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**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1473048>Available online at: <http://www.iajps.com>**Research Article****THE INCIDENCE OF EARLY NEONATAL SEPSIS (ENOS) &
ITS ASSOCIATION WITH MATERNAL RISK FACTORS AS
PROM, PRETERM DELIVERY & MECONIUM LIQUOR****¹Dr. Khadija Ilyas, ²Dr. Mamoon Mirza, ³Dr. Arooj Anwar**¹Govt General Hospital GM Abad Faisalabad²Aziz Bhatti Shaheed Teaching Hospital Gujrat³Sahiwal medical college Sahiwal.**Abstract:**

Objective: In this research, we aimed to document the maternal risk factors frequency in the confirmed cases of an early neonatal sepsis in the two hundred enrolled patients including both male and female.

Methodology: We completed this research at Allied Hospital, Faisalabad in the timeframe of September 2016 to August 2017 (Pediatrics Department). Our research sample consisted of two hundred confirmed and diagnosed cases of early neonatal sepsis within the period of twenty-four hours. The research sample included both the genders males and females within the age bracket of (1 – 3) days in the very early lifetime. Sample selection had no gender discrimination. We documented every single maternal risk such as PROM, preterm delivery and meconium stained liquor. The research analyzed the research outcomes on SPSS software.

Results: In the research sample of two hundred participants the age bracket of (1 – 2) days included 141 patients (70.5%); whereas, 59 cases were of three days of age at the time of disease diagnosis (29.5%). The mean age factor was (1.84 ± 0.57) years. Male to female distribution was such as that 133 cases were male (66.5%); whereas, 67 cases were female (33.5%). Research had a dominance of male population over female population. Respective maternal risk factor frequency was also available in the cases of early neonatal sepsis. Reported risk factors included PROM, preterm delivery and meconium stained liquor with respective numbers as 132, 49 and 67 and respective proportions as 66%, 24.5% and 33.5%.

Conclusion: We reported "PROM" as the most dominant and frequent risk factor in early neonatal sepsis patients. Meconium Stained Liquor was a second most leading maternal risk factor; whereas, preterm delivery was a least common maternal risk factor.

Keywords: Maternal Risk Factors, Early Neonatal Sepsis (NS), Prolonged Rupture of Membrane (PROM), Preterm Delivery and Meconium Stained Liquor.

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INTRODUCTION:

Neonatal sepsis is a well-known syndrome of clinical nature caused because of an infection of the bacteria in the thirty days after birth. Its categorization is possible through symptoms and signs with the active involvement of system [1]. Neonatal Sepsis is an onset which could be an early stage of life or a later stage of life. The presentation of such cases is possible within the first twenty-four hours with a proportion of (85%) also known as an early onset; whereas, about five percent cases in the time duration of (24 – 48) hours. A presentation of such cases within (48 – 72) hours is rare [2].

Neonatal sepsis rate is about one to ten per one thousand live births in developed countries; whereas, higher rate reports are also available in the literature of under-developed countries with mortality and disease severity. Early neonatal sepsis diagnosis is a time taking process as the symptoms are most of the time non-specific. Therefore, it is important to consider all the possible risk factors in order to perform a certain diagnosis [1]. PROM lasts for a period of more than eighteen hours before the commencement of labour and its prevalence is from eight percent to ten percent in all pregnant cases. PROM is one of the important associated and vital preterm birth cases and early neonatal sepsis onset [4].

According to Sudhir *et al.*, the avocation of risk factors includes PROM, meconium stained liquor and preterm delivery with respective proportions of 71.4%, 35.7% and 24% [5]. Whereas, Agarwal *et al.* reported PROM, meconium stained liquor and preterm delivery respectively as 35%, 20% and 50% as maternal risk factors [7].

There is a significant variation in the outcomes as reported by Sudhir and Agarwal [5, 7]. Maternal risk factors frequency variation is vivid in the two recent research studies; whereas, no local research is available that handles the issue under discussion. We

study and consulted various literary references but there is a scarcity of local references about early neonatal sepsis issue. In this research, we aimed to document the maternal risk factors frequency in the confirmed cases of an early neonatal sepsis in the two hundred enrolled patients including both male and female. However, this research will surely assist in the risk factors, mortality and morbidity control of local populations.

