CLINICAL AND DEVELOPMENTAL PROFILES OF PHYSICALLY ABUSED CHILDREN AGED SIX YEARS AND BELOW*

Stella Guerrero-Manalo**

ABSTRACT

This study was undertaken in answer to the need for a national database or a uniform data-intake protocol. It aimed to establish a baseline study that examines the population of identified cases of physical abuse in children aged 6 years and below in terms of developmental profiles, birth/maternal history, medical history and family demographics and dynamics.

INTRODUCTION

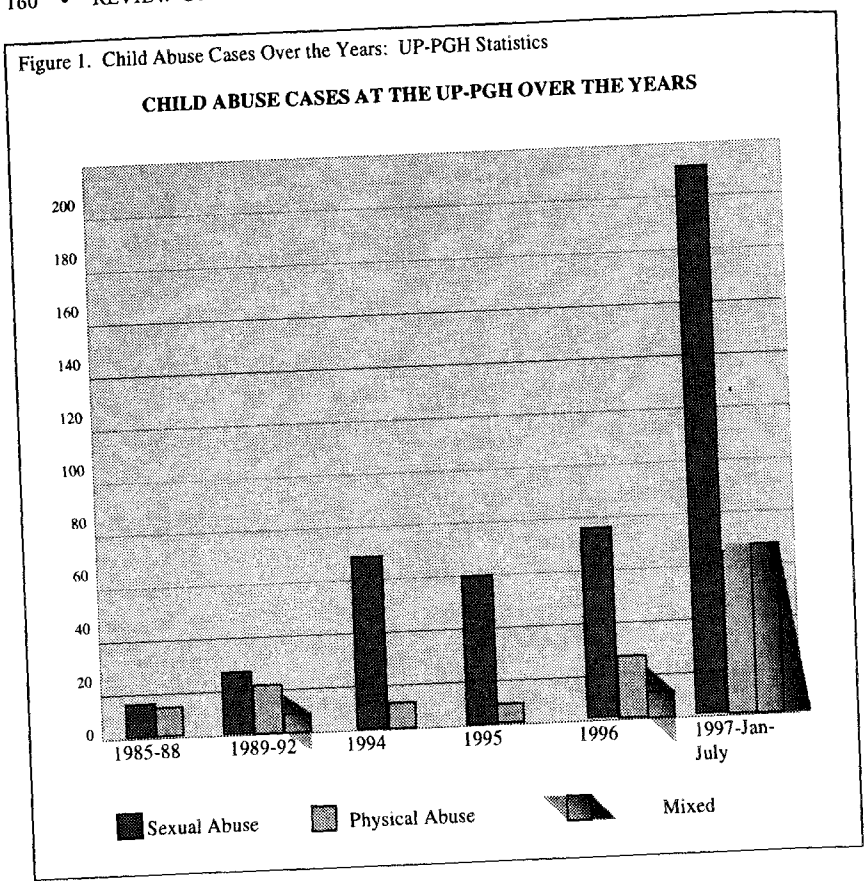
Research on child abuse is still in its infancy in the Philippines. Systematic data gathering took place not too long ago. Mandatory reporting was signed into law only in 1992 (Republic Act No. 7610). There is yet no national database or uniform data-intake protocol. Probably the most comprehensive information available is from the Department of Pediatrics of the University of the Philippines-Philippine General Hospital(UCWS-UNICEF 1996; Guerrero-Manalo 1996). From its data file can be gathered that child abuse cases starting from 1985 are on the rise, and sexual abuse (ranging from fondling to rape, is the most frequently reported type as can be seen in *Figure 1.*

Physical abuse is most likely under-reported or under-diagnosed, yet it is this type of abuse that is potentially the most

*Research conducted in 1997.

**Doctor of Medicine who is a Clinical Associate Professor of Pediatrics at the College of Medicine, UP-Manila.

Figure 1. Child Abuse Cases Over the Years: UP-PGH Statistics



life-threatening and most complicated to deal with because it occurs within the family. Unfortunately however, physicians have received very little, if any, training on the detection of physical abuse or other forms of domestic/family violence. Child abuse has traditionally been tackled in a very clinical manner as a constellation of full-blown physical injuries known as "The Battered Child Syndrome". Lesser degrees of physical injuries would probably not be labeled as child abuse for doctors have not been trained to automatically include child abuse in their differential diagnosis: They have not been trained to ask the basic questions that would ferret out the necessary information. This is

so because doctors have not been taught the basic underlying dynamics and issues pertaining to family violence. Thus a list of clinical indicators is in order. It would enable them to detect it and thus be guided in their diagnosis and prescriptions.

From a developmental pediatrics' perspective, the interrelationship between child development and abuse is intriguing. Numerous foreign researches support the general assumption that child abuse and neglect has deleterious effects on the overall well-being and development of the child (Agoustinos 1987; Toro 1982; Egeland 1981). Specific studies point out that it is language development that is the most affected sphere of development. Johnson and Morse (1968) studied 101 abused children and reported that about 20% were below normal in speech development. Martin and Blager(1976) and his associates report lags in the language development in different samples of abused children. They suggest that it is because of the abused children's lack of basic trust in their environment that they are afraid to risk talking/expressing themselves and therefore suffer language delay due to restricted practice.

