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Research Article

**A STUDY ON THE REASONS AND FACTORS THAT RESULTS  
IN BIRTH ASPHYXIA, NEONATAL MORTALITY RATE OR  
CEREBAL PALSY**<sup>1</sup>Dr. Suneela Shaukat, <sup>2</sup>Dr Muhammad Kashif, <sup>3</sup>Dr. Muhammad Mumtaz<sup>1</sup>Mayo Hospital Lahore<sup>2</sup> Medical Officers, Ali Hospital Thokar Niaz Baig Lahore<sup>3</sup>BHU Talokar, Khushab**Abstract:**

**Objective:** - Through this research, we intend to learn and find out the possibility aspects about the birth asphyxia.

**Methodology:** - This potential learning was made on the cases admitted in the caring unit of neonates at Mayo Hospital Lahore from January, 2016 to January, 2018, consist of Ninety-Seven new-born toddlers, Forty Females and Fifty-Seven Males. They delivered while having Apgar score low. For assessment of statistical significance of the data we applied Chi-square analysis after having data of problems, similarity, sedation in the period of labor full maternal history, concerning their age and developmental age.

**Results:** At Mayo Hospital Lahore from January, 2016 to January, 2018 a total of 'Nine Thousand Six Hundred and Two' babies took birth. With Apgar scores less than seven at five minutes, born 124 infants. The Seizures occurrence was found in 12 / 97 newborns and frequency of Apgar scores less than seven at five minutes was observed in 12.9 each out of every One Thousand new childbirths. There was no similarity of mothers and maternal diseases, gestational age: bond between delivery asphyxia; severe asphyxia and birth weightage, and these were also not statistically significant. There were notably high delivery percentages through emergency C-S (caesarean section) which were observed among the patients of asphyxia than the control group.

**Conclusions:** - Maternal toxemia, intra-uterine progressive retardation, Prematurity and ante-partum blood loss were considered as to be the main cause of high frequencies of asphyxia. We propose additional study be carried out on a greater population and counting supplementary possible factors as antenatal care requirement and mid-wife interaction.

**Key-Words:** C-S (Caesarean section), Risk factors, Birth asphyxia.

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**INTRODUCTION:**

The asphyxia can be defined biochemically as acidosis, hypoxia, and hypercapnia. It is connected with tissue hypoxia and acidosis. It is considered an abuse to the fetus or newborn because of the scarcity of oxygen or perfusion lack to numerous organs [1, 2]. Lungs and placenta may face abnormalities because they act as respiratory organs. With the utilization of novel obstetric strategy in the newborn (Age = two minutes), very less number were not energetic and pink. Term newborn diagnosed with asphyxia, in the 2<sup>nd</sup> labor phase requires resuscitation, in 70% of high risk neonates specifically in the preterm cases. The circumstance as well as the gestational age of the new born babies give the description of findings among the incidences of birth asphyxia and is highly dependent of these [3, 4]. The incidence of birth asphyxia ranged from (03.7 / 1000). There appears, to have been an important reduction in the incidences of birth asphyxia in current years, but it is merely in grown-up infants [5]. Assessment of preferred prenatal threat aspects, in Mayo Hospital Lahore which can be trustworthy predictors of birth asphyxia, and finding out the frequencies of birth asphyxia were the objective of current research.

**METHODS:**

With low Apgar score delivered (97) newborn infants were taken in this probable learning, consisting on females (40) and males (57), with two years' admission period from January, 2016 to January, 2018 at Mayo Hospital Lahore. The cases were admitted hospital's neonatal care unit. In our study, birth asphyxia with an Apgar score under 7 (5 minutes), with one/more criterion given below: -

- (a) Incidence of me-conium marked fluid.
  - (b) During 48 hrs. of delivery, successive seizure happening.
  - (c) Requirement of aided exposure to air by face-mask and endo-tracheal intubation/oxygen.
- Parity, sedation during labor, complications, regarding their age and gestational age observed thoroughly while taking maternal history. At the interval of 'one, five and ten minutes, instantly following birth, neonates Apgar attainment was evaluated. We also evaluated their intensity of perception and weights after birth. Indiscriminately selection of control group was made during 10 months' period at this hospital, complete information of the incidences recorded as recorded above: One

Hundred and Two normally born babies taken form Nine Thousand Six Hundred and Two live born babies having Apgar score (>07) at 5 minutes. We observed severe asphyxia as per the criterion mentioned below: -

- (a) Excluding other causes of depression, Apgar score taken from "Zero to Three" at ten minutes.
  - (b) For several hours, the newborns stayed hypotonic.
  - (c) The seizures presence in neonatal.
- Chi-square test applied for review statistical importance. When less than (0.05) the "p-value" was regarded as noteworthy.

