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JUVENILE SEXUAL ABUSE: PROFILE OF THE ALLEGED VICTIMS ATTENDED AT THE FORENSIC MEDICAL INSTITUTE IN BELO HORIZONTE, BRAZIL

LEONARDO SANTOS **BORDONI**[1], TATIANE **MIRANDA**[2], FREDERICO FONSECA **CAMPOS**[3], AMANDA JIRAN FERREIRA **MARCOS**[3], CLÉSIO RENATO VALADARES **FREITAS**[3], ARMANDO D'LUCCA DE CASTRO E **SILVA**[3], TÚLIO DE PAULA **VASCONCELOS**[3], ANDRÉ LUIZ PARREIRA **GOMES**[4*]

1. Forensic medicine professor at the College of Health and Human Ecology (Faculdade de Saúde e Ecologia Humana FASEH), medical examiner at the Forensic Institute of Belo Horizonte, Brazil; **2.** Pediatrics associate professor at the College of Health in Human Ecology – FASEH, Master's degree in Medicine at Federal University of Minas Gerais – UFMG, and pediatrician at the State Hospital João XXIII; **3.** Undergraduate medical student at the College of Health and Human Ecology – FASEH – MG; **4.** Undergraduate medical student at the Metropolitan Institute of higher Education – IMES – MG

* IMES (FAMEVAÇO) – Avenue Marechal Cândido Rondon 850, Ipatinga Minas Gerais, Brazil. Zip Code: 35164-314.
andreparreira05@yahoo.com.br

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ABSTRACT

To analyze comparatively the profile of the alleged victims of sexual abuse in children under 18 attended at the Forensic Medical Institute of Belo Horizonte (IML-BH), Minas Gerais, Brazil. We conducted a cross-sectional study based on the forensic reports performed in IML-BH with victims under 18 suspected of sexual abuse attended between December 2007 and March 2012. During the study period 2071 medical investigations were conducted in under 18-year-old alleged victims of sexual abuse. In total, 58.5% were children and 41.5% were teenagers, mostly females (81.6%). Concerning the alleged abusers, there was a higher prevalence of men (97.4%). The most prevalent topography found in these cases was the upper limbs in both genders. Swab was collected during search for semen e in 35.1% of cases. Of these, only those collected within 48 hours after the abuse and in vaginal and anal topography tested positive. Compared with adolescents, children are more likely to be abused. Males have a higher risk of victimization than those of female gender in relation to children age group, however, the contrary happens in the juvenile age group.
eaking a cultural taboo of man in relation to care of your health.

KEYWORDS: Sexual abuse, child violence, violence.

1. INTRODUCTION

The juvenile sexual abuse is the involvement of children and adolescents in sexual activity who do not have full understanding of the action or are forbidden or unable to consent to such action. It is clear observed when there is a relationship between the victim and a suspect in relation to superiority, which may be based on responsibility, trust or power of the abuser over the abused[1,2].

The Pan American Health Organization estimates that, worldwide, 36% of girls and 29% of boys have experienced some kind of sexual abuse[1]. Accurate statistics on the prevalence of juvenile abuse are difficult to obtain due to underreporting and therefore several studies deem it as unknown[3]. This type of violence is a serious public health problem[1,4-7]. Therefore, profiling the victim according to gender, age, place of aggression, the relationship with the aggressor, physical injuries when present in the expertise and the abuser's profile are crucial to outline strategies for prevention and intervention[1].

Thus, this study aimed to determine and analyze the profile of under 18-year-olds allegedly victims of sexual violence who were attended at IML-BH from January 2007 to December 2012.

2. MATERIAL AND MÉTHODS

This study is a retrospective analysis of 2071 expertise *in vivo*, held at (IML-BH) the Forensic Medical Institute in Belo Horizonte, from January 2007 to December 2012, with under 18-year-olds.

In Brazil, the forensic medical examination is performed as part of an inquiry of a police investigation. As this study was based exclusively on the expert reports and not on the final result of the inquiry or the trial court under discussion, we consider the term "alleged" for both the victims and the aggressors.