METHODOLOGY:

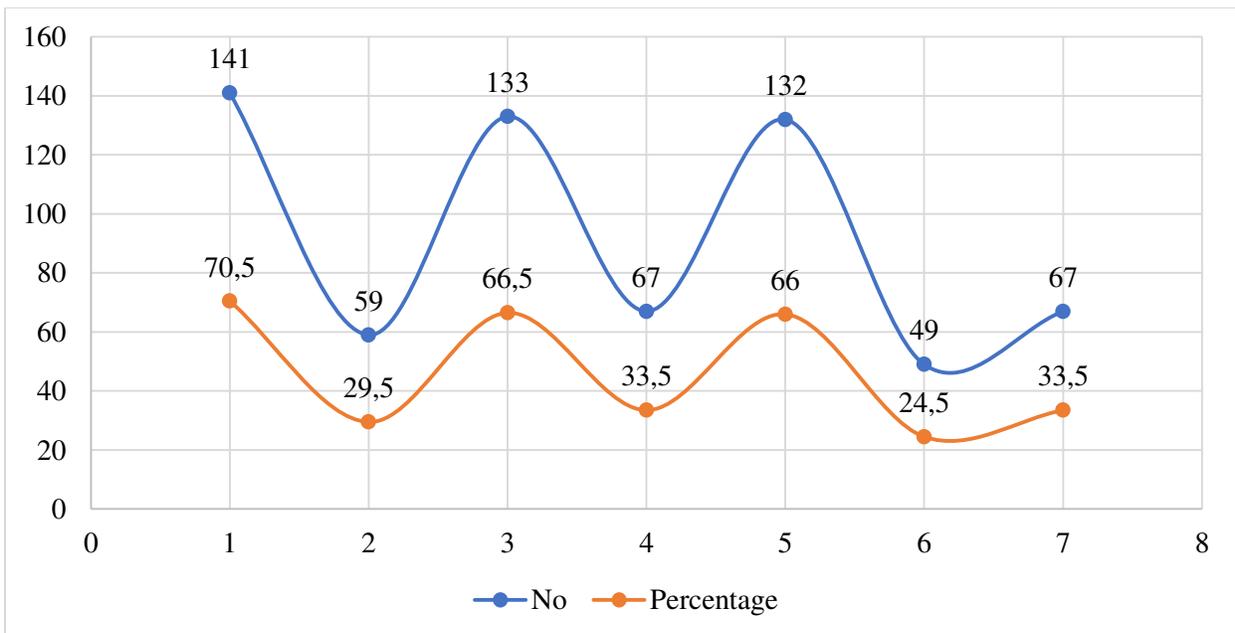
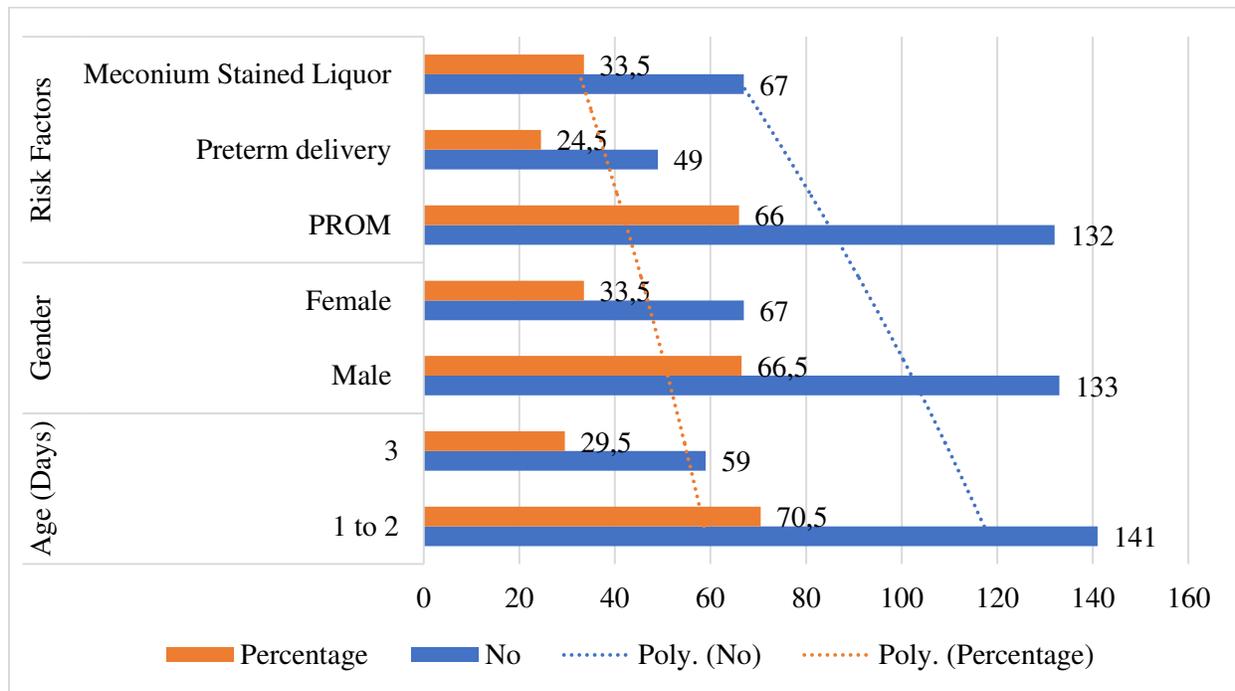
We completed this research at Allied Hospital, Faisalabad in the timeframe of September 2016 to August 2017 (Pediatrics Department). Our research sample consisted of two hundred confirmed and diagnosed cases of early neonatal sepsis within the period of twenty-four hours. The research sample included both the genders males and females within the age bracket of (1 – 3) days in the very early lifetime. Sample selection had no gender discrimination. We documented every single maternal risk such as PROM, preterm delivery and meconium stained liquor. The research analyzed the research outcomes on SPSS software.

