

Descriptive Study of Cerebral Palsy Patient in Nangarhar Province, Afghanistan

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ABSTRACT:- This study investigates the causes, clinical presentations, and incidence of Cerebral Palsy (CP) across various demographics, including age, gender, birthplace, vaccination status, folic acid intake, and geographic location within the Afghan community. The primary objective of the study is to identify risk factors associated with CP, utilizing a systematic review and meta-analysis of existing data to provide comprehensive pooled estimates. These findings aim to aid healthcare professionals, researchers, surgeons, policymakers, caregivers, and patients in identifying high-risk individuals, implementing preventive measures, and exploring the underlying mechanisms contributing to CP. Previous studies have examined CP occurrence relative to the severity of congenital abnormalities, yet the current research emphasizes the importance of understanding CP prevalence to improve patient outcomes and reduce its societal burden. By identifying incidence patterns and elucidating risk factors, healthcare providers can tailor interventions, treatment plans, and preventive strategies for at risk populations. The outcomes of this study hold significant potential for informing the development of mitigation strategies aimed at reducing the incidence of CP within the Afghani population.

KEYWORDS: Incidence, Cerebral palsy (CP), patient, Nangarhar Province

I. INTRODUCTION

Cerebral palsy (CP) is a group of permanent movement disorders that appear in early childhood. Signs and symptoms vary among people and over time. Often, symptoms include poor coordination, stiff muscles, weak muscles, and tremors. There may be problems with sensation, vision, and hearing, swallowing, and speaking. Often, babies with cerebral palsy do not roll over, sit, crawl or walk as early as other children of their age. Other symptoms include seizures and problems with thinking or reasoning, which each occur in about one third of people with CP. While symptoms may get more noticeable over the first few years of life, underlying problems do not worsen over time.

Cerebral palsy is caused by abnormal development or damage to the parts of the brain that control movement, balance, and posture. Most often, the problems occur during pregnancy; however, they may also occur during childbirth or shortly after birth. Often, the cause is unknown. Risk factors include preterm birth, being a twin, certain infections during pregnancy such as toxoplasmosis or rubella, exposure to methylmercury during pregnancy, a difficult delivery, and head trauma during the first few years of life, among others. About 2% of cases are believed to be due to an inherited genetic cause. A number of sub-types are classified based on the specific problems present. For example, those with stiff muscles have spastic cerebral palsy, those with poor coordination have ataxic cerebral palsy and those with writhing movements have athetoid cerebral palsy. Diagnosis is based on the child's development over time. Blood tests and medical imaging may be used to rule out other possible causes. (9)

SIGNIFICANCE OF THE STUDY

This study on the Descriptive Study of Cerebral Palsy Patient in Nangarhar Province Rokhan University, Jalalabad Area # 3 Nangarhar Afghanistan. This research is plan to be completed from 1st April 2022 to 2nd April 2023. is significant because it has the potential to significantly advance clinical practice and research in the field of brain health.

II. LITERATURE REVIEW

Review of the Literature of cerebral palsy. A meta-synthesis Maggie Dumsile Dlamini, MNurs, RN a,b, Ying-Ju Chang, PhD, RN c,d, Tram Thi Bich Nguyen, MSc, RN a,e a Department of Nursing, College of Medicine, National Cheng Kung University, No1 University Road, Tainan 70101, Taiwan b Department of Nursing, Eswatini Christian Medical University, Lomkiri Portion 69 of Farm 73, Zone 4, Mbabane, Hhohho, Swaziland c Professor, Institute of Allied Health Sciences & Department of Nursing, College of Medicine, National Cheng Kung University, No 1 University Road, Tainan 70101, Taiwan d Director, Department of Nursing, National Cheng Kung University Hospital, College of Medicine, National Cheng Kung University, Tainan, Taiwan e Medical Simultaion Center, Duy Tan University, 254 Nguyen Van Linh, Da Nang, Viet Nam.

