

## PARENT'S AWARENESS CONCERNING THE HAZARDS OF SHAKEN BABY SYNDROME IN PEDIATRIC HOSPITALS.

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### ABSTRACT

**Background:** The occurrence and risk factors for “Shaken Baby Syndrome” are still unwell recognized for many explanations: the true number of “benign” cases of shaken baby syndrome is unknown; sources of information used are numerous; the concept of this disease process has changed over time; and few population-based epidemiological studies are available.

**Objective:** The study aimed to identify parents' awareness concerning hazards of shaking baby syndrome. Also to find-out the relationship between parents awareness with their certain demographic characteristic.

**Methods :** A cross-sectional descriptive design” was applicate at pediatric hospitals in Babylon Province, through the period of 20th / September / 2020 to the 1st of July 2021. The data was gathered by using an adopted and modified questionnaire to achieve the objectives of the current study, and analyzed on a statistical program of social science (SPSS) (Version 24).

**Results :** The results shows that more than half of parents 120 (53.1%) were having a good awareness concerning the Hazards of Shaken Baby Syndrome. Also the results revealed that there is a highly significance relationship between parents age and their awareness and a non-significance relationship between parents occupation and residency.

### Recommendations :

The results of the present study point toward the need for educating and training the parents in general knowledge and prevention of (SBS).

Despite the results reached by the researcher, there is still a need to educate parents from governmental and non-governmental agencies and organizations that guarantee the rights of the child and protect him from many problems and obstacles that result from mistreatment of parents who are ignorant of the correct methods of dealing with the child at all stages focusing (SBS) conditions.

**Keywords:** Shaken Baby Syndrome in Pediatric.

### I. INTRODUCTION:

Shaken Baby Syndrome/Abusive Head Trauma is the name given to a form of physical child abuse that occurs when an infant or small child is violently shaken and leads to an injury to the child's brain, injuries that result in brain damage, retardation, paralysis, blindness, deafness and death[Page, A., & McDonnell, A. 2013].

Abusive head trauma(ATH) also including such injuries from falling or tossing a child, which is defined as a type of injury more than just a mechanism that contains shaking, and also impact force hitting or other various combinations via rapid acceleration and deceleration, and rotational force produce movement of the brain within the skull. (SBS) leads to rupture of bridging veins, retinal blood vessels, and nerve fibers around the brain that happen within 5 seconds of shaking and lead to high morbidity and mortality[Payne,et al, 2017],[ Hung, K. L. 2020].

There are several factors that lead to baby shake, which include patterns of caregiver interaction, the child, and environmental factors. (SBS) may occur when shaking a baby due to frustration, perhaps to stop crying, or when trying to play with the baby by throwing the child to the top and then picking him up or when an infant is thrown, hit, or hit on a hard surface. Caregivers who are at risk of abusive behavior and who experience tension caused by environmental, cultural, biological, or economic circumstances also may make people more susceptible to aggression and violent attitude, as well as a low level of education. Because young children' brains are softer and their ones skulls thinner than adults, their chance of getting injured from shaking is highest between the ages of 2 - 4 months. In addition, the baby's head is bigger in comparison to its body than with an adult human head, and the baby's neck muscles, tendons, as well as ligaments are poorer than an older person[Hung, K. L. 2020],[Wittenauer, J., et al 2020].

## II. MATERIALS AND METHODOLOGY

### Design of the Study:

Descriptive study design” was employed to evaluate the parent’s awareness concerning hazards of Shaken Baby Syndrome in Pediatric Hospitals of Babylon Province.

### Objectives of the study

1. Identify parents' awareness about shaking baby syndrome.
2. Find-out relationship between parents awareness with their certain demographic characteristics.

### Setting of the Study

The existing study is directed at Babylon Pediatric hospitals in Hilla city center: (Babylon Teaching Hospital For Maternity and Children) and (AL-Noor Hospital For Pediatric),Almusayeb city center: (Ibn-Saif Hospital For Pediatric).