However, recent studies using more sophisticated designs and utilizing controls find few statistically significant differences in the developmental outcomes of abused children compared to controls (Elmer 1977). Other studies are also examining mediating variables that may ameliorate developmental outcomes. Such variables examined were IQ (Lynch 1982; Frodi 1984) and home environment (i.e. play resources, maternal involvement) (Giblin *et al.* 1984).

Research on the developmental effects of child abuse fails to cohere meaningfully because of definitional and methodological problems. The only consistent finding from earlier researches was that a higher proportion of abused children were low birth weight when compared to the rest of the population (Elmer & Gregg 1967; Guerrero-Manalo 1996). It was postulated that there were characteristics of abusing parents that predisposed them to

produce preterm or small-for-date babies which subsequently also make them less capable to cope with the extra stress caring for these babies (Agoustinos 1987).

Local research on the developmental effects of child abuse is long overdue. It is about time that a body of local literature that investigates this aspect of child abuse is produced. An initial step towards this goal is to provide baseline data from which to organize a framework that can be used as take off point for future researches.

GENERAL OBJECTIVE:

To establish a baseline study that examines the population of identified cases of physical abuse in children aged 6 years and below in terms of developmental profiles, birth/maternal history, medical history and family demographics and dynamics.

SPECIFIC OBJECTIVES:

1. To determine if there are significant differences in the developmental screening (using the Denver Developmental Screening Test II) of physically abused children (aged 6 years and below) compared to non-abused controls.
2. To describe the birth, maternal and medical histories of this particular population of physically abused children.
3. To describe the demographics and family dynamics of these child victims of physical abuse.
4. To describe the major growth and anthropometric parameters (head circumference, weight and height) of this population of abused children.

METHODOLOGY

Subjects

All cases of suspected child abuse are referred to the UP-PGH Department of Pediatrics' Child Protection Unit (CPU) for

thorough investigation and examination. A comprehensive pediatric history is obtained; a thorough investigation is made on family background and dynamics; and a complete physical, neurologic and developmental examination is made using standard protocols. The Child Protection Unit had seen a total number of 299 cases of suspected child abuse from January 1996 to July 1997. The cases are broken down as shown on Table 1.

Table 1:
CASES OF CHILD ABUSE CLASSIFIED ACCORDING TO TYPE OF ABUSE

Type of Abuse	1996	1997	Total
Sexual Abuse	65	118	183
Sexual Abuse with physical abuse	6	11	17
Sexual abuse w/ physical abuse & neglect	0	1	1
Physical abuse	24	33	57
Physical abuse w/ neglect	0	2	2
Neglect	0	7	7
Unable to validate	0	28	28
No Abuse	0	4	4
TOTAL	95	204	299

Those children who suffered only physical abuse represented 19% of the total number of cases of child abuse. From the total number of victims of physical abuse (57), twenty- four (24) were six years old and below (*See Table 2*).

Table 2
PHYSICAL ABUSE CASES SEEN IN THE CHILD PROTECTION UNIT DISTRIBUTED ACCORDING TO AGE AND SEX

Age Group	Male	Female	Total
0-12 months	2	2	4
13-36 months	7	3	10
37-74 months	4	6	10
6 3/12- 10 years	6	13	19
10 1/12-15 years	3	5	8
15 1/12-21 years	1	2	3
Unknown	3	0	3

The subjects included in this study were all the index cases of physical abuse who were aged 6 years or below. This included 13 cases from 1996 and eight cases seen this year. One case was excluded because the victim came in with sensorial changes due to intracranial injuries and eventually expired before a developmental screening was done. Two other cases were also excluded because they were just picked up off the street ("foundlings") and their ages and past histories could not be established. Nine (9) other cases came from shelters namely: Bantay Bata and the Reception and Study Center for Children. Shelters in the City of Manila refer their cases to the UP-PGH CPU so it was not necessary to go to these establishments.

The age and sex distribution of subjects involved in this study are shown in *Figure 2.*

Controls

The study subjects were matched to controls according to sex and age (at the time of the performance of the Denver Develop-

