

“Determine the relationship between children’s injury behavior, parent’s injury prevention behavior and stress, among parents of injured and non- injured children aged 2- 5 years”

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Abstract: *Children are becoming the victims of unintentional injury at home. Many studies have explored the parent factors, environmental factors and child factor singularly. This study aims at determining the relationship between children’s injury behavior, parent’s injury prevention behavior and parental stress by comparing injured and non- injured children at the age group of 2-5 years. Descriptive co relational study design was used. Data was collected from parents(50+50),using modified standard tools by interview schedule and analyzed by Descriptive and Inferential Statistics. The results were given in Correlation Coefficient and independent ‘t’ test. Parents of injured group reported a higher exploratory behavior among children and parents had more Supervisory behavior and severe stress due to guilt feeling. Parents of Non- Injured group reported more of impulsive behavior among their children and the and had a higher supportive behavior and their stress was comparatively lesser than the injured group. Furthermore it revealed that children’s injury behavior depends on the prevention behavior of parents and hence the parents to be educated more about the occurrence of injury and the nature of injury prevention behavior. Stress due to guilt feeling is high among both groups , irrespective of occurrence , and non occurrence of injury.*

Key Words: *Children’s injury behavior,Domestic mimicry,Exploratory behavior, Impulsive behavior, Parent’s injury prevention behavior.*

I. Introduction

Children are by nature injury prone. They are curious, investigative, impulsive, and are less careful. The term injury is used in preference to accident because some are not accidental and much of it is preventable. Common unintentional childhood injuries include falls, drowning, foreign body aspiration, burns & scalds, motor vehicle injuries and poisoning(5). Some of their characteristics like smaller body size and limited risk perception makes them more susceptible to be involved in traffic crashes, burns and poisoning(3). India is home to nearly 500 million young people among whom children less than 5 years are 37 %(370million).A recent **National review of burden on injuries in India** revealed that, nearly 8.2% of death and 20-25% of hospitalizations occur among children based on few hospital and population based studies.The large burden of communicable, infectious and nutritional diseases is gradually on the decline due to massive efforts and investments by successive Indian governments, even though it is an unfinished agenda. Parallel to these changes, it is also becoming apparent that children saved from diseases of yesterday are becoming victims of injury on road, at home, and in public, recreational places.

1.1 Need For The Study

The occurrence of unintentional injuries in children depends on number of variables. Certain situations may predispose the injury in children. Change in daily routine, overcrowded home, unsupervised children, hungry children and lack of outside play facilities, are the precipitators of injuries in children. It also depends on parent characteristics such as age of the mother, educational and economical status, and child characteristics such as age, sex, birth order and number of children at home. Childhood injuries often occur because parents and caretakers undermine what their kids are capable of doing and not doing(4). Child development and child safety are so closely linked together and it’s the sole responsibility of the care takers to predict their children’s behavior and act at right time by controlling their environment. Though many researchers have explored the predictors for the occurrence of childhood injuries, a lacunae is still felt in the area of interrelating the child factors , parent factors and the environment. The present study attempts to correlate and compare these factors between a injured and non- injured group.

The researcher found that in the emergency department at Institute of Child Health & Hospital for Children, Egmore, an average of 80-100 children brought with some injuries in a month. Among which 50% were in the age of 2-5 years, who required hospitalization for minor and major injuries.

1.2 Objectives

1. To determine the children’s injury behavior, parent’s injury prevention behavior and stress among parents of injured children admitted to selected wards at Institute of child health, hospital for children, Chennai.
2. To determine the children’s injury behavior, parent’s injury prevention behavior and stress, among parents of non- injured children admitted to selected wards at Institute of child health, hospital for children, Chennai.
3. To compare & correlate the children’s injury behavior, parent’s injury prevention behavior, and stress between parents of injured and non- injured children.
4. To correlate the children’s injury behavior, parent’s injury prevention behavior, and stress among parents of injured children.

1.3 Materials& Methods

Quantitative, Non- experimental Research approach was used. Descriptive correlational study was used. Study was conducted at selected wards at Institute of child health, Hospital for children, Egmore. The samples were the parents of children admitted in selected wards in the age group from 2 to 5 years who are injured and non-injured and fulfilled the inclusive criteria. Sample Size was determined by power analysis which showed sample size of 117. Out of 117 ,9 participants from injured group ,and 8 participants from non-injured group were not willing. So a total of 100(Parents of injured children 50 ; Parents of non- injured children 50) were included in the study . Convenience Sampling technique was used.