**RESULTS:**

Entirety Nine Thousand Six Hundred and Two babies took birth during the time period from 01-04-2016 to 31-01-2018 at Mayo Hospital Lahore out of these One Hundred and Twenty-Four new born babies observed with Apgar scores (<07) at 05 minutes. Twenty-Three babies were observed with scientific signs of stern asphyxia. The episode of Apgar scores (<07) at five minutes was (12.9 / 1000) new born Childs and the frequency rates of birth asphyxia & server asphyxia were (10.1 / 1000) & (02.4 / 1000) live born babies correspondingly. Started in nine incidences, within twelve hours after birth, attacks took place in twelve out of ninety-seven live born babies. During this study we observed asphyxia death in 22 / 97 new-born babies. We also considered birth asphyxia, severe asphyxia and prenatal threat aspects as well as the relationship between these. Relationship between birth weight 'p' value greater/less than 0.05, birth asphyxia and severe asphyxia was not statistically noteworthy (Table-1). Likewise, no major association among birth asphyxia and gestational age 'p' value <0.05, though, gestational age was considerably linked by means of severe asphyxia 'p' value <0.05 (Table-2). Including severe asphyxia, association between maternal parity and birth asphyxia 'p' value > 0.05, here was not important (Table-3). Deliveries in urgent situation through C-section among asphyxia population, as judged against the controlled population, were noticeable and considerably high with fraction of 33.00% of asphyxia population & 39.10% of severely asphyxia population in contrast with 06.80% of controlled population (Table-4). Association among the incidences of motherly syndrome 'p' value >0.05 and nativity asphyxia as well as severe type were not noteworthy (Table-5).

**Table – I:** Birth asphyxia and severe asphyxia by birth weight

Birth weight kg	No. of birth asphyxia	No. of severe asphyxia	No. of control group
	cases and percentage (%)	cases and percentage (%)	and percentage (%)
1 - 2.5	12(12.4)	6(26.1)	12(11.6)
2.6 - 3	36(37.1)	11(47.8)	41(40.3)
>3	49(50.5)	6(26.1)	49(48.1)
TOTAL	97(100)	23(100)	102(100)

**Table – II:** Birth asphyxia and severe asphyxia by gestational age

Gestational age (weeks)	No. of birth asphyxia	No. of severe asphyxia	No. of control group
	cases and percentage (%)	cases and percentage (%)	and percentage (%)
28-37	18 (18.5)	6(26.1)	12(11.8)
38-41	57(58.8)	10(43.5)	76(74.5)
>41	22(22.7)	7(30.4)	14(13.7)
TOTAL	97(100)	23(100)	102(100)

**Table – III:** Birth asphyxia and severe asphyxia parity of mothers

Parity	No. of birth asphyxia	No. of sever asphyxia	No. of control group
	cases and percentage (%)	cases and percentage (%)	and percentage (%)
1	34(35.1)	10(43.5)	32(31.4)
2	17(17.5)	5(21.7)	19(18.6)
>3	46(57.4)	8(34.8)	51(50.0)
TOTAL	97(100)	23(100)	102(100)

**Table – IV:** Birth asphyxia and severe asphyxia by mode of delivery

Delivery Mode	Birth Asphyxia		Severe Asphyxia		Control Group	
	Number	Percentage	Number	Percentage	Number	Percentage
Normal	42	43.3	9	39.1	75	73.5
Emergency C-S	32	33	9	39.1	7	6.9
Others	23	23.7	5	21.8	20	19.6
Total	97	100	23	100	102	100

**Table – V:** Birth asphyxia and severe asphyxia by maternal disease during pregnancy

Maternal disease	No. of birth asphyxia cases and percentage (%)	No. of severe asphyxia cases and percentage (%)	No. of control group and percentage (%)
No maternal disease	72(74.2)	17(73.9)	88(86.3)
Maternal disease: antepartum hemorrhage, preeclampsia, chorioamnionitis, dm	25(25.8)	6(26.1)	14(13.7)
TOTAL	97(100)	23(100)	102(100)

