

DOMESTIC VIOLENCE AND MORPHOLOGICAL PROFILE OF BOYS (8 TO 16 YEARS): AN IMPACT ANALYSIS

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The study is an attempt to find out the impact of domestic violence on the morphological profile of boys. A sample of 430 boys ranging in age from 8-16 years was selected for the present study. The data have been collected from various schools of Ludhiana city of Punjab. Family Violence Scale by Bhati and George (2001) has been used to assess the domestic violence in the families of school children. To study morphological profile, the anthropometric measurements were taken by following the standard technique which include weight, linear measurements (height, sitting height and subischial length), circumferences (upper arm and calf), diameters (humerus and femur bicondylar) and skinfolds (triceps, suprailiac, subscapular and calf). All anthropometric measurements have shown general tendency towards increase with age from 8 to 16 years. The statistical significant differences were found in the children from low and high domestic violence families in terms of physical growth. The boys from low domestic violence families have been found to be heavier, taller with more circumference, diameters and skinfolds as compared to boys from high domestic violence families which clearly indicates that domestic violence affects the physical growth of children

Introduction

Domestic violence, also called domestic abuse, battering or intimate partner violence, occurs between people in an intimate relationship. Domestic violence can take many forms, including emotional, sexual and physical abuse and threats of abuse. Men are sometimes abused by partners, but domestic violence is most often directed toward women. Domestic violence is a global phenomenon and not restricted to any geographical area though regional variations may exist. Various religions, castes and societies, overtly or covertly, have supported subjugation of women in one form or the other; therefore, gender violence cannot be traced only to individual male dominance but should be linked to larger social and familial structures that are based on patriarchy and exploitative relationships. Violence is an act of aggression usually found in interpersonal interactions or interpersonal relations and is situated in the socio-economic and political content of power relations (Kelker, 1991). Everyone including men, women and their children can be the victims of domestic violence in a family. Though chances of men being victims of domestic violence are comparatively less in patriarchal society, the women and children are at a larger risk.

Domestic violence exposure has traumatic effect on the children, coexistence of maltreatment and domestic violence is more devastating. When we talk about

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the impact of domestic violence on children's development, we are considering the effects on children living in a home where spousal abuse is occurring. In every society, the child suffers incalculable harm which may be mental, emotional, physical and sexual at the hands of those who are supposed to mould them into wholesome personalities. The victims who are thus, scared of life may either belong to childhood or adolescence. Nair (1997) and Sunny (2003) reported that witnessing domestic violence can cause long term effects, with the children having more physical and mental problems. Veeraraghavan (1995) opined that whatever may be the type of violence, the impact of various forms of violence in the family are often very disastrous both in terms of immediate effects that are quite visible as well as long term effects that are often less visible. Laurance (1997) studied the family conflict linked to children's height and well being and reported that children raised in an atmosphere of domestic tension are almost twice as likely to be below average height as those brought up in happier circumstances. Montgomery *et. al.* (1997) opined that acute stress dulls the production of human growth hormone which controls metabolism and is essential for growth. Children are known to be the worst victims of the growing menace of domestic violence.

Hence, the present study is highly useful to analyze the impact of domestic violence on morphological profile of boys ranging in age from 8 to 16 years.

Materials and Methods

The present investigation has been conducted on a sample of 430 boys ranging in age from 8 to 16 years. The data have been collected from different schools of Ludhiana city. Background information of all the subjects of the study was gathered and than Family Violence Scale by Bhati and George (2001) has been used on each subject. On the basis of obtained scores two groups have been formed i.e. low domestic violence group and high domestic violence group. Age wise distribution of sample has been shown in Table I. The data is based on various anthropometric measures i.e. weight, linear measurements (height, sitting height and subischial length), circumferences (upper arm and calf), diameters (humerus and femur bicondylar) and skinfolds (triceps, suprailiac, subscapular and calf) .The data thus collected have been subjected to statistical analysis viz mean, standard deviation and standard error of mean. Test of significance ('t' test) has been applied to compare the two groups of boys.

