 15 years old are attending elementary school. The family receives \$6.25 monthly for each student. The maximum amount is \$18.75 or three children each family. Every three months, the child's school attendance is checked and payment is discontinued if absenteeism is higher than 15% per month⁽¹⁶⁾.

Despite this initiative, there is much to be done and studied with regard to child and adolescent work in Brazil. There should be continuous education programs for health professionals working in care for child victims of occupational accidents, instructing these professionals on how to identify and register these accidents.

ACIDENTES DE TRABALHO ENTRE CRIANÇAS E ADOLESCENTES TRABALHADORES EM RIBEIRÃO PRETO-SP

RESUMO

Identificar os Acidentes de Trabalho e suas características entre os jovens trabalhadores numa cidade do interior brasileiro. Estudo retrospectivo, descritivo e foi realizado durante o período de um ano através de pesquisa em prontuários médicos de crianças e adolescentes atendidos em Unidade Básica de Saúde. Do total de 1.589 prontuários que foram encontrados, somente 56 (3,6%) referiam-se aos jovens vítimas de acidentes de trabalho, 64% deles eram meninos e 75% tinham até 17 anos de idade. As causas mais comuns dos acidentes foram: contato com substâncias e objetos variados (39,4%), acidentes de trânsito e colisões (19,6%). Mais pesquisas e ações precisam ser feitas em relação às crianças e adolescentes trabalhadores no Brasil, assim como a criação de programas de prevenção e promoção à saúde e orientações às famílias sobre os problemas e riscos do trabalho infantil.

Palavras-chave: Trabalho de Menores. Saúde do Trabalhador. Acidentes de Trabalho

ACCIDENTES OCUPACIONALES ENTRE NIÑOS Y ADOLESCENTES TRABAJADORES EN RIBEIRAO PRETO-SP

RESUMEN

Identificar accidentes ocupacionales y sus características entre jóvenes trabajadores en una ciudad interiorana de Brasil. Se efectuó un estudio retrospectivo y descriptivo durante un año, mediante el análisis de archivos médicos de niños y adolescentes atendidos en una unidad básica de salud. Fueron analizados 1589 archivos, 56 (3,6%) de los cuales relacionados a víctimas jóvenes de accidentes de trabajo. El 64% de estos fue del sexo masculino y el 75% tenía 17 años de edad. Los accidentes más comunes fueron: contacto con varias sustancias y objetos (39,4%), seguido por accidentes de tránsito y colisiones (19,6%). Son necesarias otras investigaciones y acciones relacionadas al trabajo de niños y adolescentes en Brasil, tales como la creación de programas de prevención y promoción de la salud, además de orientaciones a familias sobre el problema del trabajo infantil y riesgos de accidentes.

Palabras-clave: Trabajo de Menores. Salud Laboral. Accidentes de Trabajo

REFERENCES

1. Dieese. Trabalho infantil. São Paulo (SP): Dieese; 1997.

2. ILO International Labour Organization. Statistics on working children and hazardous child labour in brief. Geneva: ILO; 1998.

3. ILO International Labour Organization. Every child counts: new global estimates on child labour. Geneva: ILO; 2002.
4. Ministério do Planejamento, Orçamento e Gestão (BR), Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios em 1999. Brasília (DF): Ministério do Planejamento, Orçamento e Gestão; 2001.
5. Fischer FM, Teixeira LR, Latorre MRD, Cooper SP. Acidentes de trabalho entre estudantes do ensino fundamental e médio das cidades de Santo Antonio do Pinhal e Monteiro Lobato, SP. In: Westphal, M. F. (organizer). Violência e Criança. 1nd ed. São Paulo: Editora Universidade de São Paulo 2002: 267-279.
6. Ministério do Planejamento, Orçamento e Gestão (BR), Instituto Brasileiro de Geografia e Estatística. Trabalho infantil 2001. Brasília (DF): Ministério do Planejamento, Orçamento e Gestão; 2003.
7. Ministério do Trabalho e Emprego (BR). Organização Internacional do Trabalho. Trabalho infantil no Brasil 2001. Brasília (DF): Ministério do Trabalho e Emprego; 2003.
8. Oliveira SG. Proteção Jurídica à Saúde do Trabalhador. 2nd ed. São Paulo (SP): Ltr; 1998.
9. Carmo JC, Almeida IM, Badinter MCP, Settimi MM. Acidentes de trabalho. In: Mendes R. (organizer) Patologia do trabalho. Rio de Janeiro: Atheneu; 1995:431-55.
10. Organização Mundial da Saúde. CID – 10: Classificação Estatística Internacional de Doenças e Problemas Relacionados a Saúde. 10nd ed. São Paulo (SP): Edusp; 2001.
11. Fassa ACG, Facchini LA, Dall Agnol MM, Christiani DC. Child labor and health. Int J of Occup and Environ Health. 2000; 6:55-62
12. Runyan CW; Zakocs RC. Epidemiology and prevention of injuries among adolescent workers in the United States. Annu Rev Public Health. 2000; 21: 247-69.
13. Silveira RCP, Robazzi MLCC. Acidentes de Trabalho entre crianças e adolescentes atendidos pelo setor público de saúde, Ribeirão Preto, São Paulo, Brasil. Cien. Enf. 2003; 9:43-55.
14. Chammas, J, Oberhofe, PR, Centa, ML. Trauma na infância. Cienc. Cuid. Saude. 2004; 3(1): 73-79.
15. Azambuja EP, Fernandes GFM, Kerber NPC, Silveira RS, Silva AL, Gonçalves, LHT, Cartana MHF. Significados do trabalho no processo de viver de trabalhadoras de um programa de saúde da família. Texto Contexto Enferm, 2007; 16(1): 71-9.
16. Ministério do Trabalho e Emprego (BR) [homepage on the internet]. Brasília: Ministério do Trabalho e Emprego; [updated 2006 Mar 20; cited 2007 Feb 27]. Trabalho de Crianças na Faixa de 5 a 9 anos teve uma Redução de 51.6% na última Década; [about 1 screen]. Available from: <http://www.mte.gov.br/noticias/conteudo/1306.asp>

Endereço para correspondência: Maria Lucia do Carmo Cruz Robazzi. Av. dos Bandeirantes, 3900, Campus Universitário da USP. CEP 14040-902. Ribeirão Preto – SP. Fone: (16) 3602-3421. E-mail: avrmlccr@eerp.usp.br

Recebido em: 02/02/2007

Aprovado em: 24/11/2007