### Study Instrument

Study questionnaire In order to implement this study and reach all its objectives, which constructed and prepared after a thorough review of the relevant literature.

### Rating and Scoring

The items were measured and scored in accordance with the following patterns:

Multiple choice questions are used to assess the level of parental awareness concerning the hazards of shaken baby syndrome for rating the items as true or false, The points are scored in as (1) for false and (2) for true and scored according to number of items.

### Data Collection

Throughout the use of the questionnaire and the self-report, the data collected from those parents who are coming to the pediatric hospitals of Babylon Province.

### Statistical Analysis

The data of the contemporary study are coded and tested by the application statistical package of social science (SPSS)(Version 24). The following statistics approach of data analyses was applied to accomplish the study objectives and analyze data.

III. RESULTS OF THE STUDY:

Table 4.1: Distribution of Socio demographic data of parents and their children data (N =226).

Socio demographic data		Frequency	Percentage %
Child's age/ month	1-6	48	21.2
	7-12	54	23.9
	13-18	56	24.7
	19-24	34	15.0
	25-30	14	6.2
	31-more	20	8.8
	Total	226	100.0
	Mean (SD)	14.91 (9.18)	
Child Gender	Male	104	46.0
	Female	122	54.0
	Total	226	100.0
Mother's age	20-25	40	17.7
	26-30	96	42.5
	31-35	46	20.4
	36-40	31	13.7
	41-more	13	5.8
	Total	226	100.0
	Mean (SD)	30.2 (5.2)	
Mother's Educational Level	Unable to read and write	1	0.4
	Able to read and write	9	4.0
	Primary school certificate	118	52.2
	Secondary school certificate	18	8.0
	Undergraduate certificate	73	32.3
	Postgraduate certificate	7	3.1
	Total	226	100.0
Occupation of Mother	Unemployed	150	66.4
	Employee	76	33.6
	Total	226	100.0
Occupation of Father	Employee	83	36.7
	Private job	142	62.8
	Others	1	0.4
	Total	226	100.0
The source of information about shaken baby syndrome	Health workers	7	3.1
	Relatives\friends	15	6.6
	Mass media/Websites	65	28.8
	No information	139	61.5
	Total	226	100.0

Table 4.1: Shows that less than one quadrant of the child's age 56 (24.7%) were between (13-18) year, concerning to child's gender more than 122 (54%); on the other hand, more than two fifth 96 (42.5 %) of mother's age were between (26-30) year, in relation to Educational Level more than half 118(52.2%) of mothers. Concerning to occupation about two third 150 (66.4%) of mothers were unemployed and 142 (62.8%) of fathers were having a private job, and finally 65(61.5%) were take their information from Mass media/Websites.

Table 4.2: Distribution of Parent's Awareness Concerning Hazards of Shaken Baby Syndrome. (N=226).

Items		F	%	M.S	SD	Assess
1. The cause of child cry for the first months is :	False	94	41.6	1.58	0.49	Moderate
	True	132	58.4			
	Total	226	100.0			
2. Shaken baby syndrome happen:	False	90	39.8	1.60	0.49	Moderate
	True	136	60.2			