Children’s Injury behavior Rating Scale. tool was developed based on the standard tool “The Injury Behavior Checklist” (IBC) developed by the authors Matthew L. Speltz, Nancy Gonzales, Stephen Sulzbacher, and Linda Quan in the year 1990. Parent’s injury prevention behavior Questionnaire was developed based on standard tool “Parent’s perception of injury risk scale” developed by Glik et al in the year 1991. Parent’s Stress Scale was developed based on the standard tool by the authors Berry, J. O., & Jones. W in the year 1995. Scores were interpreted as mentioned: **Injury behavior** {Less than 25 -Low ; 25-50-Moderate ; 50-75 -High) **Injury prevention behavior**(1-18 -Poor injury prevention y behavior , 19-36 - Some injury prevention behavior , 37-54-Good injury prevention behavior) **Parental stress**– (Less than25-Severe stress;25-50-Moderate stress;50-75-Mild stress)

1.4 Data Collection Procedure

A brief introduction was given to the parent regarding the study and written consent was obtained from the parents. Samples those who fulfilled the inclusion criteria were chosen for the study. Data of 2-3 participants from each group were collected per day for 4 weeks by interview schedule.

FIGURE -1 MODIFIED BARNARD’S PARENT- CHILD INTERACTION MODEL



In modified parent- child interaction model the comparison of injured child and non-injured child is done. The ultimate goal is to identify the relationship of children’s injury behavior, parent’s injury prevention behavior and parent’s stress in injured and non- injured children.

Child: In modified model the child’s injury behavior is assessed

Parent: Parent’s injury prevention behavior and stress influences the child and in turn the child’s injury behavior influences the parent so that both are changed. The caregiver adaptive capacity is more readily influenced by responses of the child and her environmental support.

Environment: Process of parent- child interaction.

1.5 Results& Discussion

1.5.1 Injury Profile

Majority(82%) of injured children were in the age group of 2-4 years. This explains that age is a major predictor for childhood injuries. The developmental needs of the child in this age group calls for constant adding

up of newly acquired skills and active experimentation of the same, contributing to occurrence of injury. This finding is supported by the 2 year cohort study done by Alkonetetal who identified the mean age of occurrence of injury as 2.0-3.5 years. More than half (56%) of injured children were boys which infers that the developmental differences in activities between the male and female child has a great influence upon childhood injuries. Majority of the injuries occurred were poisoning (38%) followed by burns & scalds (28%). This may be attributed to the fact that when the toddlers become more mobile, they begin to explore everything that comes on their way, like open stoves, hot cooking vessels, dangerous liquids stored in common container i.e kerosene stored in water bottles, which predisposes them to injury. Since the mobility of toddlers and preschoolers is limited within home environment, majority of the injuries (80%) happened at home, whereas in the case of elder children, it happens outside home environment such as schools, play areas, and roads etc., The busy morning hour activities by the parents may reduce the attention of parents on the children which again is a risk factor for child hood injury(79%)

1.5.2 Injured Group

Domestic mimicry behavior (72.6%) among injured children such as playing with hot cooking utensils, sharp objects pulling and pushing heavy objects are exhibited higher making them prone for injuries. According to Eric & Ericson, imitating the parents is a common developmental activity of toddler and preschool children. He has also explained about the autonomous nature of early childhood, in his theory of psycho social development. Children of such age group imitate their parents to learn a new activity which they tend to do it independently. This developmental need if rightly perceived by mothers it could help in predicting the occurrence of injury and prevented the injury episode as well. The exploratory behavior (69.4%) such as putting finger in to electric sockets, putting small objects in to body orifices, teasing unfamiliar animals is also high among injured children attributed to the fact that children at early childhood learn about their environment by primitive learning – Trial & Error learning. These trials greatly result in occurrence of injury due to inability in controlling their environment and this responsibility should be shouldered by the caretakers/parents. However the impulsive(68.6%) ,investigative(62.6%) and curious(69.3%) nature of injured children are still on the higher ground though comparatively lesser than the other behaviors Parent’s injury prevention behavior among injured children, are supervisory (66.9%) nature i.e supervising the child while playing near kitchen, water tubs, sharps, keeping drugs under lock etc. precedes the other two behaviors. This implies that mothers of today’s world follows a trend of “looking after” the child rather than “taking care” of the child which is an egoistic way of child rearing practices. Supervision is not just what a child need in preventing the injury episode but the support and hiding nature which is low among the mothers of injured group reasoning/rationalizing the injury occurrence. Educated and working , mothers are lacking the ideal child rearing skills which predisposes childhood injury. The guilt feeling(50.9%) contributes to higher stress among parents of injured group. Guilt feeling occurs when there is carelessness, and this is being masked under the shadow of inefficiency. It is often the carelessness being reasoned out by the parents when injury occurs, however it is the inefficiency that need a root cause analysis and appropriate intervention.

