

**Epidemiological study of physical abuse in children and its association with their scholastic performance**

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**Citation this Article:** R Fadiya, A P Vijayan, “Epidemiological study of physical abuse in children and its association with their scholastic performance”, IJMSIR- August - 2021, Vol – 6, Issue - 4, P. No. 198 – 202.

**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Objectives:** 1) To study the epidemiology of child physical abuse amongst high school children in North Malabar region. 2) To compare the performances between the abused/non-abused and derive the statistical significance of such an association.

**Methods:** A prospective, descriptive observational study with 400 children was conducted at two high schools in the North Malabar region. Children 12-15 years were included in the study. A semi-structured questionnaire was developed and each question has a score, minimum ‘0’, and maximum ‘24’. The degree of physical abuse was classified as ‘No Physical Abuse’, ‘Mild’, ‘Moderate’ and ‘Severe’ Physical Abuse based on the scores. Overall marks obtained by study participants was obtained from the respective class teachers and converted to grade ranging from a maximum of ‘A+’ to **the least grade ‘D’**.

**Results:** 83.75% of the study population had encountered physical abuse in last 1 year. The prevalence of physical abuse in the females were 86.5% compared to 83.6% in males. Our study reported ‘No

physical abuse’ in 16.2%, physical abuse in 83.8% - Mild 63.9%, Moderate 27.4%, and severe in 9%. Overall ‘Mother’ was most commonly implicated in causing physical hurt. Results showed that as the severity of physical abuse increased, the grades showed declining trend.

**Conclusion:** In summary, physical abuse is a worldwide problem that needs action from all community sectors. The findings of the current study support that there is a negative impact of physical abuse on children’s academic achievement.

**Keywords:** Child abuse, negative impact, physical abuse, prevalence.

**Introduction**

Child abuse is not a new phenomenon in the history of man. It has been going on right from time immemorial. It is one of the most challenging social catastrophes around the globe. Physical abuse of a child is that which results in actual or potential physical harm from an interaction or lack of interaction, which is reasonably within the control of a parent or person in a position of responsibility, power, or trust [1]. Physical

abuse leads to educational underachievement & is predicted to negatively affect children's academic and behavioural adjustment. Physically abused children tend to have lower grades, more social skill deficits, higher rates of absenteeism, school drop outs and lower ego resiliency than non-abused group.

### Methods

A prospective, descriptive observational study was conducted among high school students, ages 12-15 years irrespective of gender, in 2 schools in Govindapuram, a small suburb towards east of Kozhikode city about 5 kilometres from the centre of the city. The study was conducted during the time period of June 2016 to June 2017. The 2 schools in the study area were randomly selected to participate in the survey. Together the 2 schools had around 600 students in the classes 7-10.

We used the formula  $4PQ/d^2$  where P=prevalence, Q=1-P and d=relative precision to calculate the required sample for our survey. Here, prevalence was taken as 0.34 based on a previous study on child abuse and neglect carried out in 2005 by the Ministry of Women and Child Development, Government of India (MWCD, GOI) [2] and relative precision was taken as 15%. Considering a nonresponse rate of 10%, the sample size came out to be 385. A total of 400 students were included in the study.

After a brief introduction on child physical abuse, questionnaire was administered one to one in the vernacular (Malayalam) language. It was a semi-structured questionnaire in the English language prepared in consultation with the clinical Psychologist and our consultant Paediatricians consisting of total 10 questions relating to physical abuse, current (within last 1 year) physical abuse, the usual perpetrators, mode of causing physical hurt, questions relating to the severity,

and questions relating physical hurt to academic interest. Each question has a score, minimum score of '0', and maximum '24'. The degree of physical abuse was classified based on the score and '0' amounting to 'NO PHYSICAL ABUSE', scores '1-8' being 'MILD PHYSICAL ABUSE', scores '9-16' equal to 'MODERATE PHYSICAL ABUSE' and scores '17-24' amounting to 'SEVERE PHYSICAL ABUSE'. 4 questions related to severity of physical abuse namely: 'ever sustained burns/ scalds', 'scars caused by physical hurt', 'history of hospitalization for physical hurt' and 'history of missing school due to physical hurt'. Further, overall marks obtained by study participants for quarterly examination obtained from the respective class teachers and converted to grade ranging from a maximum of 'A+' to the least grade 'D'

The Child Welfare Committee and Principals of the selected schools granted approval to conduct the study. An independent ethics committee in our hospital provided the ethical clearance.

The analysis included profiling of patients on different demographic, socio-economic status of the parents, family structure and specially design physical abuse questionnaire. Descriptive analysis of quantitative data was expressed as means and standard deviation. Categorical/Ordinal data were expressed as absolute number and percentage. Cross tables were generated and chi square test was used for testing of associations. P-value < 0.05 is considered statistically significant. SPSS software, version 24.0 was used for analysis

### Results

In our study, we observed that 83.75% of the study population had encountered current physical abuse (within last one year).

Our study composed of comparable male-female population, with females (51.8%) slightly exceeding

male population (48.2%). The prevalence of current physical abuse in the females was 86.5% compared to 83.6% in males. We found no statistical difference in the prevalence of physical abuse in the 2 groups (p=0.408).

In our study, we found that 65 (16.2%) reported 'No physical abuse' and 335 (83.75%) reported three types of physical abused namely; Mild in 213 (63.6%) students, Moderate in 92 (27.4%) students, and severe in 30 (9.0%) students.

