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PREVALENCE AND RISK FACTORS ASSOCIATED WITH NEONATAL SEIZURES AMONG NEONATAL INTENSIVE CARE UNIT (NICU) PATIENTS AT BANADIR HOSPITAL, MOGADISHU

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ABSTRACT

Background: A seizure is caused by sudden, abnormal and excessive electrical activity in the brain. By definition, neonatal seizures occur during the neonatal period for a full-term infant, the first 28 days of life. Most occur in the first one to two days to the first week of a baby's life. Premature or low birth weight babies are more likely to suffer neonatal seizures. The neonatal period is the most vulnerable of all periods of life for developing seizures, particularly in the first 1–2 days to the first week from birth. They may be short-lived events lasting for a few days only. **Objective:** To examine the prevalence and risk factors associated with neonatal seizures among Neonatal Intensive Care Unit (NICU) patients at Banadir Hospital, Mogadishu. **Methods:** This research is quantitative in nature and cross-sectional data collected from 154 respondents. Reason for the selection of this research design is based on multiple reasons i.e. low cost, to get data from large number of respondent in shorter time period and the evaluation of the results proceeded without problems. The sample size was 154 respondents. **Results:** As regard neonatal seizures, respondents were asked whether they know about its prevalence and here are the findings. The study results revealed that 57.8% of the respondents noted that the seizure onset in their babies lasted for or less than 48 hours and the remaining 42.2% of the respondents noted that their babies had the seizure for more than 48 hours. Therefore most of the respondents had their babies go through seizures onset for less than 48 hours. **Conclusion:** Finally, neurological problems upon discharge and longer hospital stays were associated with infants with seizures. Seizures are common in newborns as well. Seizures are typically brought on by infections, notably meningitis, and birth-related conditions such infant encephalopathy. The high prevalence may be reduced by public health interventions to ensure safe deliveries, appropriate neonatal resuscitation, and infection control throughout the newborn period. **Recommendations:** Studies suggest that children should seek treatment if they have clinically evident seizures that last longer than 3 minutes or if they have brief, recurrent seizures. All electrical seizures, even if not clinically evident, should be treated in a specialized facility where electroencephalography is available. However, cardiac monitoring is required with phenytoin or lidocaine. Benzodiazepines, phenytoin, or lidocaine may be used as second-line therapy to control seizures in neonates whose seizures continue after the maximum tolerated dose of phenobarbital is administered.

KEYWORDS: Neonatal Seizures, Electroencephalography (EEG), Neonatal Convulsions, Baby's Airway, Breathing, and Circulation (TABC), Anti-epileptic drug therapy (AED), Neonatals.

INTRODUCTION

A seizure is caused by sudden, abnormal and excessive electrical activity in the brain. By definition, neonatal seizures occur during the neonatal period — for a full-term infant, the first 28 days of life. Most occur in the first one to two days to the first week of a baby's life. Premature or low birth weight babies are more likely to suffer neonatal seizures.

The neonatal period is the most vulnerable of all periods of life for developing seizures, particularly in the first 1–2 days to the first week from birth. They may be short-lived events lasting for a few days only.

Seizures are a common indication of central nervous system disorders in the neonatal era and may be the initial indicator of neonatal dysfunction. Neonatal seizures have been estimated to occur between 1.8 and 8.6 times per 1,000 live births (Aggarwal et al., 2016). However, there are noticeable variations in the figures that were provided. This may be connected to the difficulty in making a diagnosis, various definitions of

newborn seizures, and the group that was chosen for the study. Premature newborns have been found to have a higher incidence of seizures. It appears that premature neonates have brains that are more prone to seizures, which may be because stimulant synapses first evolved and had dominant effects on the inhibitory synapses of the brain during the early stages of such adversely affected survivors.

Although neonatal seizures are a prevalent issue for newborns in the area who are hospitalized, few research in Africa have looked at the prevalence and causes of seizures or the effectiveness of treatment. Premature births, newborn infection, and neonatal encephalopathy are all more prevalent in developing nations (Arpino et al., 2016). One hospital-based study in Ethiopia revealed a prevalence of 13.6 per 1000 live births. It was discovered that the frequency of severe seizures in Kenyan children was highest during the newborn period in a study that looked at the cause of these seizures. Recent research in Africa have shown lower birth weight, cesarean delivery, and delivery at university hospitals as major risk aspects for newborn seizures in term infants (Ashrafzadeh et al., 2018).