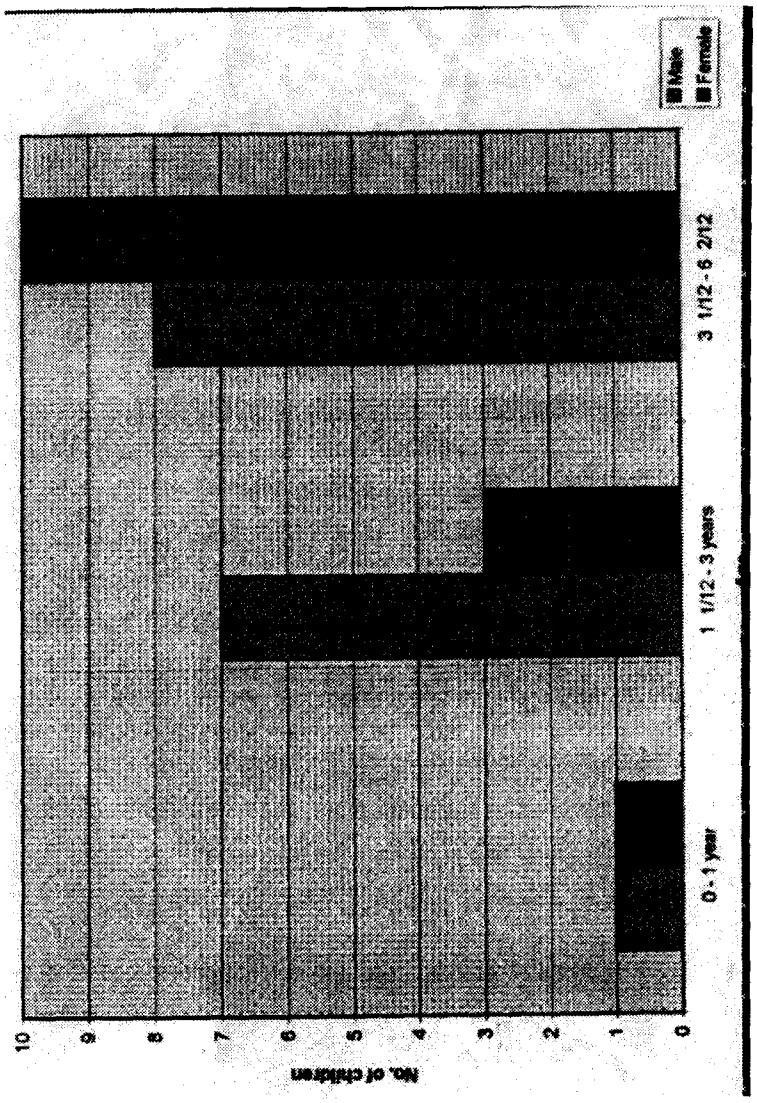


Figure 2: AGE AND SEX DISTRIBUTION OF STUDY SUBJECTS

mental Screening Test). The control group was obtained from the general clinic of the Department of Pediatrics Outpatient Services. These controls were thus from approximately the same socio-economic class as the subjects; this is the social strata to which the UP-PGH caters.

The controls were usually consulting at the general clinics for fever, cough/colds, primary Koch's infection, or immunization. Those that had complaints of, or a history of frank neurologic problems or those whose chief complaint was speech or some other form of developmental delay were screened out. Family dynamics as well as principles of discipline were investigated to make sure that these controls were not victims of abuse. Medical, nutritional and immunization histories were examined to counter-check that basic health and nutritional needs were addressed. These children underwent a thorough pediatric history and physical and neurologic examination. The performance of Denver Developmental Screening Test was explained to the parents as part of the routine general pediatric check-up.

Definition of Terms

Physical abuse: the definition is based on RA 7610 which states that it consists of "any act which results in non-accidental and/or unreasonable infliction of physical injury to a child which includes but is not limited to lacerations, fractures, burns, strangulation, human bites and similar acts." In the CPU experience, physical abuse is usually reported as excessive physical punishment or hitting by a parent/caretaker of a severity enough to produce at least lasting soft tissue injury on a regular basis (at least 2 abusive episodes in the past year).

Abused subjects: in this study this term is used to refer to victims of physical abuse. From here on, this will be used synonymously to physically abused subjects.

Denver Developmental Screening Test II: The principal value of this developmental screening test is to provide an organized clinical impression of a child's overall development and should be used primarily to determine how a child compares to other children based on performance in a variety of age-appropriate tasks. It is not to be used as a predictor of later cognitive development or as an IQ test. It is accepted worldwide having undergone meticulous standardization and validation.

The interpretation of the test is based on considering the results from all four domains of development (gross motor, fine motor, language and personal/social adaptive). Overall test interpretation is either:

Normal : no delays in any of the domain or a maximum of one (1) caution in one domain.
Abnormal : two (2) or more delays in any domain.
Questionable : one delay and/or two (2) cautions in any domain.

Interpretation per domain of development is either delayed, caution or normal depending on their ability to pass age-appropriate tasks.

In this study, the investigator was aware of the possible bias of the one conducting the DDST II. However, she also knew that if there be any, this was minimized by the fact that the test can not be interpreted simultaneously or immediately while it is being administered.

Statistical Analysis

The MacNemar chi-squared test for matched case-controls was applied to the results of the Denver Developmental Screening Test of abused subjects and their matched non-abused controls.

RESULTS

Demographic Description

Subjects and controls came from families from the lower socio-economic bracket of society, this being the bulk of the population utilizing the services offered by the UP-PGH. Figures 3 and 4, show that most parents were able to complete either a high school or elementary education. Table 3 and 4, on the other hand show that maternal and paternal occupations mainly consisted of blue-collar jobs. Only three mothers from the subjects and two mothers from the control group finished a college education; likewise, one father from the subjects and two fathers from the controls were able to finish college. Only seven parents occupied white-collar jobs and these were all from the control group. It is significant to note that more fathers (9 out of 30) of abused subjects were unemployed whereas all except one of the fathers of the control group was gainfully employed albeit in blue- collar jobs.