**DISCUSSIONS:**

The frequency toll of birth asphyxia and severe asphyxia were (10.10 per 1000 and 02.40 per 1000) new born babies having life, correspondingly, during our (Case Control) learning. When circumstances matched up to those described in a learning accomplished, in Goteborg during the period from the year 1985 to year 1991, for estimation of the occurrences of birth asphyxia in Swedish residents, this toll is comparatively far above the ground [5]. The current learning incorporated merely hospital deliveries in the city of Lahore and actually, the authentic frequency of birth asphyxia in our people may perhaps exists elevated than the found numerals 10.10 per 1000. With presence of fetal signs of distress, most of the pregnant mothers attend to hospital late; midwife interference in such cases was delayed in seeking hospital care, therefore actually the (53.60%) of mothers do not have regular antenatal care, that is the cause of the comparatively high figure 10.10/1000 [6]. Additionally, blood sampling facilities for pH estimation which helps in early detection of fetal distress are short whereas it is important, furthermore current learning showed that the neonatal type asphyxia, was to a great extent, high 02.30/1000 as judged against the Swedish learning 0.30/1000. High incidence of severe asphyxia and shortage of some facilities like ventilators for those who need it can be reasons for this high figure. The comparative significance of these aspect in formatting the threat of asphyxia in infants extending severe asphyxia and manipulation of chosen perinatal threat aspects in the etiology of birth asphyxia, assessed in this study. Statistically important association between birth weight and birth asphyxia, even in severe type, not observed in our research as the division of birth weight was approximately comparable in both asphyxias effected and controlled population (Table-1). Nigerian

research results are different from these results, which was completed in three years' time period and declared cause of occurrence of severe type of asphyxia in new born babies with low birth weight i.e. Intrauterine Growth Retardation [7]. As per the research, gestational age and birth asphyxia does not have significant relationship (Table-2). But this limit i.e. gestational age was numerically important, possibility aspect for severe asphyxia (Table-2), a propose (26.10%) of incidences (below thirty-seven weeks) in comparison with controlled population (11.80%). outcomes of this study are similar to the outcomes of research carried out in Pittsburgh University, in that approximately (46.20%) of incidences gestational ages were beneath thirty-seven weeks. With decreasing gestational age and addition in the frequency of asphyxia, this learning sustains the former information. There was no important link among similarity of maternal and birth asphyxia as well as its' severe type (Table-3). These outcomes are same likewise the studies of Pittsburgh, but these differ to the results gained during an Indian research. Indian study illustrates that prim-gravidity bear more threats for birth asphyxia. The outcomes of this research can be illustrated as a higher labor and antenatal look after of prim gravid moms [8]. As regards to the kind of deliveries, (33.00%) of asphyxia effected population and (39.10%) of severe population, this demonstrates that a considerably high ratio of the occurrences as compared to the controlled population, they took birth through emergency C-section, (Table-4) when judged with (06.90%) of the controlled population [9]. On the other hand, according to primary indications, when considering a low risk category section like malpresentation, failure to progress, elderly primi and cephalo—pelvic disproportion; high risk categories like IUGR, prolapsed cord, abruptio placentae, fetal distress, maternal toxemia, maternal diabetes, prolonged

rupture of membrane; we found that only the high-risk category, which represented (70.30%) of total cases, delivered by C-section. these were notably linked as boosting elements in frequency of asphyxia. When we are familiar with all occurrences, (Nine incidences) of severe asphyxia delivered through C-section, which belong to high risk class, we highly value this reality, as it points out that the section itself is not a significant factor in creating asphyxia [10]. This outcome is same as like of Pittsburgh research outcomes. Results of our study vary from the results of Indian study, nor these show notable link among maternal ailments at some stage in pregnancy and incidences of asphyxia (Table-5). Almost certainly the figure of cases is very important for the explanation of these observations and outcomes, in which pregnancy stimulate hypertension and ante partum hemorrhage bear soaring threats for birth asphyxia.

### CONCLUSION:

the authentic frequency of birth asphyxia in our people may perhaps exists elevated than the found numerals 10.10 per 1000. With presence of fetal signs of distress, most of the pregnant mothers attend to hospital late; midwife interference in such cases was delayed in seeking hospital care, therefore actually the (53.60%) of mothers do not have regular antenatal care, that is the cause of the comparatively high figure 10.10/1000. Additionally, blood sampling facilities for pH estimation which helps in early detection of fetal distress are short whereas it is important, furthermore current learning showed that the neonatal type asphyxia, was to a great extent. We propose additional study be carried out on a greater population and counting supplementary possibility factors as need of antenatal care and mid wife interference.

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