Neonatal convulsions are a significant risk factor for inpatient mortality and eventual neurological impairment in Somalia (Barr et al., 2020). Most newborns in rural Somalia experience seizures often, and those who do tend to have longer hospital stays, higher case fatality rates in heavier newborns, and neurological abnormalities after discharge. Birth-related issues such newborn encephalopathy and taints, particularly meningitis, remain the foremost roots of seizures (Brunquell et al., 2018). The high prevalence may be decreased with the aid of public health initiatives that focus on proper neonatal resurgence, and the avoidance of infections during the neonatal period.

MATERIALS METHODS

This chapter is based on the methodology adopted for this research study. It will be explaining the research design, our focused population, data collection, data testing, and theories related to sample size. In last this chapter will also be explaining the ethical issues and what are the limitation associated with this research study?

Research Design and Research Approach

There are three types of research designs. The three categories of research designs are experimental research design, quasi-experimental research design, and non-experimental research design. The experimental test architecture is mainly concerned with the cause-and-effect interaction of the variables in the analysis. In an experimental test design, the researcher simulates the independent variable and assesses whether the dependent variable modified in response to the change in the independent variable. Typically, laboratory testing designs are carried out in laboratories. The quasi-experimental research design is similar to the experimental research design with one major difference: the environments or topics in the quasi-experimental research design are not selected at random. The quasi-experimental research design conducts research in particular settings or does not choose the study's topic at random, while the experimental research design conducts research in random settings. The researcher evaluates the relationship between the study's variables in a non-experimental test design. A non-experimental research design explores the relationship between variables to determine whether an occurrence happened. Unlike in an experimental research design, the independent variables in a non-experimental research design cannot be modified. This thesis makes use of a non-experimental testing design (Glesne, 2015).

The non-experimental test architecture focuses on the relationship between the researchable variables. Non-experimental analysis is mainly of the explanatory research kind, in which the researcher investigates the target population's behaviors and behavior in order to determine the origin of an event. The relationship between the variables helps hypothesis testing by supporting or rejecting the hypothesis depending on the results of the analysis (Flick, 2015). This work uses a non-experimental, correlational, explanatory research methodology because it is hypothesis testing using the research model.

Target Population

All patients attending Neonatal Intensive Care Unit (NICU) department at Banadir Hospital for infant illness-related issues were targeted in this study.

Inclusion Criteria

All patients attending Neonatal Intensive Care Unit (NICU) department at Banadir Hospital who consented to participate in this study were included.

Exclusion Criteria

Patients at Banadir Hospital's Neonatal Intensive Care Unit (NICU) who refused to participate in the study were not included.

Sample Size and selection Methods

The Kish Leslie formula was used to determine the sample size

$$n=\frac{z^2 pq}{d^2}$$

Where

n = Sample Size

d = Error (Approximately 0.05).

z = is the standard deviation

p = is 40% based on Zalwango (2010).

q = 1-**p**

Thus, $\rightarrow n = \frac{(1.96)^2 \text{ X } 0.40\ (1 - 0.40)}{(0.05)^2}$

$n = \frac{3.8416 \text{ X } 0.84}{0.0025}$

$$n = \frac{0.3853}{0.0025}$$

Sample size=154 respondent

Sampling procedure

Convenience sampling

Using convenience sampling was the researcher's method. In order to collect data using this specific non-probability sampling technique, participants in the population must be readily available to participate in the study. From a demographic that was easy to approach or get in touch with, a sample was taken.

Data Collection Instrument

Information was collected using a structured questionnaire with closed questions. Researchers made sure that each item in the closed questionnaire was aimed at a specific goal as well as the research topic throughout the course of the study. Increased simplicity if you need a simple solution. This questionnaire was chosen over other survey methods because it allows all study participants to answer the same questions in a pre-determined order, allowing the collection of both subjective and objective data.

Information was collected using a structured questionnaire with closed questions. Researchers made sure that each item in the closed questionnaire was aimed at a specific goal as well as the research topic throughout the course of the study. Increased simplicity if you need a simple solution. This questionnaire was chosen over other survey methods because it allows all study participants to answer the same questions in a pre-determined order, allowing the collection of both subjective and objective data.