Table- I: CIB,PIPB& STRESS AMONG INJURED GROUP

Sub- Scales	Mean Score	Percentage	S.D	Overall Mean & S.D
Children’s Injury Behavior				
Exploratory Behavior	3.73	69.4%	0.6	
Impulsive Behavior	3.43	68.6%	1.14	
Investigative Behavior	3.01	62.6%	1.02	50.52
Domestic Mimicry	3.78	72.6%	0.86	7.64
Curiosity	3.5	69.3%	0.96	78%
Parent’s Injury Prevention Behavior				
Supervisory Behavior	2.00	66.9%	0.21	
Hiding Behavior	1.77	59.1%	0.17	33.88
Supportive Behavior	1.86	62.23%	0.14	4,09
				68%
Parental Stress				
Stress due to Guilt Feeling	2.55	50.9%	0.76	
Stress due to Child rearing	2.23	44.4%	0.65	31.94
Stress due to Children’s injury Behavior	1.60	32.1%	0.6	3.54
				88%

1.5.3 Non- Injured Group

The non injured children are more impulsive(45.6%) i.e., running in to street, jumping off the furniture, riding cycles to unsafe areas and curious(42.4%) i.e., playing near water sources, household tools, burning stove in nature. The curiosity and impulsivity of the early childhood is explained by Sigmund Freud’s anal & phallic stage of child development . The toddlers and preschoolers tend to be more locomotive, adventurous , active and are always on the go. The intense curiosity of children peaks around 21 to 23 months and hence injury occurs commonly among children of this age group. This is rightly understood by the parents of non- injured children who exhibit more of supportive behavior (72.1%) while preventing injuries such as holding children while cooking or handling hot foods, avoiding children handling breakable and sharp objects by diverting,, child lock, child safety gate for stairs etc. This is attributed to the fact that predicting the occurrence of injury by the parents is the first step of prevention of childhood injuries rather than mere supervision . This right perception and prediction help parents to support the children whenever and wherever necessary and also exhibit appropriate hiding behaviors such as keeping drugs under lock, keeping sharps out of reach etc., The parents of non- injured children also experiences stress due to guilt feeling. This explains that stress due to guilt feeling is a common factor irrespective of occurrence & non- occurrence of injury.

TABLE- II CIB,PIPB& STRESS AMONG NON- INJURED GROUP

Sub Scales	Mean Score	Percentage	S.D	Overall Mean& SD
Children’s Injury Behavior				
Exploratory Behavior	2.06	41.3%	0.55	
Impulsive Behavior	2.28	45.6%	0.61	
Investigative Behavior	1.85	37%	0.61	31.02
Domestic Mimicry	2.0	40.4%	0.51	2.78
Curiosity	2.14	42.4%	0.6	100%
Parent’s Injury Prevention Behavior				
Supervisory Behavior	2.07	68.9%	0.20	
Hiding Behavior	2.16	69.9%	0.14	37.78
Supportive Behavior	2.66	72.1%	0.16	7.61 52%
Parental Stress				
Stress due to Guilt Feeling	3.04	50.9%	0.71	
Stress due to Child rearing	2.82	44.4%	0.74	39.54
Stress due to Children’s injury Behavior	2.04	32.1%	0.74	3.45 52%

1.5.4 Compare & Correlate the Behaviors

Injury behavior of injured children is significantly higher than the non- injured children. The parents of non- injured children exhibit supportive injury prevention behavior comparing the injured group. The parents of non injured children however experience more stress than injured group. The difference in the mean scores of all three behaviors were statistically significant ($t=17.09$, $P=0.001^{***}$; $t=2.53$, $P=0.01^{**}$; $t=10.87$, $P=0.001^{***}$) The study finding reveals that children with a low injury behavior escapes the risk of being injured which is supported by the study done by **Bruce.B et al (2004)** between two groups of children (injured & non- injured) (2). The figures given below represent the comparison of behaviors between groups.