It was investigated the profile of those alleged victims regarding age, gender, place of aggression, degree of intimacy with the suspect, the presence or absence of neurological deficits or psychiatric disorders in the victims and characteristics of injuries (if present).

3. RESULTS

The total sample (n=2071 examinations), 1212 (58.5%) were children, 859 (41.5%), teenagers and the average age was 9.7 for females and 8.1 for males. Regarding the victims' gender, 1691 (81.6%) were girls and 380 (18.4%) boys. On the other hand, when it comes to the alleged abuser's gender, which was present in 1374 examinations, it is a reverse with 1339 (97.4%) men and 35 (2.6%) women. In relation to cognitive/ psychiatric deficit issue, the alleged male victims, compared to female, had 2.99 times higher relative risk of having some degree of deficit according to expert examination (Table 1).

Table 1. Analysis of the characteristics of alleged sexual abuse by the gender of the alleged victims.

Characteristics	Male		Female		Total		IC	RR	P Value
	N	(%)	N	(%)	N	(%)			
Age group									
Chldren	285	75.0	927	54.8	1212	58.5			
Adolescents	95	25.0	764	45.2	859	41.5			
Total	**380**	**100.0**	**1691**	**100.0**	**2071**	**100.0**	**1.25-1.49**	**1.36**	**<0.001**
Abuser									
Male	230	96.2	1109	97.7	1339	97.4			
Female	9	3.8	26	2.3	35	2.6			
Total	**239**	**100.0**	**1135**	**100.00**	**1374**	**100.00**	**0.86-1.03**	**0.94**	**0.1884**
Cognitive and psychiatric disorder									
Yes	13	3.8	20	1.3	33	1.7			
No	325	96.2	1534	98.7	1859	98.3			
Total	**338**	**100.0**	**1554**	**100.0**	**1892**	**100.0**	**1.75-5.00**	**2.99**	**<0.001**

* Chi-square significant at 5% of significance.

The most common alleged abuser was the biological father followed by stepfather, unknown and uncle. Of the total 394 reports which made reference to the crime scene, 144 (36.5%) occurred at the abuser's home, 29 (7.4%) at the abuser's relative's home, and 84 (21.3%) on street (a public area).

Table 2. Distribution of the degree of intimacy of the alleged abuser.

Characteristics	Male		Female		Total		P Value
	N	(%)	N	(%)	N	(%)	
Degree of intimacy of the abuser							
Father	39	18.6	170	17.6	209	17.7	
Stepparent	16	7.6	157	16.2	173	14.7	
Uncle/Aunt	14	6.7	85	8.8	99	8.5	
Sibling	8	3.8	21	2.2	29	2.5	
Cousing	16	7.6	47	4.8	63	5.4	
Grandparent	5	2.4	33	3.4	38	3.3	
Neighbour	23	11.0	65	6.7	88	7.5	
Teacher	4	1.9	7	0.7	11	0.9	
Unknown	27	12.8	141	14.6	168	13.9	
Others	58	27.6	242	25.0	300	25.6	
Total	**210**	**100.00**	**968**	**100.00**	**1178**	**100.00**	**0.0400**

* Chi -square significant at 5% of significance.

In the database analyzed, it was available the description of the medical-forensic examination findings in 1862 (89.9%) out of 2071 examinations of alleged abused. Out of these, 319 (17.1%) were extragenital injuries: abrasions, bruises and petechiae, in which the most affected anatomical topography was the upper limbs: 52 (16.3%). Allegedly abused children, in comparison to adolescents, have a 1.23 time lower risk of presenting external lesion in an examination (Tables 3 and 4).

Table 3. Analysis of lesions by the age group of the alleged sexual violence victims.