Data Analysis

Data collected in the field were processed, coded, and entered into version 16 of the Statistical Package for Sociologists (SPSS). Both descriptive and inferential statistical analyzes were performed while frequency tables were extracted for analysis. Statistically research questions were answered. Regression technique adopted by the author, and for cross tabulation bivariate analysis were used. Moreover the Chi-square and fisher exact test were also included in the analysis. Based on p value that refers to significance value, final conclusion drawn by author. Statistically significant variables in univariate analysis were included in multivariate analysis to determine factors independently associated with neonatal seizures.

Ethical considerations

Researchers ensured that ethical standards were followed at all stages of this dissertation. While collecting data, its analysis and interpretation the ethical issues were handle carefully. For instance, for data collection, author get the recommendation from Southern Medical University for permission to conduct the study and the permission were taken by the hospital representative before the data collection.

RESULTS

Study selection

A total 0f 154 admitted neonate the median age of the mothers was 21 upto 29 years . As regard neonatal seizures, respondents were asked whether they know about its prevalence and here are the findings. The study results revealed that 57.8% of the respondents noted that the seizure onset in their babies lasted for or less than 48 hours and the remaining 42.2% of the respondents noted that their babies had the seizure for more than 48 hours. Therefore most of the respondents had their babies go through seizures onset for less than 48 hours.

Table 4: 1 showing the demographic characteristics of the respondents.

Demographic characteristics	Category	Frequency	Percentage
Gender	Male	0	0.0
	Female	154	100.0
	Total	**154**	**100.0**
Age	< 20 years	50	32.5
	21 - 29 years	66	42.9
	30 - 39 years	23	14.9
	40 - 49 years	9	5.8
	>50 years	6	3.9
	Total	**154**	**100.0**
Marital status	Married	87	56.5
	Single	12	7.8
	Divorced	23	14.9
	Widowed	32	20.8
	Total	**154**	**100**
Education	Masters	2	1.3
	Bachelor's degree	12	7.8
	Diploma	34	22.1
	Certificate	69	44.8

	Other	37	24.0
	Total	**154**	**100**
Mode of delivery	Spontaneous	55	35.7
	Cesarean	99	64.3
	Total	**154**	**100**
Gestational age weeks	> 37	13	8.4
	32-36	33	21.4
	28-31	45	29.2
	< 28	63	40.9
	Total	**154**	**100**

Source: Primary Da. For instance, for data collection, author get the recommendation from Southern Medical University for permission to conduct the study and the permission were taken by the hospital representative before the data collection. Collected data were confidential and author did not share it with anyone. After analysis complete data will be removed after two years.

PRESENTATION OF RESULTS, ANALYSIS AND INTERPRETATION

Introduction

This chapter presents the finding of the study and they are presented basing on the specific objectives considering the demographic characteristics of the respondents.

Table 4: 2 showing the demographic characteristics of the respondents.

Demographic characteristics	Category	Frequency	Percentage
Gender	Male	0	0.0
	Female	154	100.0
	Total	**154**	**100.0**
Age	< 20 years	50	32.5
	21 - 29 years	66	42.9
	30 - 39 years	23	14.9
	40 - 49 years	9	5.8
	>50 years	6	3.9
	Total	**154**	**100.0**
Marital status	Married	87	56.5
	Single	12	7.8
	Divorced	23	14.9
	Widowed	32	20.8
	Total	**154**	**100**
Education	Masters	2	1.3
	Bachelor's degree	12	7.8
	Diploma	34	22.1
	Certificate	69	44.8
	Other	37	24.0
	Total	**154**	**100**
Mode of delivery	Spontaneous	55	35.7
	Cesarean	99	64.3
	Total	**154**	**100**
Gestational age weeks	> 37	13	8.4
	32-36	33	21.4
	28-31	45	29.2
	< 28	63	40.9
	Total	**154**	**100**

Source: Primary Data (2023)

As seen in Table 4.1 above, all of the respondents are female (100%) and none were male. In regards to the age of the respondents, 32.5% of the respondents were less than 20 years, 42.9% of the respondents were between 21-29 years, 14.9% of the respondents were between 30-39 years, 5.8% of the respondents were between 40-49 years and the remaining 3.9% of the respondents were above 50 years. Majority of the respondents were middle aged adults (21 - 29 years).