FIGURE- 2 Comparison of Injury Behavior

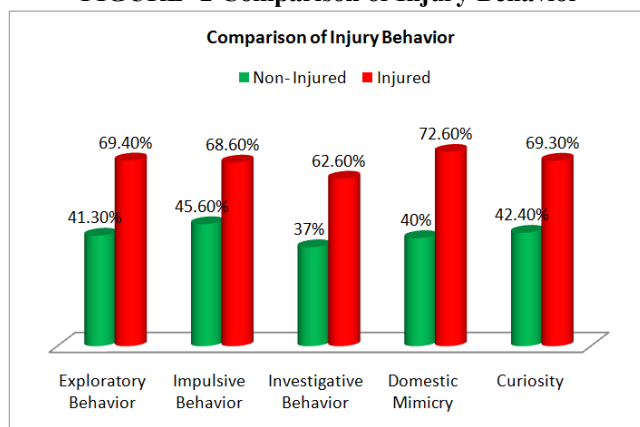


FIGURE- 3 Comparison of Injury Prevention Behavior

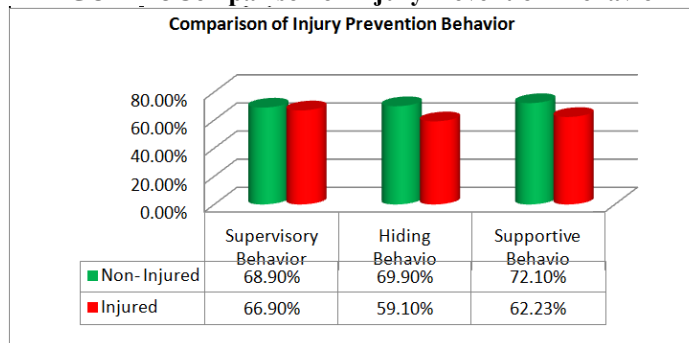
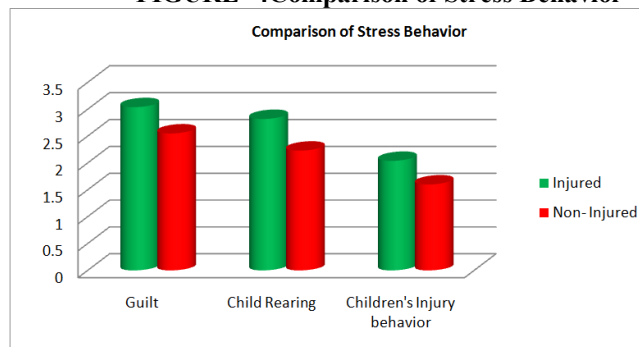
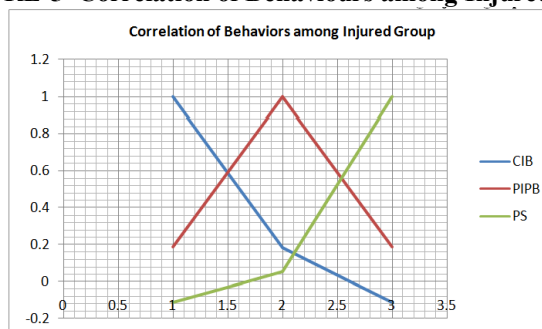


FIGURE- 4 Comparison of Stress Behavior



Children’s injury behavior is negatively correlated with parent’s injury prevention behavior which implies that the injury occurs when the injury behavior is high among children whose parents have poor injury prevention behavior. The exploratory and domestic mimicry behavior is not predicted and understood by the parents and they just supervise the children which is inefficient way of preventing the injury. Parent’s injury prevention behavior is positively correlated with parental stress. Exhibiting supervision as an only higher injury prevention behavior, parents could not prevent injury among children, hence they feel guilty of it which results in higher stress. The below table represents the correlation between the behaviors among injured group.

FIGURE-5 Correlation of Behaviours among Injured group



1.6 Implications

History collection as part of assessment should have injury behavior history in case of children aged from 2-5 years during their routine well baby clinic visits, immunization visits and during hospitalization for other reasons. Parents of toddlers and preschoolers need to be assessed for their safety behavior as part of routine visit to the well baby clinics and immunization visits. Play schools and boys schools can be targeted for teaching how injury behavior of children precipitates injury in an un protected environment. Young parenthood is to be addressed about the every possible factors for occurrence of childhood injury and also the prevention strategies. The nurse administrators should also extend their working minds and hands in formulating the protocols and policies in providing parent education and plan for man power , money, methods and materiel to conduct successful and use full parent education programme on injury prevention strategies.

1.7 RECOMMENDATIONS

- A similar study can be conducted with larger samples and expanding the age groups from diverse population.
- The study can be conducted in different settings
- A similar study can be conducted using age matched or sex matched case control design (retrospective & prospective cohort).
- A similar study can be conducted among physically and mentally challenged children.
- A similar study can be conducted using pre experimental design with a structure teaching module on preventive strategies.
- The exploration of hazardous environment with qualitative approach may help in formulating theory.

1.8 LIMITATIONS

The investigator felt difficulty while grading the parent’s injury prevention behavior where direct observation was a lacking factor.

The investigator relied only upon the single informant – the child’s mother for the entire information on herself, the child, and the family situation since most of the primary care taker of the child was mother herself.

1.9 CONCLUSION

The study concludes that higher injury behavior of children, supervisory nature of parents and severe parental stress influences the occurrence of injury and vice versa. Parents need to be supportive and protective irrespective of the Children’s injury behavior. Guilt feeling is due to the perceived self-inefficiency which can be eliminated by modification of their behavior.

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