Figure 3: MATERNAL EDUCATIONAL ATTAINMENT

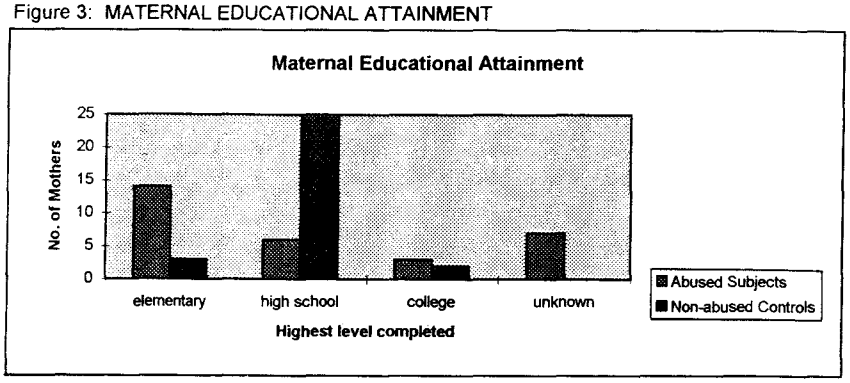


Figure 4: PATERNAL EDUCATIONAL ATTAINMENT

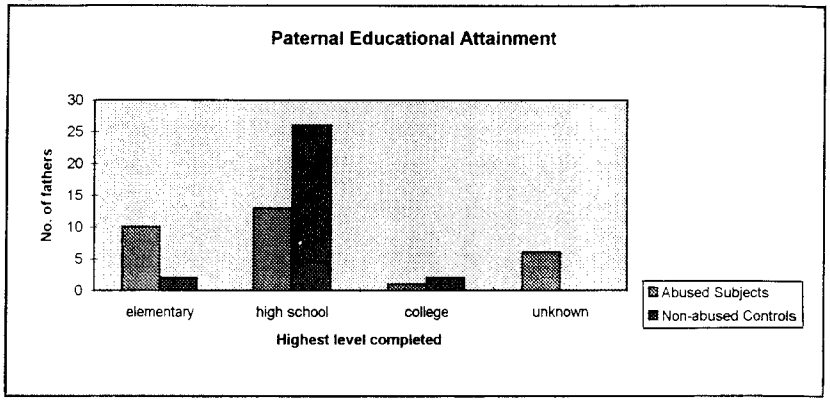


Table 3
Mother's Occupation

Occupation	Abused Subjects	Non-Abused Controls
Housewife	13	22
Manicurist	0	1
Vendor	8	2
Laundrywoman	1	0
Entertainer/GRO	4	0
Factory Worker	0	2
Office Worker	0	2
Teacher	0	1
Unknown	4	0
Total	**30**	**30**

Table 4
Father's Occupation

Occupation	Abused Subject	Non-abused Controls
Unemployed	9	1
Self-employed	5	1
Laborer/Helper	6	8
Skilled laborer	0	3
Driver	4	3
Security guard	1	3
Factory worker	0	4
Office worker	0	4
Vendor	0	1
O.C.W.	0	2
Unknown	5	0
Total	**30**	**30**

More mothers in the control group finished high school (*Figure 3*) as compared to the subject pool. More mothers were homemakers (73%) in the control group although a significant proportion (43%) of mothers from the subject pool were also in the same category of work. Noted also was the fact that there were more (27%) vendor-mothers in the abused subjects compared to those for the controls (7%). There were also four mothers of abused subjects who were entertainer/guest relation officers/prostitutes.

Most mothers in the control group were in their twenties while those in the abuse-subject group were fairly equally distributed over the different age groups (*see Figure 5*). Fathers were mostly in their twenties and thirties for the control group while the fathers were also fairly distributed over the different age groups for the abused-subject pool *(Figure 6)*.

Figure 5: MATERNAL AGE DISTRIBUTION

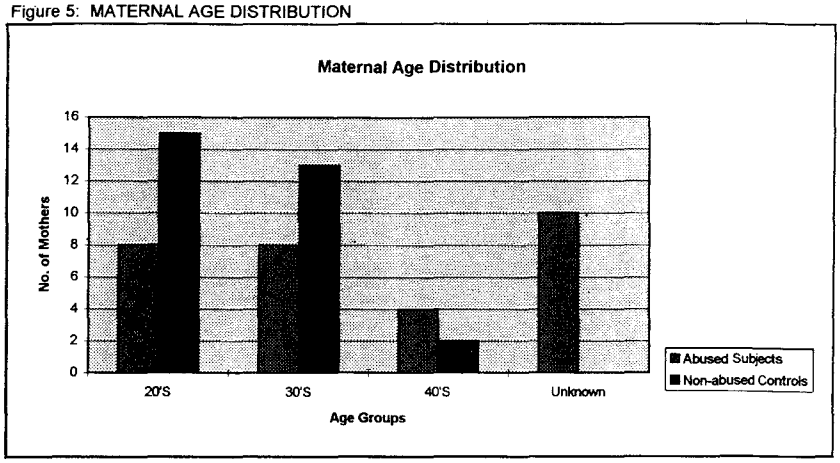
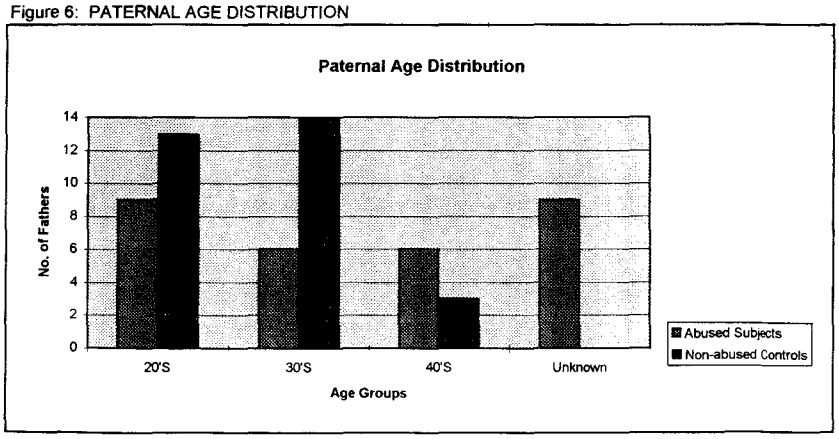