According to the table 4.1 above, 56.5% of the respondents were married, 7.8% of the respondents were

single, 14.9% of the respondents were divorced and the remaining 20.8% of the respondents were widowed. The majority of the respondents were married with babies. In line with education level, the table shows that 1.3% of the respondents were at master's level, 7.8% of the respondents were at bachelor's degree, 22.1% of the respondents were at diploma level, 44.8% of the respondents were at certificate level and the remaining 24% of the respondents were in others category. The majority of the respondents were certificate holders.

The study findings revealed that 35.7% of the respondents underwent spontaneous delivery mode, whereas the remaining 64.3% of the respondents suggested having gone through cesarean section mode of delivery. This shows that the majority of the respondents had to undergo cesarean section in their delivery. With regard to gestational age in weeks, 8.4% of the respondents underwent gestational period of less than 37 weeks, 21.4% of the respondents noted having a gestational period of 32-36 weeks, 29.2% of the respondents noted 28-31 weeks and the remaining 40.9% of the respondents suggested to have undergone less than 28 weeks of gestational period. This implies that the majority of the respondents were having a gestational period of less than 28 weeks.

Table 4: 3: Showing Prevalence of neonatal seizures among Neonatal Intensive Care Unit (NICU) patients at Banadir Hospital, Mogadishu.

Prevalence of neonatal seizures	Response	Frequency	Percentage
How long did the Seizure onset (hours) last?	≤48	89	57.8
	>48	65	42.2
	Total	**154**	**100**
What type of seizure did your baby experience?	1 type 32	74	48.1
	>1 type	54	35.1
	Electrographic only	26	16.9
	Total	**154**	**100.0**
What was the status of the ultrasound brain scan?	Normal	23	14.9
	Moderately abnormal	43	27.9
	Severely abnormal	88	57.1
	Total	**154**	**100.0**
How was the EEG background activity?	Normal/mildly abnormal	24	15.6
	Moderately abnormal	54	35.1
	Severely abnormal	76	49.4
	Total	**154**	**100.0**
What was the findings of the Neurologic examination?	Normal/mildly abnormal	15	9.7
	Moderately abnormal	50	32.5
	Severely abnormal	89	57.8
	Total	**154**	**100.0**

Source: Primary data (2023)

As regard neonatal seizures, respondents were asked whether they know about its prevalence and here are the findings. The study results revealed that 57.8% of the respondents noted that the seizure onset in their babies lasted for or less than 48 hours and the remaining 42.2% of the respondents noted that their babies had the seizure for more than 48 hours. This implies that the majority of the respondents had their babies go through seizures onset for less than 48 hours.

Table 4.2 above shows that 48.1% of the respondents noted that their babies experienced 1 type 32 whereas 35.1% of the respondents experienced more than 1 type of seizure and the remaining 16.9% of the respondents noted having witnessed electrographic only in their babies. This implies that most of the patients at the Neonatal Intensive Care Unit (NICU) were having babies with 1 type 32 seizure.

According to the study findings, 14.9% of the respondents noted that the status of the ultrasound brain scan of the babies showed normal, 27.9% of the respondents noted the ultrasound brain scan results "moderately abnormal" and the remaining 57.1% of the respondents were of the view that the scan results shows severely abnormality of the brains of their babies. This implies that most respondents had babies with brains in severe abnormality state.

Regarding EEG background activity, 15.6% of the respondents noted that the activity.

was in normal/mildly abnormal state, 35.1% of the respondents suggested moderately abnormal and the remaining 49.4% of the respondents noted that their babies were having severely abnormal EEG background activities and these respondents were the majority compared to the rest.

The study findings revealed that 9.7% of the respondents had babies in normal/ mildly abnormal state according to the neurological examination, 32.5% of the respondents

noted having babies in moderately abnormal state and the remaining 57.8% of the respondents suggested that their babies were in a severely abnormal state and these were also the majority compared to the rest.

Table 4. 4: Procedures for managing the complications associated with neonatal seizures among Neonatal Intensive Care Unit (NICU) patients at Banadir Hospital, Mogadishu.