Results and Discussion

Table 2 presents the age changes and comparison of weight and linear measurements of boys from low and high domestic violence families ranging in age from 8 to 16 years. In boys weight has increased from mean value of 22.85 kg at 8 years to

54.32 kg in low domestic violence families. In case of high domestic violence families weight has increased from 21.75 kg at 8 years to 49.10 kg at 16 years. Thus the total gain weight is 31.47 kg and 27.35 kg in low and high domestic violence group respectively. For weight the differences have been found to be statistically significant from 9 to 16 years (Table-5). Montgomery *et al.* (1997) also reported that stress in childhood reduces the functioning of growth hormone which begins a cycle of disadvantage at every stage.

Linear measurements include height, sitting height and subischial length. Height is the second largest composite of the body. In the present study it has been observed that height, sitting height and subischial length increases with the advancement of age in children from 8 to 16 years of age. For the linear measurements boys from low domestic violence families have been found to be ahead than their counterparts from high domestic violence families. For height the differences have been found to be statistically significant 10 to 16 years (Table 5). Montgomery *et al.* (1997) also reported that stress in childhood reduces the functioning of growth hormone which begins a cycle of disadvantage at every stage.

Laurance (1997) also reported that children raised in an atmosphere of domestic tension are almost twice as likely below average height as they brought up in happier circumference. Asling-Monemi *et al.* (2009) also reported that indicates that exposure to any form of violence has negative effect on length of children. The differences have reached a level of significance from 10 to 15 years for sitting height except at 13 years and only in one age group i.e.16 years for scbischial length (Table 5).

Diameters and Circumferences

Table 3 presents the age changes and comparison of diameters (humerus and femur bicondylar) and circumferences (upper arm and calf) of boys from low and high domestic violence families ranging in age from 8 to 16 years. The humerus and femur bicondylar diameters have been observed to increase with the advancement of age. For humerus bicondylar, diameter has increased from 5.04 cm at 8 years to 6.53 cm at 16 years of age in boys from low domestic violence families. In case of high domestic violence families diameter has increased from 4.38 cm at 8 years to 6.20cm at 16 years of age. The children from low domestic violence families have broader shoulders of upper and lower extremities as compared to children from high domestic violence families. Femur bicondylar diameters also increase with the advancement of age. The children from low domestic violence families have broader knees with significant differences at all age levels except 14 years in boys (Table 5).

The boys from low domestic violence families have more circumferences than the boys from high domestic violence families at all age levels with significant

differences in at upper arm circumference at 9-15 years except at 10 years. In calf circumference the differences are statistically significant from 8 to 15 years in boys (Table 5). The high family violence has led to lower values for circumferences in children from high domestic violence families. Montgomery *et al.* (1997) and Bair-Meritt *et al.* (2006) have also reported slow growth in children who have been exposed to family conflicts.

Skinfolds

Table 4 depicts the age changes and comparison of skinfolds In boys from low and high domestic violence families in 8 to 16 years. All the skinfolds i.e. triceps, suprailiac, subscapular and calf have shown an increase with age with intermittent fluctuations in some age groups. The values of all the skinfolds have been found to be more in children from low domestic violence families as compared to children from high domestic violence families. In boys the differences are statistically significant between 11-13 years in most of the skinfolds. Lall (1972), Kumar (1989), Musaiger *et al.* (1989), Kaur (1990), Bajaj (1991) and Kaur (2006) have also reported increase in skinfolds thicknesses with age. Asling-Monemi *et al.* (2009) have also reported that violence against women is associated with increased risk of fetal and early childhood growth impairment which may lead to poor health.

Therefore, it has been concluded that boys from low domestic violence families have been found heavier, taller, with broader skeletal frame and have more value of circumference and skinfolds as compared to girls from high domestic violence families. Thus, it clearly indicates that domestic violence affects the physical growth of children.