	Children		Adolescents		Total		IC	RR	P Value
	N	(%)	N	(%)	N	(%)			
External lesions									
Presence of lesions	169	15.4	150	19.3	319	17.1			
Absence of lesions	915	84.6	628	80.7	1543	82.9			
Total	**1082**	**100.0**	**778**	**100.0**	**1862**	**100.0**	**0.65-0.98**	**0.81**	**0.0372**
Male Genital Lesion									
Presence of lesions	5	33.3	1	8.3	6	22.2			
Absence of lesions	10	66.7	11	91.7	21	77.8			
Total	**15**	**100.0**	**12**	**100.0**	**27**	**100.0**	**0.7-22.62**	**4.01**	**0.1205**
Female Genital Lesion–Hymen									
Presenceof rupture-and/orlesions	54	6.4	199	29.7	253	16.7			
Absence of rupture and/or lesions	785	93.6	472	70.3	1257	83.3			
Total	**839**	**100.0**	**671**	**100.0**	**1510**	**100.0**	**0.18-0.26**	**0.21**	**<0.001**

* Chi-square significant at 5% of significance.

Table 4. Distribution of lesion by the age group of the sexual violence alleged victims.

Caracte	Children		Adolescents		Total		Valor P
	N	(%)	N	(%)	N	(%)	
Location of external lesions							
Pectoral region	4	2.4	13	8.66	17	5.33	
Thighs	17	10.0	10	6.67	27	8.46	
Legs	32	18.9	13	8.66	45	14.11	
UL (MMSS)	21	12.4	31	20.67	52	16.30	
Cervical region	3	1.8	24	16.00	27	8.46	
Cephalic region	26	15.4	13	8.66	39	12.23	
Abdomen	5	2.9	4	2.67	9	2.82	
Back	6	3.5	6	0.40	12	3.76	
Gluteal region	8	4.7	1	0.67	9	2.82	
2 or more segments	47	27.8	35	23.34	82	25.70	
Total	**169**	**100.0**	**150**	**100.00**	**319**	**100.00**	**0.0001**
Female genitalia lesions – Hymen							
Intact	785	93.0	472	70.3	1257	83.2	
Intact with lesions	25	3.1	14	2.2	39	2.6	
Recent rupture	19	2.7	32	4.7	51	3.4	
Former rupture	10	1.2	153	22.8	163	10.8	
Total	**839**	**100.0**	**671**	**100.0**	**1510**	**100.0**	**0.0001**

* Chi-square significant at 5% of significance.

A gynecological evaluation of hymens revealed that 1257 (83.2%) were intact, and the victims under 12,

compared to the older victims, were 4.75 times less likely to have an injury. Adolescents demonstrated higher prevalence for this variation: 32 (4.7%) with recent ruptures and 153 (22.8%), old ones. However, this is a reverse in children, with respectively 19 (2.7%) and 10 (1.2%).

The "swab" examination process to identify the semen occurred in 631 alleged victims. Children who were allegedly abused, compared with adolescents, are 2.95 times less likely to be submitted to swab, and, when submitted, had 4.5 times lower chance of positivity (Tables 5 and 6).

Table 5. Time analysis between the alleged abuse and the forensic examination and swab collection for semen search by age of the alleged sexual violence victims.

Characteristics	Children		Adolescents		Total		IC	RR	P Value
	N	(%)	N	(%)	N	(%)			
Period of abuse to forensic exam									
< 72 h	312	45.4	299	47.2	611	46.3			
> 72 h	375	54.6	335	52.8	710	53.7			
Total	**687**	**100.0**	**634**	**100.0**	**1321**	**100.0**	**0.87 - 1.06**	**0.96**	**0.5249**
Swabs collection for semen									
Presence of collection	198	19.3	433	56.3	631	35.1			
Absence of collection	828	80.7	337	43.7	1165	64.9			
Total	**1026**	**100.0**	**770**	**100.0**	**1796**	**100.0**	**0.29 - 0.38**	**0.34**	**<0.001**
Swabs collection result									
Positive	4	2.2	41	9.9	45	7.6			
Negative	176	97.8	371	90.1	547	92.4			
Total	**180**	**100.0**	**452**	**100.0**	**592**	**100.0**	**0.10 - 0.48**	**0.22**	**<0.001**

* Chi-square significant at 5% of significance.