Procedures for managing the complications	Response	Frequency	Percentage
Is the baby kept in a thermoneutral environment to ensure airway, breathing, and circulation (TABC)?	Yes	76	49.4
	No	78	50.6
	Total	**154**	**100.0**
Do you often test the blood sugar of the baby?	Yes	87	56.5
	No	67	43.5
	Total	**154**	**100.0**
Did the baby receive any hypothermia treatment?	Yes	89	57.8
	No	65	42.2
	Total	**154**	**100.0**
Is the baby experiencing an inborn error of metabolism?	Yes	83	53.9
	No	71	46.1
	Total	**154**	**100.0**
If yes, do you stop feeding him or her until the diagnosis has been conducted?	Yes	74	48.1
	No	80	51.9
	Total	**154**	**100.0**

Source: Primary data (2023)

According to the study's findings, 50.6% of respondents noted that in the Neonatal Intensive Care Unit (NICU) at Banadir Hospital, babies are occasionally not kept in a thermoneutral environment to ensure airway, breathing, and circulation (TABC), and the remaining 49.4% of respondents agreed with the statement. Also, 56.5% of respondents agreed that their infants' blood sugar levels are frequently checked, while the remaining 43.5% disagreed. This suggests that the neonatal ward receives a lot of attention when it comes to checking the infants' blood sugar levels.

According to Table 4.4 above, 57.8% of respondents concurred that their infants underwent hypothermia treatment, while 42.2% disagreed. This suggests that most responders were in agreement that their infants had received hypothermia treatment, which may have also affected how they were responding to newborn convulsions. Also, 53.9% of respondents agreed that their infants were suffering from an inborn metabolic defect, whereas the remaining 46.1% disagreed with the claim. Also, 48.1% of the respondents said they stopped feeding their newborns until the diagnosis had been made, while the majority of respondents (51.9%), said they continued to do so.

DISCUSSIONS

Discussion of findings

Demographic Characteristics of the respondents

According to the survey, there were no male respondents; instead, 100% of the respondents were female. This suggests that the responders were new mothers whose newborns were experiencing neonatal convulsions. The age distribution of the respondents was as follows: 32.5% were under the age of 20, 42.9% were between the ages of 21 and 29, 14.9% were between the ages of 30 and 39, 5.8% were between the ages of 40 and 49, and the final 3.9% were over the age of 50. Middle-aged people who were well-informed about newborn seizures made up the majority of the responders.

56.5% of respondents reported being married, 7.8% reported being single, 14.9% reported being divorced, and the remaining 20.8% reported being widowed. Most of the survey participants were married and had children. According to respondents' educational levels, the study's findings indicate that 1.3% of respondents had a master's degree, 7.8% had a bachelor's degree, 22.1% had a diploma, 44.8% had a certificate, and the other 24% fell into the "others" group. The vast majority of responders held certificates, making them aware of newborn seizures.

According to the study's findings, 64.3% of respondents said they had delivered by cesarean section, compared to 35.7% of respondents who had a spontaneous delivery. This demonstrates that the majority of responders had cesarean sections performed during their deliveries. In terms of gestational age in weeks, 8.4% of the respondents reported having a gestational period that was less than 37 weeks, 21.4% reported having a gestational period of 32–36 weeks, 29.2% reported having a gestational period of 28–31 weeks, and the remaining 40.9% suggested having a gestational period that was less than 28 weeks. This suggests that most of the responders had gestations that were shorter than 28 weeks.

Prevalence of neonatal seizures among Neonatal Intensive Care Unit (NICU) patients at Banadir Hospital, Mogadishu As regard neonatal seizures, respondents were asked whether they know about its prevalence and

here are the findings. The study results revealed that 57.8% of the respondents noted that the seizure onset in their babies lasted for or less than 48 hours and the remaining 42.2% of the respondents noted that their babies had the seizure for more than 48 hours. This implies that the majority of the respondents had their babies go through seizures onset for less than 48 hours. This is in line with Okonofua, 2018 who noted that seizures are the most prevalent neonatal neurological disease symptom, and the first month of life is one of the riskiest times for developing them. A significant risk factor for hospital death and eventual neurological impairment is neonatal seizures.

The study found out that 48.1% of the respondents noted that their babies experienced 1 type 32 whereas 35.1% of the respondents experienced more than 1 type of seizure and the remaining 16.9% of the respondents noted having witnessed electrographic only in their babies. This implies that most of the patients at the Neonatal Intensive Care Unit (NICU) were having babies with 1 type 32 seizure. This is in line with Pisani et al., 2018 who noted that most ictal occurrences are the result of acute neurological insults such hypoxia ischaemic encephalopathy (HIE), stroke, or infection, according to studies of neonatal seizures in affluent countries.