Figure 6: PATERNAL AGE DISTRIBUTION



Family Dynamics

The abused subjects exhibited a markedly dysfunctional family life (*see Table 5).* In 15 cases (or 6 families) the fathers were chronically abusing the mothers as well as the children. In two cases the parents were constantly separating only to reconcile later. In nine (9) cases one of the parents had multiple sexual partners. In eleven (11) cases the family/children were abandoned by either the mother or father. And at least one parent engaged in drug and alcohol abuse was of abused children. Comparatively, the controls had unremarkable (29 in 30 cases) family lives, living mostly (in 24 of 30 cases) as a nuclear family with no note of drug or alcohol abuse.

Abuse Episodes

Perpetrators of physical abuse were distributed as follows: 20 children (67%)were abused by their fathers, two children (7%) abused by a stepfather, four (13%) cases abused by their biological mother, one (1) case (3%) abused by a stepmother, two (7%) cases abused by aunts and one (1) case (3%) by a grandmother. In fifteen cases (50% of subjects), the father was also known to physically abuse and batter his wife, whether or not under the influence of drugs, alcohol or both. Most of these abusive fathers were characterized by their wives as having poor anger and impulse control.

Twenty of the cases (67%) apparently were due to excessive infliction of corporal punishment causing visible injuries such as hematoma, abrasions, and lacerations, mainly on the face and head.

Six cases (20%) seemed to stem from pure cruelty: the two cases where the aunts were the abusers, the only case where the grandmother was the culprit, the only case where the stepmother was the abuser, one mother who was a prostitute was also exceptionally cruel to her child, and one father tortured his daughter.

Hallmarks of this cruelty were the infliction of cigarette burns (seen in five cases) and severe injuries with fractures seen in one (1) case.

Two noteworthy cases were those of failure to thrive seen in two infants, both of whom had abusive fathers who also beat up their wives. One infant, besides failure to thrive, also showed radiologic evidence of multiple old fractures but did not have any recent life-threatening injury.

There was only one case that required hospitalization for his injuries which included fractures. All other cases did not have any life-threatening injury.

Most injuries were located on the face and head (20 of the 30 cases). In ten other cases, the injuries were on the body and extremities. There were six cases that did not show any sign of injury although there were disclosures about excessive physical punishment.

The following summarizes the pertinent physical examination findings at the time of diagnosis of abuse:

Cutaneous injuries (abrasions, hematoma, lacerations)		
face and head	50.0%	
body	16.7%	
extremities	6.7%	
all over	16.7%	
Cigarette burns	13.3%	
Fractures (extremities)	6.7%	
Malnourished (Percentile weight for height < P5)	26.7%	(includes the 2 infants with failure-to-thrive)

Pediatric History

A large majority of the samples (73% of the abused subjects and 83% of the controls) showed normal, unremarkable prenatal and birth histories (*Table 6*). However, there were seven (7) cases in which the birth and maternal histories of the subjects could

not be obtained. There was also one (1) case of a subject born by ceasarean section but the rest of his prenatal and perinatal course was normal.

In fact, it was in the control group that there was a history of a preterm delivery by ceasarean section to a young primigravid and another one with a history of mild meconium staining.

Past Medical, Immunization and Nutritional History

Most of the abused subjects (73%) had unremarkable past medical histories although in seven cases, the past medical histories were not known. There were, however, two infants included who exhibited failure-to-thrive and came in with complaints of on-and-off diarrhea and bronchopneumonia. The rest of the subjects, however, were described as basically healthy and generally easy to care for.

The control group also consisted of children with unremarkable medical history and who were described as basically healthy except for two cases who suffered from bronchopneumonia in infancy and three cases who had a history of benign febrile seizures.

Controls were all completely immunized as compared with the subject wherein only 40% had complete immunization (*Table 7*). 30% of the abused subjects had incomplete immunizations and 7% had received no immunization; for six cases the immunization status was unknown.

Early feeding practices showed hardly any difference between abused and non-abused cases. Almost an equal percentage of subjects and controls received breastmilk or bottlefeeding (See Table 8).