TABLE 1: NUMBER OF SUBJECTS IN TWO CATEGORIES OF DOMESTIC VIOLENCE RANGING IN THE AGE FROM 8-16 YEARS

<i>Age Group (Years)</i>	<i>Boys</i>	
	<i>Low</i>	<i>High</i>
7.500-8.499	20	24
8.500-9.499	19	21
9.500-10.499	19	29
10.500-11.499	19	22
11.500-12.499	20	35
12.500-13.499	27	30
13.500-14.499	21	28
14.500-15.499	21	22
15.500-16.499	22	31

TABLE 2: WEIGHT (KG) AND LINEAR MEASUREMENTS (CM) OF BOYS FROM LOW AND HIGH DOMESTIC VIOLENCE FAMILIES RANGING IN AGE FROM 8-16 YEARS

Age group (years)	Weight (kg)		Height (cm)		Sitting height (cm)		Subischial length (cm)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Low domestic violence								
8	22.85	2.30	127.63	4.75	64.25	2.83	63.39	3.91
9	24.63	2.53	137.37	5.66	67.18	4.25	64.18	4.66
10	29.29	2.69	138.07	4.36	70.98	1.60	66.08	4.71
11	33.74	3.74	144.18	9.34	72.73	3.86	71.45	7.03
12	34.13	5.91	149.20	10.24	75.24	3.96	73.97	7.81
13	37.81	5.62	151.56	8.82	76.42	4.88	75.14	5.35
14	43.46	7.89	158.59	10.56	81.85	7.47	77.06	6.99
15	47.57	6.75	159.61	7.35	83.09	2.95	76.52	6.52
16	54.32	6.81	168.72	5.86	87.15	4.82	81.57	5.79
High domestic violence								
8	21.75	3.43	125.07	5.06	62.80	4.42	62.27	4.86
9	24.14	5.33	127.84	6.90	64.61	4.64	63.23	5.01
10	26.97	2.37	136.09	4.35	70.13	1.78	65.96	4.99
11	28.53	3.15	136.89	4.58	68.46	3.04	68.42	4.58
12	30.90	4.40	142.27	6.32	70.42	7.24	71.85	7.06
13	33.42	4.59	146.28	8.20	73.27	4.04	73.01	6.17
14	38.83	5.50	153.14	4.78	78.59	4.96	73.80	5.48
15	42.14	6.03	155.27	5.01	79.22	4.77	76.05	3.74
16	49.10	3.56	162.48	5.25	84.50	4.74	77.98	6.73

TABLE 3: DIAMETERS (CM) AND CIRCUMFERENCES (CM) OF BOYS FROM LOW AND HIGH DOMESTIC VIOLENCE FAMILIES RANGING IN AGE FROM 8-16 YEARS

Age group (years)	Humerus bicondylar diameter (cm)		Femur bicondylar diameter (cm)		Upper arm circumference (cm)		Calf circumference (cm)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Low domestic violence								
8	5.04	0.42	7.10	0.33	16.56	2.31	23.19	2.83
9	5.08	0.47	7.24	0.36	17.88	2.01	24.62	1.61
10	5.48	0.39	7.27	0.43	18.74	1.59	25.36	1.72
11	5.57	0.26	7.74	0.47	19.23	1.73	27.88	2.00
12	5.65	0.26	7.87	0.50	19.51	2.26	28.10	2.35
13	6.01	0.49	7.98	0.55	20.12	2.21	28.49	2.62
14	6.39	0.59	8.26	0.63	21.75	2.25	29.35	2.38
15	6.48	0.21	8.48	0.39	23.23	2.06	30.02	2.47
16	6.53	0.49	8.65	0.43	24.29	3.42	33.12	4.68
High domestic violence								
8	4.38	0.25	6.44	0.68	16.00	1.50	22.87	2.13
9	4.72	0.44	7.05	0.73	17.06	1.23	23.19	2.10
10	4.91	0.59	6.41	0.25	17.70	1.63	23.82	1.74
11	4.50	0.21	6.61	0.40	17.34	1.42	26.05	1.85
12	4.98	0.43	6.79	0.45	17.27	1.95	25.61	1.97
13	4.95	0.56	7.60	0.06	18.59	8.11	26.62	2.46
14	5.81	0.47	8.13	0.51	17.85	1.69	25.36	2.07
15	5.90	0.42	8.18	0.46	21.31	2.83	27.26	5.69
16	6.20	0.50	7.95	0.66	22.84	2.80	31.41	3.87