Table 6. Distribution of vaginal and anal swabs results for semen according to the elapsed time between the alleged abuse and the collection.

Characteristics	< 24 hours		24 - 48 hours		48 – 72 hours		> 72 hours		Total		P Value (Wald test)
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	
Vaginal swab											
Positive for semen	42	21.3	2	5.88	0	0	0	0	44	11.08	
Negative for semen	155	78.7	32	94.12	20	100.00	146	100.00	353	88.92	
Total	**197**	**100.0**	**34**	**100.00**	**20**	**100.00**	**146**	**100.00**	**397**	**100.00**	**0.001**
Anorectal swab											
Positive for semen	1	5.3	0	0	0	0	0	0	1	1.7	
Negative for semen	19	94.7	5	100.0	3	100.0	30	100.0	57	98.3	
Total	**20**	**100.0**	**5**	**100.0**	**3**	**100.0**	**30**	**100.0**	**58**	**100.0**	**0.998**

* Chi-square significant at 5% of significance.

4. DISCUSSION

In line with other authors[6,8-10], the results showed a higher incidence of alleged sexual abuse in females. The lower rate in men may be attributed, in part, to social behavioral factors and greater ability to self defense when compared to girls, with consequent underreporting cases[11]. Moreover, these start to present more exuberant secondary sexual features, which is a possible attractive to the alleged abuser. Regarding age, 58.5% of the alleged victims were younger than 12, and this percentage increased when compared to the literature[8,12,13].

Considering the alleged abuser profile, they are usually men who have some kind of bond with the child, being a parent as the most common type, which corroborates the literature[3,6-9,11,12]. This scenario reinforces the idea of female subordination over male, especially in children, and it still suggests the existence of a trust relationship between the alleged victim and the agressor[3,6,11] Therefore, the abuse can go unnoticed by both the child and those who surround him/her.

Regarding the place of the alleged offense, the victim's own home was presented as the most prevalent scenario[3,12,13]. This finding has a possible correlation with the degree of intimacy between the abuser and the victim, since it is an environment where the child feels safe and there is enough time to build a bond and the consummation of the act.

This study also revealed that 1.7% of the alleged victims had some psychiatric cognitive impairment, which is considered a risk factor for victimization[1,14].

The examinations performed found external lesions only in 17.1% of cases, which can be explained by the fact that most of sexual acts do not produce physical injuries diagnosed by forensic examination. Furthermore, the alleged abuser tends not to leave traces in order to perpetuate the action. The low prevalence of external lesions in our study is lower than the values found by other autores[6,7,15], which can be explained partly by the lack of standardization of expert description in Brazil and the limitation of forensic examination for the diagnosis of exempt acts of physical findings.

The highest incidence of lesions in upper limbs can be related to self-defense reaction. However, most of these findings are nonspecific, such as abrasions, bruises and petechiae. These external injuries were more frequent than genital, a corroborated fact by Stefanie *et al.* (2010)[15]. Therefore, despite being a sexual crime, genital lesions are not always present, a fact related to the nature of the sexual acts perpetrated against children and the high capacity of this cell regeneration area[1,2,16].

In some studies it was observed that genital abnormalities found in forensic examinations are more common in prepubertal children due to low concentration of estrogen and therefore less elasticity and thickness of tissues[1,2]. However, in this study, these lesions were more prevalent in adolescents. This discrepancy may be explained by the fact that among over 14-year-olds, usually, the sexual activity is already something previously

experienced in Brazil and also backed by our legislation (the average age of initiation in sexual activity , in Brazil, is 14.9 years-old)[17].

The swab semen result has inverse correlation with the time between sample collection and the abuse [2,11,18,19] The American Association of Pediatrics recommends that the material collection should be preferably done within 72 hours after the abuse, being more effective in the first 24 hours[16,19]. In the present study, there were no positive swabs after 48 hours, which confirms the importance of this research's early performance.