Anthropometrics

Most of the measurements for the head circumferences of the abused children in the study sample lay within the 25th to 75th

Table 5: FAMILY DYNAMICS IN SUBJECTS AND CONTROLS

FAMILY DYNAMICS	ABUSED SUBJECTS	NON-ABUSED CONTROLS
1. Battered wives	15	0
2. Frequent separation of parents	2	1
3. Multiple partners	9	0
4. Family abandoned by one parent	10	0
5. Alcohol use/abuse	8	0
6. Drugs and Alcohol abuse	10	0
7. Lives with extended family	4	6
8. Nuclear family	1	24
9. Unremarkable	1	29

Table 6: BIRTH AND MATERNAL HISTORY

CHILD'S BIRTH AND MATERNAL HISTORY	ABUSED SUBJECTS	NON-ABUSED CONTROLS
1. Unremarkable FTSVD with no complications	22	25
2. Unremarkable FT by CS with no complications	1	3
3. Meconium stained	0	1
4. Preterm by CS; young primi	0	1
5. Unknown	7	0

Table 7: IMMUNIZATION STATUS

IMMUNIZATION STATUS	ABUSED SUBJECTS	NON-ABUSED CONTROLS
complete	12	30
incomplete	9	0
none	2	0
unknown	6	0

Table 8: EARLY FEEDING PRACTICES

EARLY FEEDING	ABUSED SUBJECTS	NON-ABUSED CONTROLS
1. Bottlefed	12	16
2. Breastfed	9	14
3. Unknown	9	0

percentile for age with the most number of cases falling within the 50th percentile for age (mode=P50) and with three cases falling in the [-]3 standard deviation category. In comparison the measurements for head circumference of the controls clustered around the 50th to 75th percentile for age (mode=P75) with one case falling above three standard deviations for age (*Figure 7*).

For the height measurements almost 50% of the abused children's heights fell below the 50th percentile for age as compared to controls wherein only 20% fell below the 50th percentile for age. Most heights of the abused cases (12 of 30) and non-abused controls (17 of 30) fell within the 50th to 75th percentile for age (*Figure 8*).

The weight measurements revealed that almost the same proportion of cases for the abused subjects (53.3%) and controls (46.7%) fell below the 50th percentile for height. Most weight for height measurements of the abused samples fell within the 5th to 10th percentile while those for the controls most of these measurement were in the 50th percentile for height category (*Figure 9*).

Three of the abused cases fell below [-]3 standard deviations in terms of head circumference for age, height for age and weight for height. Two of these cases were those of the infants that had failure-to-thrive.

Denver Developmental Screening Test II (DDSTII)

The results of the developmental screening test (DDST II) of the abused subjects were tallied side by side against the results from their matched non-abused controls. The number of discordant subject-control pairs (i.e., normal results vs. questionnable/abnormal results) was significant using the MacNemar Chi-squared test for batch case-controls. It was significant for the overall interpretation of the test and for each domain of

development, namely: gross motor, finemotor, language, and personal/social adaptive; but specially more pronounced for language development. (*See Appendix B*)