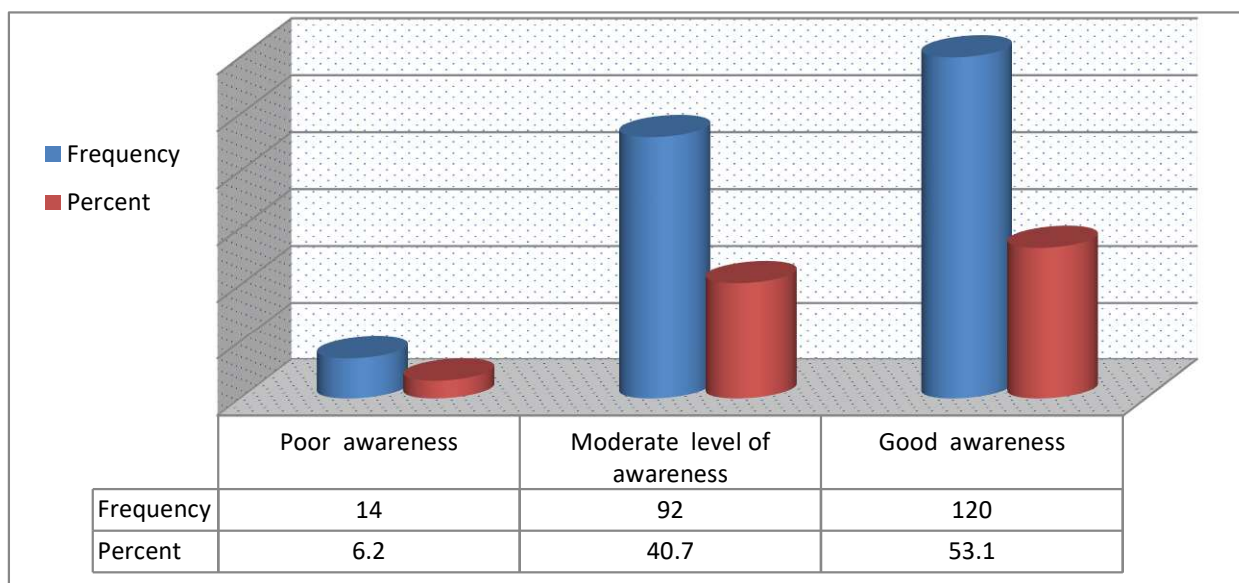
	Total	226	100.0			
3. Child abuse is :	False	73	32.3	1.67	0.46	Moderate
	True	153	67.7			
	Total	226	100.0			
4. Common child physical abuse is:	False	58	25.7	1.74	0.43	Good
	True	168	74.3			
	Total	226	100.0			
5. Shaking a baby violently considered a :	False	40	17.7	1.82	0.38	Good
	True	186	82.3			
	Total	226	100.0			
6. The main organ affected by shaken baby syndrome is :	False	34	15.0	1.84	0.35	Good
	True	192	85.0			
	Total	226	100.0			
7. The common age group affected by shaken baby syndrome is :	False	20	8.8	1.91	0.28	Good
	True	206	91.2			
	Total	226	100.0			
8. The caregiver violently shake the baby to :	False	10	4.4	<b>1.95</b>	<b>0.20</b>	<b>Good</b>
	True	216	95.6			
	Total	226	100.0			
9. The duration of shaking will be taken to lead to the shaken baby syndrome is :	False	68	30.1	1.69	0.45	Moderate
	True	158	69.9			
	Total	226	100.0			
10. The babies are so easily to be damaged because :	False	35	15.5	1.84	0.36	Good
	True	191	84.5			
	Total	226	100.0			
11. Shaking a baby can cause risks like:	False	56	24.8	1.65	0.43	Moderate
	True	170	75.2			
	Total	226	100.0			
12. The immediate sign of shaken baby syndrome is :	False	76	33.6	1.66	0.47	Moderate
	True	150	66.4			
	Total	226	100.0			
13. The diagnosis of the child with shaken baby syndrome through :	False	22	9.7	1.90	0.29	Good
	True	204	90.3			
	Total	226	100.0			
14. The fathers or male partners more likely to shake a baby because :	False	57	25.2	1.64	0.43	Moderate
	True	169	74.8			
	Total	226	100.0			
15. The baby become a victim of SBS while being cared for by :	False	197	87.2	<b>1.12</b>	<b>0.33</b>	<b>Poor</b>
	True	29	12.8			
	Total	226	100.0			
16. The first reason trigger shakes the baby violently is :	False	38	16.8	1.83	0.37	Good
	True	188	83.2			
	Total	226	100.0			
17. The emergency management of shaken baby syndrome is :	False	22	9.7	1.90	0.29	Good
	True	204	90.3			
	Total	226	100.0			
18. The preventive measure of shaken baby syndrome is :	False	21	9.3	1.90	0.29	Good
	True	205	90.7			
	Total	226	100.0			
19. Certain behaviors the parents can follow to avoid shaken baby syndrome:	False	140	61.9	1.32	0.48	Poor
	True	86	38.1			
	Total	226	100.0			
20. Shaken baby syndrome can be prevented:	False	17	7.5	1.92	0.26	Good
	True	209	92.5			
	Total	226	100.0			