5. CONCLUSION

This study concluded that, compared to adolescents, children are more likely to be abused, both in females as in males. In addition, males have a higher risk of victimization than females when compared during children age, and this relationship is reversed in the juvenile age group. Children are less submitted to the swab test for semen than teenagers and when they are, in their majority, the results are negative. Therefore, the incorporation of more specific care protocols could improve costing, customer service and resolution of alleged juvenile sexual abuse cases.

REFERENCES

[1] Dini World Health Organization. Guidelines for medico-legal care for victims of sexual violence, Geneva, 2010.

[2] Sakelliadis EI, Spiliopoulou CA, Papadodima SA. Forensic investigation of child victim with sexual abuse. Indian Pediatr. 2009; 46(2):144-51

[3] Martins CBG, Jorge MHPM. Abuso sexual na infância e adolescência: perfil das vítimas e agressores em município do sul do Brasil. Texto & Contexto - Enferm. 2010; 19(2):246-55.

[4] Abrapia. Abuso sexual: mitos e realidade. 3 ed. Petrópolis, RJ: Autores & Agentes & Associados. 2002; 62.

[5] Habigzang LF, Koller SH, Azevedo GA, Machado PX. Abuso sexual infantil e dinâmica familiar: aspectos observados em processos jurídicos. Psic Teor e Pesq. 2005; 21(3):341-8.

[6] Taveira F, Frazão S, Dias R, Matos E, Magalhães T. O abuso sexual intra e extra-familiar. Acta Méd Port. 2009; 22(6):759-66.

[7] Drezett J. et al. Influência do exame médico-legal na responsabilização do autor da violência sexual contra adolescentes. Rev Bras Cresc e Desenv Hum. 2011; 21(2):189-97.

[8] Modelli ME, Galvão MF, Pratesi R. Child sexual abuse. ForensicSci Int. 2012; 217(1-3):1-4.

[9] Aded NLO, Dalcin BLGS, Moraes TM, Cavalcanti MT. Abuso sexual em crianças e adolescentes: revisão de 100 anos de literatura. Revpsiquiatr clín. 2006;33(4):204-213.

[10] França, GV. Medicina Legal. 9ª ed. Rio de Janeiro: Guanabara Koogan; 2008; 736.

[11] Hagras AM, MoustafaSM, Barakat HN, El-Elemi AH. Medico-Legal evaluation of child sexual abuse over a six year period from 2004 to 2009 in the Suez Canal area, Egypt. Egyp Journ of Forens Scienc.2011; 1(1):58-66.

[12] Guimarães, JATL, Villela WV. Características da violência física e sexual contra crianças e adolescentes atendidos no IML de Maceió, Alagoas, Brasil. Cad Saúde Pública. 2011; 27(8):1647-53.

[13] Núñez, A, Tortolero Y, Verschuur, A, Camacaro, M; Mendoza, S. Violencia sexual: un fenómeno oculto enlaexperticia médico legal. RevObstet Ginecol. Venezuela. 2008; 68(4):233-9.

[14] Bahali K, Akçan R, Tahiroglu AY, Avci A. Child sexual abuse: seven years in practice. J Forensic Sci. 2010; 55(3):633-6.

[15] Jänisch S, Meyer H, Germerott T, Albrecht UV, Schulz Y, Debertin AS. Analysis of clinical forensic examination reports on sexual assault. Int J Legal Med. 2010; 124(3):227-35.

[16] Smith A. The prepubertal hymen. Austfam physician. 2011; 40(11):873-5.

[17] Paiva V, Calazans G, Venturi G, Dias R. Idade e uso de preservativo na iniciação sexual de adolescentes brasileiros. Rev Saúde Pública. 2008; 42(1):45-53

[18] Girardet R, Bolton K, Lahoti S, Mowbray H, Giardino A, Isaac R, *et al.* Collection of forensic evidence from pediatric victims of sexual assault. Pediatrics. 2011; 128(2):233-8.

[19] Jenny C. Emergency evaluation of children when sexual assault is suspected. Pediatrics. 2011; 128(2):374-5.