Figure 7: DISTRIBUTION OF PERCENTILE HEAD CIRCUMFERENCE

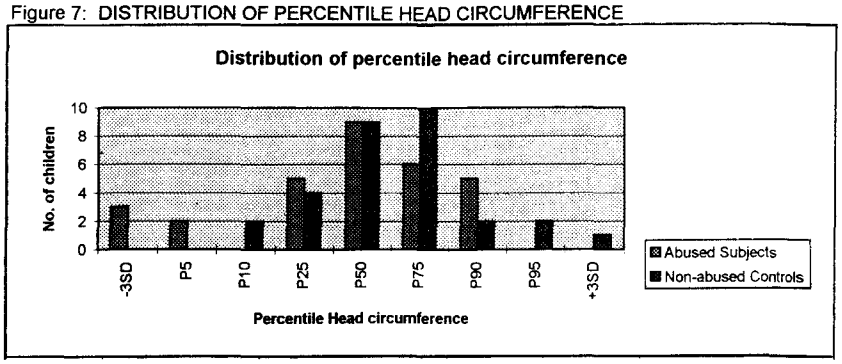


Figure 8: DISTRIBUTION OF PERCENTILE HEIGHT FOR AGE

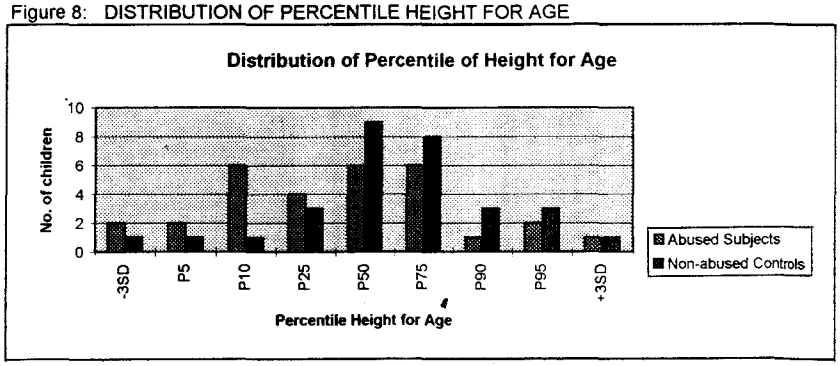


Figure 9: DISTRIBUTION OF PERCENTILE WEIGHT FOR HEIGHT

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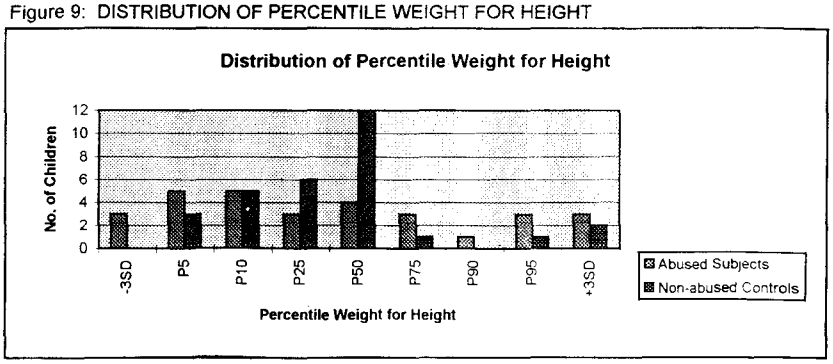


DISCUSSION

The results of this study raise questions that should pose challenges for future research; this is in fact one of the main purposes of this pioneering research.

The main output of this study was that it showed there were significant differences in the results of developmental screening for abused subjects when compared to controls. Abused subjects had significantly more abnormal or questionable developmental screenings than controls. This implies that they are more at risk for developmental difficulties. As to whether these developmental delays or cautions in the different domains of development (gross motor, fine motor, language and personal/social adaptive) are caused by the physical abuse per se cannot be answered by the present study.

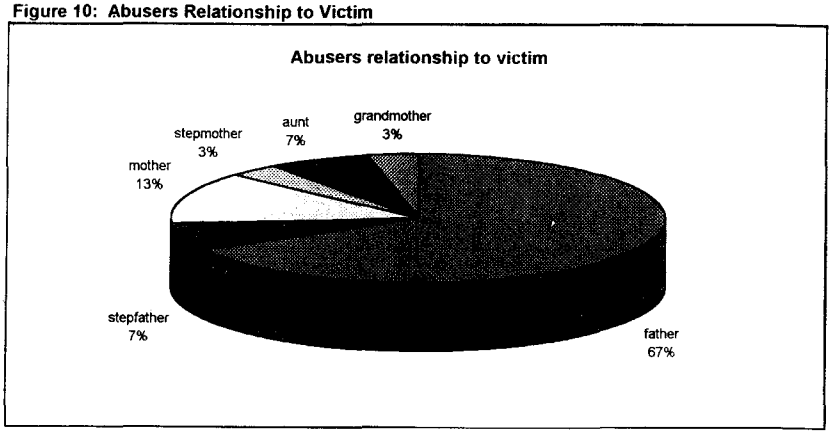
Literature reveals that there is a high single-order correlation between abuse and neglect (Allen 1982). This means that a history of abuse is a fairly good predictor for a history of neglect and vice-versa. Implications of this are: when a child is referred for treatment for the effects of one, s/he should always be checked for the other type of abuse. No assurance can be made that the abused subjects in this study only suffered from physical abuse. In fact, the data suggests that there may indeed be hidden neglect and that the obvious physical injuries were just symptoms of a much more deranged upbringing. The data show that there were more parental abandonment (in 27% of cases) in the abused subjects compared to controls. Furthermore, more of the mothers of the abused children had to work (43% of cases) because more fathers were unemployed (30% of cases). In comparison, a larger proportion (73%) of mothers in the control group were homemakers and almost all the fathers (97%) were gainfully employed.

Physical abuse of children is basically an intrafamilial phenomenon as compared to sexual abuse (UPCWS-UNICEF 1996; Guerrero-Manalo 1996). This observation is also shown to be true in this study sample wherein all the incidents of physical abuse were inflicted by a family member (*see Figure 10*). Being an intrafamilial phenomenon, factors that affect the family influence abusive events and the child's response to this.

The data in this study sample suggests that it is the social stressors that may be more important in determining the course of child development rather than just the socio-economic condition or the absence/presence of abuse *per se.* Although subjects and controls came from the same general socio-economic strata, indicators seemed to point out that the control group fared better because of more gainful employment of the fathers even though the parental educational attainments and age groups were similar.

It is glaringly visible that there is a marked degree of family dysfunction as well as drug and alcohol abuse in the families of the abused subjects. Thirteen percent of the mothers of the abused children were either entertainers, guest relation officers, or prostitutes; 50% of the fathers in the abused group beat up their wives as well as their children. These fathers/abusers were hardly ever encountered or, much more, interviewed. Insights into these abusers' upbringing, attitudes regarding family roles, and beliefs regarding child discipline were usually provided by the victim-mothers. It was common to hear the mothers' claims that these husbands were drunk or under the influence of drugs or that their husbands had extreme rages which they could not control. As fathers, they believed in corporal punishment and if their children or wife did not obey them, they had to be taught a lesson by the use of physical punishment. Many mothers claimed that they were beaten up when they tried to defend and protect their children.