TABLE 4: SKIN FOLDS (MM) OF BOYS FROM LOW AND HIGH DOMESTIC VIOLENCE FAMILIES RANGING IN AGE FROM 8-16 YEARS

Age group (years)	Triceps skinfold (mm)		Suprailiac skinfold (mm)		Sub scapular skinfold (mm)		Calf skinfold (mm)	
	Mean	S D	Mean	S D	Mean	S D	Mean	S D
Low domestic violence								
8	12.10	1.41	6.55	1.36	8.45	1.67	14.95	1.96
9	13.68	2.26	6.84	1.38	8.47	2.52	15.53	2.72
10	14.63	1.12	7.00	1.15	9.63	2.11	16.32	1.92
11	15.63	1.89	7.21	1.44	10.53	2.59	18.68	3.04
12	14.55	3.55	7.15	1.04	9.90	3.24	17.45	3.78
13	14.74	2.43	7.67	1.39	11.00	2.40	17.67	3.75
14	15.90	2.19	8.43	1.36	11.52	2.36	19.71	3.93
15	15.81	2.11	9.76	1.45	13.19	2.09	19.24	4.90
16	15.77	3.35	9.27	1.78	12.77	3.50	18.86	3.55
High domestic violence								
8	11.33	1.37	6.42	1.53	7.75	1.78	13.00	1.67
9	12.29	2.67	6.33	1.43	7.95	1.86	14.86	2.59
10	13.28	1.46	6.72	1.22	8.66	1.70	15.00	2.19
11	13.77	1.02	5.59	0.59	9.05	1.53	13.95	2.01
12	11.49	1.77	5.43	1.17	7.77	1.09	14.09	2.29
13	12.63	1.16	6.03	1.54	8.73	1.84	13.87	1.93
14	15.75	3.52	7.96	1.23	10.61	2.04	14.32	3.61
15	15.64	1.59	9.41	1.26	11.59	2.22	15.09	1.90
16	15.58	2.19	8.77	1.23	11.77	2.01	17.61	3.07

TABLE 5: T - TEST COMPARISON OF ANTHROPOMETRIC MEASUREMENTS IN BOYS FROM LOW AND HIGH DOMESTIC FAMILIES

Age group	Wei-ght	Hei-ght	Sitting height	Subis-chial length	Upper Arm Circum.	Calf Circum.	Hum-erus bicondylar	Femaur bicondylar	Triceps skin folds	Supr-ialiac skin folds	Sub scap-ular skin folds	Calf skin folds
7.500-8.499	1.218	1.717	1.261	0.826	0.953	0.420	6.492*	3.926*	1.822	0.303	1.338	3.567*
8.500-9.499	0.364	1.755	1.821	0.623	1.569	2.397*	2.471*	3.099*	1.778	1.142	0.749	1.225
9.500-10.499	2.521*	1.540	1.683	0.784	2.185*	3.015*	3.755*	8.782*	3.436*	0.782	7.19*	2.200*
10.500-11.499	4.658*	3.242*	3.957*	1.653	0.810	3.047*	6.531*	2.346*	1.539	0.283	1.066	1.763
11.500-12.499	2.303*	3.109*	2.742*	1.028	3.861*	4.122*	6.301*	7.959*	4.280*	5.457*	3.569*	4.120*
12.500-13.499	3.246*	2.341*	2.667*	1.383	2.679*	2.772*	7.710*	2.459*	4.250*	4.186*	4.025*	4.882*
13.500-14.499	2.581*	2.564*	1.835	1.829	6.934*	6.248*	3.787*	0.798	0.177	1.248	1.455	4.984*
14.500-15.499	2.786*	2.270*	3.185*	0.288	2.535*	2.041*	5.640*	2.246*	0.305	0.854	2.432*	3.693*
15.500-16.499	3.636*	4.066*	1.992	2.025*	1.695	1.449	2.407*	4.333*	0.253	1.208	1.313	1.369

*Significant at 5% level

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