**Table continue :**

Items		F	%	M.S	SD	Assess
21. The outcome of the child after the incidence of shaken baby syndrome is:	False	31	13.7	1.86	0.34	Good
	True	195	86.3			
	Total	226	100.0			

F=frequency, %= percentage, Poor=(1-1.33), moderate =(1.34-1.67), good=(1.68-2)

Table 4.2: revealed that the lowest mean of score was 1.12 with the item (The baby become a victim of (SBS) while being cared for by:), while a highest mean of score 1.95 with the item (The caregiver violently shake the baby to:).



\*Scale used as: Low = ( 22-29), Moderate = (30-37), Height = (38-44).

Figure 4.1: Overall assessment level of Parent's Awareness Concerning the Hazards of Shaken Baby Syndrome. (N=226).

This figure show that more than half of parents 120 (53.1%) were having a good awareness concerning the Hazards of Shaken Baby Syndrome.

Table 4.5: Relationship between overall assessment level of Parent's awareness Concerning the Hazards of Shaken Baby Syndrome and Socio demographic data.

Demographical data	Parent's Awareness			Chi-Square Tests			
	Poor	Moderate	Good	X <sup>2</sup>	DF	p-value	Assess
Child's age				38.4	10	0.001	H.S
1-6	7	33	8				
7-12	3	19	33				
13-18	1	16	38				
19-24	0	12	22				
25-30	1	6	7				
31-more	2	6	12				
Total	14	92	120	226			
X <sup>2</sup> = Chi-square ,Sig = significance, N.S = non significance, H.S= highly significance P value ≤ 0.05							
Child Gender				2.60	2	0.273	N.S
Male	9	44	51				
Female	5	48	69				
Total	14	92	120	226			
Mother's age				X <sup>2</sup>	DF	p-value	Assess

20-25	1	35	4	56.4	8	0.001	H.S
26-30	8	38	50				
31-35	2	7	37				

Table continue

Demographical data	Parent's Awareness			Chi-Square Tests			
36-40	3	9	19				
41-more	0	3	10				
Total	14	92	120	226			
Mother's Educational Level	Poor	Moderate	Good	X <sup>2</sup>	DF	p-value	Assess
Unable to reading and writing	0	1	0	36.8	10	0.001	H.S
Able to reading and writing	3	6	0				
Primary school certificate	3	11	77				
Secondary school certificate	3	35	35				
Undergraduate certificate	4	37	4				
Postgraduate certificate	1	2	4				
Total	14	92	120	226			
Occupation of Mother	Poor	Moderate	Good	X <sup>2</sup>	DF	p-value	Assess
Unemployed	9	61	79	1.52	4	0.823	N.S
Employee	5	31	41				
Total	14	92	120	226			
Occupation of father	Poor	Moderate	Good	X <sup>2</sup>	DF	p-value	Assess
Employee	3	22	58	29.6	4	0.001	H.S
Private job	10	70	62				
Others	1	0	0				
Total	14	92	120	226			
X <sup>2</sup> = Chi-square ,Sig = significance, N.S = non significance, H.S= highly significance P value ≤ 0.05							
The source of information about shaken baby syndrome	Poor	Moderate	Good	X <sup>2</sup>	DF	p-value	Assess
Health workers	0	3	4	14.3	4	0.001	H.S
Relatives\friends	2	9	4				
Mass media/Websites	5	32	28				
No information	7	48	84				
Total	14	92	120	226			
X <sup>2</sup> = Chi-square ,Sig = significance, N.S = non significance, H.S= highly significance P value ≤ 0.05							

Table 4.5 shows a highly significant relationship between overall assessment level of Parent's awareness concerning Hazards of Shaken Baby Syndrome and some demographic data at  $p \leq 0.05$ , such as (infant's age, mother age, mother level of education, occupation of father and the source of information about shaken baby syndrome), with expectance to (gender of child, occupation of mother) that have no significant relationship with overall assessment level of Parent's awareness Concerning the Hazards of Shaken Baby Syndrome at  $p \leq 0.05$ .