According to the study findings, 14.9% of the respondents noted that the status of the ultrasound brain scan of the babies showed normal, 27.9% of the respondents noted the ultrasound brain scan results "moderately abnormal" and the remaining 57.1% of the respondents were of the view that the scan results shows severely abnormality of the brains of their babies. This implies that most respondents had babies with brains in severe abnormality state. This is in line with Rennie & Boylan, 2018 who noted that in the near term, neonatal convulsions may be linked to increased inpatient mortality and longer inpatient stays. Neonatal seizures raise the chance of neuro-disabilities such epilepsy, cerebral palsy, and delayed development in the long run.

Regarding EEG background activity, 15.6% of the respondents noted that the activity was in normal/mildly abnormal state, 35.1% of the respondents suggested moderately abnormal and the remaining 49.4% of the respondents noted that their babies were having severely abnormal EEG background activities and these respondents were the majority compared to the rest. This is in line with Andre et al., 2021 who noted that since clinical observations sometimes significantly underestimate electrical seizures and facilities for continuous EEG monitoring are not always accessible, anti-epileptic medications (AED) should be taken into consideration even in the event of a single clinical seizure. AED therapy should aim to stop all electrical seizure activity if an EEG is being used. If seizures continue even after hypoglycemia/hypocalcemia has been corrected, an AED should be administered.

The study findings revealed that 9.7% of the respondents had babies in normal/ mildly abnormal state according to the neurological examination, 32.5% of the respondents noted having babies in moderately abnormal state and the remaining 57.8% of the respondents suggested that their babies were in a severely abnormal state and these were also the majority compared to the rest. According to Carrascosa et al. (2018), neonatal seizures are a neurologic condition that frequently affects babies. Their findings are consistent with what was said here. Between birth until the end of the neonatal period, they are defined as an abrupt, paroxysmal, abnormal change in electrographic activity. During this period, the infant brain is still developing.

Procedures for managing the complications associated with neonatal seizures among Neonatal Intensive Care Unit (NICU) patients at Banadir Hospital, Mogadishu

The study results revealed that 50.6% of the respondents noted that sometimes babies are not kept in a thermoneutral environment to ensure airway, breathing, and circulation (TABC) in the Neonatal Intensive Care Unit (NICU) at Banadir Hospital and the remaining 49.4% of the respondents agreed with the statement. In addition, 56.5% of the respondents agreed that the blood sugar of their babies are often tested and the remaining 43.5% of the respondents disagreed with the statement. This implies that a lot of care is accorded to the neonatal ward with regard to testing blood sugars of the infants. This is in line with Alcover-Bloch et al., 2018 who noted that assuring the baby's airway, breathing, and circulation (TABC) while nursing in a thermoneutral environment is the first step in the effective management of seizures (). Blood should be obtained for a glucose test and other tests, oxygen should be started, and IV access should be established. A rapid clinical examination should be done after obtaining a brief relevant history. This whole process shouldn't take more than 2 to 5 minutes.

According to the survey, 42.2% of respondents disagreed with the finding that their babies underwent hypothermia treatment, while 57.8% of respondents said they did. This suggests that most responders were in agreement that their infants had received hypothermia treatment, which may have also affected how they were responding to newborn convulsions. Also, 53.9% of respondents agreed that their infants were suffering from an inborn metabolic defect, whereas the remaining 46.1% disagreed with the claim. Also, 48.1% of the respondents said they stopped feeding their newborns until the diagnosis had been made, while the majority of respondents (51.9%), said they continued to do so. This is consistent with the advice given by Alcover-Bloch et al. (2018) who noted that a bolus injection of 2 mL/kg of 10% dextrose should be given, followed by a continuous infusion of 6-8 mg/kg/min, if blood sugar levels indicate hypoglycemia or if there is no quick access to a blood sugar-testing facility. If hypoglycemia has been addressed or excluded as the cause of convulsions, the

infant should receive 2 mL/kg of 10% calcium gluconate IV over 10 minutes while being closely watched for cardiac abnormalities.

CONCLUSIONS

Finally, neurological problems upon discharge and longer hospital stays were associated with infants with seizures. Seizures are common in newborns as well. Seizures are typically brought on by infections, notably meningitis, and birth-related conditions such infant encephalopathy. The high prevalence may be reduced by public health interventions to ensure safe deliveries, appropriate neonatal resuscitation, and infection control throughout the newborn period. To ascertain how infant seizures will effect long-term neurological and developmental outcomes, prospective research is necessary.

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