Figure 10: Abusers Relationship to Victim



In contrast, the control groups' parents especially the fathers, believed more in scolding or talking it out ("*pinangangaralan*") although they would spank their children on the buttocks (mostly the mothers were the ones tasked with the disciplining). There were quite a few parents, especially the fathers who did not believe in physical punishment. It would indeed be interesting and informative to formally look into the backgrounds and upbringing of these fathers and try to explain such divergent views on discipline and punishment. Research dealing with the perpetrators of abuse and wife-battering supports the theory that the abusers themselves were abused as children; exposure to violent role models increased the probability of behaving in a violent manner (Dutton 1995).

The study only begins to suggest possible clinical indicators for abuse. Well-designed and controlled studies as well as more sophisticated statistical analysis will be needed to further investigate these possibilities.

The immunization status of abused children seems to be an area that warrants further investigation. The study showed a marked difference in the immunization status of the abused subjects vs. controls with only 40% of the abused childen having complete immunizations compared to 100% in controls.

Although very variable and inconclusive, the anthropometric measurement that could probably be correlated with abuse is the weight for height percentile measurements — more so than the head circumference or height measurements. But all these anthropometric measurements seem to be more affected by the socio-economic status rather than the abuse status.

Failure-to-thrive with anthropometric measurements falling in the (-)3SD category for all parameters for age were seen in the only two infants in the abused sample. This suggests that such conditions may warrant investigation into the abuse status of such infants although recent population surveys in the United Kingdom

show that this is only exceptionally associated with abuse or deliberate neglect (Meadow 1993).

Facial and head injuries (i.e. hematoma, lacerations, abrasions) were seen to be the most common type and location of injuries seen in physically abused subjects. Foreign literature supports these types of injuries to be highly correlated with non-accidental/inflicted injury.

A surprising observation made that contrasts to claims in foreign literature is the fact that in 73% of cases of abuse, there were normal unremarkable prenatal and birth histories. Past medical history of the abused subjects also showed that they were basically healthy and characterized by their parents/caretakers as easy-to-care-for children except for the two infants who exhibited failure-to-thrive. Foreign studies point to a clear association between premature birth/low birth weight and subsequent child abuse (Martin *et al.* 1974; Klein & Stern 1971; Smith *et al.* 1973). Premature babies who present numerous caretaking difficulties can set the stage for parental frustration and ultimately child abuse.

There is a high incidence of neurologic impairments and developmental disabilities in abused and neglected children as revealed in foreign research studies (Martin 1976). However, the developmental histories along with the physical and neurologic examinations in our study sample failed to show this.

The results of the developmental screening of abused children in this sample showing more questionable and abnormal status carries implications for the intervention that has been done for these victims. The abused subjects warrant developmental follow-up and assessment. Intervention should be directed towards rehabilitation and improvement of developmental capabilities aside from addressing the psychotherapeutic and emotional needs (Allen & Oliver 1982). Corollary to this, children with

questionable/abnormal developmental screening should also be investigated for the possibility of their being victims of physical abuse. Family dynamics and principles of discipline should be routinely included in the pediatric interview/history-taking.

B. RECOMMENDATIONS

The major limitations of this study were its small sample size and its bias towards the lower socio-economic strata. A larger sample which includes cases from the other socio-economic strata would make results more generalizable to the population. This will come with greater awareness and improved detection of cases of child physical abuse.

A follow-up study with a more sophisticated design is called for. The findings of questionable and abnormal developmental screening would warrant further developmental assessment including the measurement of cognitive status by performing the appropriate psychometric (IQ) tests. It would be more appropriate that in further screening or testing, the investigator and psychometrician would be blinded as regard to the abuse status of the subject.

It would also be very helpful, particularly in trying to understand the psychodynamics of violence and abuse, to delve into the parents/caretaker's own upbringing and his/her attitudes and practices with regards to family roles, child discipline and punishment.

This study indeed provides a framework and direction for future research.

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APPENDIX

2X2 STATISTICAL TABLES FOR ANALYSIS

A. Overall interpretation of the Denver Developmental Testing II

ABUSED SUBJECTS

CONTROLS	Normal	Caution/Delay
Normal	4	26
Questionable/Normal	0	0

X2 = 24.04 p= 0.0001

B. Gross Motor domain

ABUSED SUBJECTS

CONTROLS	Normal	Caution/Delay
Normal	21	8
Caution/Delay	0	1

X2 = 6.125 p= 0.0133

C. Fine Motor domain

ABUSED SUBJECTS

CONTROLS	Normal	Caution/Delay
Normal	14	15
Caution/Delay	0	1

X2 = 13.017 p= 0.0003

D. Language domain

ABUSED SUBJECTS

CONTROLS	Normal	Caution/Delay
Normal	2	21
Caution/Delay	0	7

X2 = 19.05 p= <0.0001

E. Personal/Social Adaptive Domain

ABUSED SUBJECTS

CONTROLS	Normal	Caution/Delay
Normal	21	8
Caution/Delay	1	0

X2 = 4 p = 0.046