With regard to frequency of abuse, we observed that 96 (28.6%) out of 335 physically abused students reported being physically hurt only 'rarely', whereas 30 (8.9%) students reported being physically hurt 'almost every day'.

Overall, the most common perpetrator of physical abuse was found to be 'Mother', followed by 'Teachers', followed by 'Father'. 'Father' was the most commonly responsible for severe type of physical abuse (83.3%) (Figure1).

Person responsible	Mild physical abuse (n=213)		Moderate physical abuse (n=92)		Severe physical abuse (n=30)	
	Number	Percent	Number	Percent	Number	Percent
Mother	114	53.5%	79	85.9%	22	73.3%
Teachers	115	54%	78	81.5%	19	63.3%
Father	75	35.2%	59	64.1%	25	83.3%
Grandmother	8	3.8%	10	10.9%	8	26.7%
Aunt	6	2.8%	8	8.7%	4	13.3%
Uncle	2	0.9%	10	10.9%	1	3.3%
Grandfather	1	0.5%	3	3.3%	5	16.7%

Table 1

The most common mode of causing physical hurt was 'hand or fist' (77.3%) followed by 'stick' (63.9). More than half of the physical abused students (69%) i.e. 231/335 were physically hurt for not studying and 110 (32.8%) students reported that their interest in studies

was reduced due to physical hurt. 1 person (0.3%) also reported suffering from scald as a part of physical abuse. In comparison, scalding was reported in 3 persons (0.6%) in the study by Daral et al [4], and was categorised under severe types of physical abuse. 30 persons (9%) sustained scars as a result of previous abuse. It was observed that as the severity of physical abuse increased, more and more students reported decreased interest in studies due to physical abuse (17% in mild physical abuse as compared to nearly 60% & 70% in moderate and severe physical abuse respectively) We observed in our study that physical abuse has a negative impact on the students academic performance. Results showed that as the severity of physical abuse increased, the grades obtained showed a declining trend. Between the 4 groups (NO physical abuse, MILD physical abuse, MODERATE and SEVERE physical abuse), it was observed that students with no physical abuse tend to obtain better grades as compared to the other 3 groups. Students with severe physical abuse was observed to obtain least grades (Figure 2).

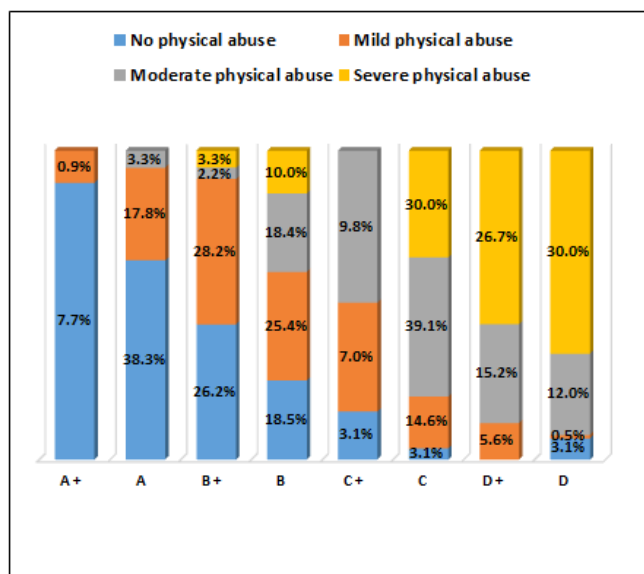


Figure 1

## Discussion

This study enables us to get an insight into the substantial burden of physical abuse in children in 2 schools in Kozhikode, with an overall prevalence of 83.8%. This was in comparison with studies by Kumar et al [3] wherein the prevalence of physical abuse among high school students were 75.5%, whereas it was only 42.6% in a study by Daral et al. [4] In contrast to popular belief that girls are most often the victims, our study found no statistically significant difference in the occurrence of physical abuse in the 2 populations. This was in agreement with the results by Flisher et al [5] in which they found no sex difference as regards physical abuse. Whereas, studies by Ahmed et al [6], Elsaied et al [7] and Kumar et al [3] reported physical abuse more among boys than girls. Severe physical abuse was reported in 9% of the population, which is in comparison with the survey by Daral et al which reported severe physical abuse in 11.3% of study population, with 'Father' being most frequently responsible in such cases, just as in our observation, Evidence from our study, similar to the findings in previous literature has led us to conclude that child physical abuse has significant negative impact on his/her academic performance, and thus in the moulding of his/her future. We found that there was statistically significant difference in the grades obtained by children with no abuse against those with varying severity of abuse, with the worst grades in those with higher degrees of abuse ( $p < 0.0001$ ). This is in comparison to a study by Elarousy et al [8] who reported that's students with any forms of physical abuse (62.1%) got GPA (grade point average) [9] less than 85% compared with those who reported that they were never been abused (32.4%) and the differences was statistically significant ( $P = 0.001$ ). Similar results were obtained in a study by

Ada et al [10] which also showed that child physical abuse had a significant effect on their academic performance.

## Conclusions

It would be a good thing if the effects of child abuse on children's classroom behaviour and later academic performance could receive attention in education policy forums. Greater awareness of child abuse could lead teachers to respond more effectively to students who appear to be inattentive, have poor motivation and perform inconsistently on assignments. Programs are needed in schools to reduce the use of physical punishment by teachers and to provide support for children exposed them. Future studies can investigate abusive experiences among primary school children; the effect of which would be more important, and early detection of abuse in this group is likely to facilitate timely intervention.

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