RESULTS:

In the research sample of two hundred participants, the age bracket of (1 – 2) days included 141 patients (70.5%); whereas, 59 cases were of three days of age at the time of disease diagnosis (29.5%) as shown in the tabular data. The mean age factor was (1.84 ± 0.57) years. Male to female distribution was such as that 133 cases were male (66.5%); whereas, 67 cases were female (33.5%) as shown in the tabular data. Research had a dominance of male population over female population. Respective maternal risk factor frequency was also available in the cases of early neonatal sepsis. Reported risk factors included PROM, preterm delivery and meconium stained liquor with respective numbers as 132, 49 and 67 and respective proportions as 66%, 24.5% and 33.5% as shown in the tabular data.

Table: Age, Gender and Risk Factors Distribution

Age / Gender / Risks		No	Percentage
Age (Days)	1 – 2 Days	141	70.50
	3 Days	59	29.50
Gender	Male Patients	133	66.50
	Female Patients	67	33.50
Maternal Risk Factors	PROM	132	66.00
	Preterm delivery	49	24.50
	Meconium Stained Liquor	67	33.50



DISCUSSION:

We can compare our research outcomes with the reported outcomes of Sudhir *et al.* in terms of PROM, meconium liquor and preterm delivery with the respective proportion of 71.4%, 35.7% and 24% as they are consistent with our research outcomes as reported in the tabular data [5]. Whereas, the outcomes reported by Agarwal *et al.* do not agree

with our reported outcomes about maternal risk factors of PROM, meconium liquor and preterm delivery with the respective proportion of 35%, 20% and 50% [6].

According to the research of Kurien Anil Kuruvilla *et al.*, multiple vaginal assessments and meconium stained liquor had a significant relation with the

incidence of early neonatal sepsis [7]. According to the research studies of Shah GS and various associated authors neonatal and maternal risk factors associated with neonatal sepsis revealed PROM, foul-smelling liquor, meconium-stained amniotic fluid, prematurity, low birth weight and low Apgar had an association with the neonatal and maternal risk factors at the time of birth [8]. About 22% of the patients had a positive blood culturing with most repeated isolated organisms as Klebsiella and *S. aureus* with a rate of mortality as eleven percent in the total population. Risk factors association is the same in the negative and positive culturing cases. Both of the authors also concluded that PROM, foul smelling amniotic fluid, MSAF, low birth weight, prematurity and the low Apgar score had a strong correlation with the neonatal sepsis development at the time of birth. Sepsis screening and observation is very much important in the presence of above-mentioned risk factors followed by mandatory antibiotic management.

Destaaalem Gebremedhin with numerous other researchers determined neonatal sepsis risk factors in the setting of their hospital in an Ethiopian hospital back in 2015 and documented outcomes about cases and controls respectively 78 patients and 156 patients. An early neonatal sepsis involved three quarters which is about (76.8%) of the neonatal sepsis cases. The outcomes of multivariable logistic regression analysis reflected possible maternal or neonatal risk factors such as maternal urinary tract infection history or infection transmitted during sexual interaction [AOR = "5.23"; 95% CI; (1.82, 15.04)], Delivery Place; delivery at a health center [AOR = "5.7"; 95% CI; (1.71, 19.03)], PROM [AOR = "7.43"; 95% CI; (2.04, 27.1)], intrapartum fever [AOR = "6.1"; 95% CI; (1.29, 28.31)], not crying immediately at the time of birth [AOR = "124.0"; 95% CI; (6.5, 2379)] and Apgar score under seven at fifth minute [AOR = "68.9"; 95% CI; (3.63, 1308)]. To end with, this research will surely assist in the risk factors, mortality and morbidity control of local populations.

CONCLUSION:

We reported "PROM" as most dominant and frequent risk factor in early neonatal sepsis patients. Meconium Stained Liquor was a second most leading maternal risk factor; whereas, preterm delivery was a least common maternal risk factor.

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