#### IV. DISCUSSION OF THE RESULTS:

##### Distribution of Socio demographic data of parents and their children.

Regarding to mother's level of education more than half of the mothers were (Primary school certificate). This result was disagree with the result of study which carried out in New York done by [Barr, et al,2009], that evidence that more than two third of the mothers had bachelor degree, that's variation related to habits and traditions in the community that prevents women complete their study after primary school.

As for the source of the information, the largest percentage of the answer was for (Mass media/Websites) about three quadrant (n=87), this result in the same line with the result of the study that conducted by[Berthold, O., et al 2019], that's make the (Mass media/Websites) one of the most important method of education to promote

awareness and attitudes for parents. The social media became the most important source of information for the society, because of limitation of job opportunities, large number of public holidays, too much free time available, individuals in the community use that free time on social media, TV, and internet.

#### **Distribution of Parent's Awareness Concerning hazards of (SBS) (N=226).**

This table showed that highest percentage of parent's awareness were good with the item "The caregiver violently shake the baby to:" Then the item "Shaken baby syndrome can be prevented:" had a good assessment. The third high percentage were with the item "The diagnosis of the child with shaken baby syndrome through" had a good assessment too. These finding in the same line with another study conducted by [Russell, et al,2006] who reported similar results to our study.

In this table publicized that the lowest assessment was poor with the item "The baby become a victim of (SBS) while being cared for by:" this finding disagree with another study conducted by [Dias, et al,2005] who reported a good assessment with the specific item included.

#### **Figure 4.1: Overall assessment level of Parent's Awareness Concerning Hazards of (SBS) (N=226).**

This figure show that more than half of parents were having a good awareness concerning the Hazards of Shaken Baby Syndrome. This results were in the same line with the results of the study that carried out by [Berthold, O., et al 2019], in Germany were the results were less than three quadrants.

#### **Relationship between overall assessment level of Parent's awareness concerning hazards of (SBS) and Socio demographic data.**

This table shows a highly significant relationship between overall assessment level of Parent's awareness concerning Hazards of Shaken Baby Syndrome and some demographic data at  $p \leq 0.05$ , such as (child age, mother age, mother level of education, occupation of father and the source of knowledge), except (gender of child, occupation of mother) that have no significant relationship with overall assessment level of Parent's awareness Concerning the Hazards of Shaken Baby Syndrome. Another study discussed the relationship between some sociodemographic data and awareness, which also confirmed the existence of a positive relationship between sociodemographic data and awareness and reported that (female gender, having children, and having a better educational levels were shown to be highly predictive of understanding) (SBS). The chances of being aware seem to be twice as high for females other than males, and also for parents of infants as for those without. When tried to compare to parents who are now in school, the likelihood have been 3 times greater for those that had completed any school graduation and 4 times greater for those that have an academic degree[Berthold, O., et al 2019].

### **V. CONCLUSIONS:**

More than half of parents had a good awareness concerning the hazards of (SBS). Highly significant relationship between parent's awareness with child age, mother age, father age, parents level of education and source of information. The highest percentage of the source of information about (SBS) for parents was mass media and websites. Despite the results reached by the researcher, there is still a need to educate parents from governmental and non-governmental agencies and organizations that guarantee the rights of the child and protect him from many problems and obstacles that result from mistreatment of parents who are ignorant of the correct methods of dealing with the child at all stages focusing (SBS) conditions. Based on current study results, the researchers recommend to create a nationwide recommendation for parents based on (WHO) reference instructions to direct, screen and assist parents to inhibit the risks and complications of (SBS), also doing a further comprehensive research about the impact of shaken babies on the child's health and parents knowledge regarding this issue.

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