To synthesize qualitative research findings of caregiver experiences and challenges in caring for and raising a child with cerebral palsy. Design: A systematic review and meta-synthesis. Methods: Four electronic databases: CINAHL, Embase, OVID Medline, and Cochrane, were systematically searched for qualitative research papers published before December 2022. Two independent reviewers assessed eligibility and further appraised the quality of methodology using the Critical Appraisal Skills Program (CASP) tool for qualitative research. A content thematic analysis approach was used to synthesize the qualitative research findings, construct core subthemes, and synthesize themes. Results: Sixty-seven findings were extracted from the 12 included studies. The findings were grouped into eleven sub-themes and then into five synthesized themes. The synthesized themes are 1. Need for convenient healthcare facilities, therapeutic services, and accessible public places, 2. Need for healthcare information and financial aid, 3. Psychological, and physical constraints, 4. Societal rejection and stigma, and 5. Overwhelming caring burden. Conclusion: Caregivers face many challenges in adjusting their lifestyles to meet the needs of the child with cerebral palsy. Some adjustments reported included giving up full-time jobs and businesses to be full-time caregivers, giving up leisure activities, and confinement to one place.

Family Caregivers' Experiences of Caring for Children with Cerebral Palsy in China: A Qualitative Descriptive Study Zhi Hong Ni, PhD1, Sheng Ding, PhD1, Hua Wu, PhD1, Shuo Zhang, PhD1, and Chun Yan Liu, PhD1.

This study aimed to investigate family caregivers' experiences of caring for children with cerebral palsy in China. This study used a descriptive qualitative design. We selected 18 family caregivers from 3 children's hospitals in Jiangsu Province, China, using a purposive sampling method. The following 5 themes emerged as needs of family caregivers' experiences of caring for children with cerebral palsy: overall responsibility, being alone, exhaustion from caring, being a prisoner of life, and uncertainty regarding the future. The findings of our research contribute to a better understanding of the life situation of family caregivers of children with cerebral palsy as we identify the difficulties they experience as well as their specific needs.

Nigel Paneth, MD, MPH^{a,b,T}, Ting Hong, MD, MSc^a, Steven Korzeniewski, MSc^a Department of Epidemiology, College of Human Medicine, B 636 West Fee Hall, Michigan State University, East Lansing, MI 48823, USA Department of Pediatrics and Human Development, College of Human Medicine, B 636 West Fee Hall, Michigan State University, East Lansing, MI 48823, USA CP is enumerated regularly in several parts of the world, and its prevalence ranges from 1.5 to 2.5 per 1000 live births. There is no suggestion of any major difference in prevalence among western nations, although data from the Americas are sparse. Time trends in overall CP prevalence for the past 40 years are most notable for their stability, but a modest increase in prevalence probably occurred in the last decades of the twentieth century. This increase in prevalence can be

attributed to the substantial increase in the prevalence of CP per 1000 VLBW infants, which, in turn, is attributable to their increased survival that results from newborn intensive care. There are signs that this recent increase in prevalence of CP in VLBW infants may have leveled off and may be on the decline.

III. METHODOLOGY

A rigorous process combining a systematic review and meta-analysis was painstakingly carried out in the quest to find predictors for of Cerebral Palsy Patient in Nangarhar Province. This methodology was created with the intention of providing thorough insights into this important facet of lumbar brain health by combining and analyzing the available data regarding for of Cerebral Palsy Patient in Nangarhar Province occurrence.

Systematic Review: A comprehensive and rigorous analysis of pertinent literature, including studies, research papers, and clinical data pertaining to of Cerebral Palsy Patient in Nangarhar Province incidence, was conducted as part of the methodology's systematic review phase. The thorough evaluation procedure was designed to guarantee that only reputable, peer-reviewed sources were included, which improved the findings' validity and dependability.

Meta-Analysis: A meta-analysis was carried out to compile and examine the combined data on of Cerebral Palsy Patient in Nangarhar Province incidence after the systematic review. The goal of this phase was to provide pooled estimates by using statistical techniques and data synthesis tools to combine the results from various research. The goal of the meta-analysis was to offer a more comprehensive and nuanced knowledge of the factors linked to of Cerebral Palsy Patient in Nangarhar Province by statistically evaluating the pooled data.

Objective: This methodological approach's major goal was to provide useful information about of Cerebral Palsy Patient in Nangarhar Province incidence to a range of healthcare stakeholders, such as researchers, surgeons, policymakers, caregivers, and patients. This work aims to support future research into the underlying mechanisms leading to of Cerebral Palsy Patient in Nangarhar Province, assist in identifying high-risk populations, and guide preventive efforts by providing pooled estimates generated from the systematic review and meta-analysis.

Implications: This study's methodological methodology attempted to close the gap between research findings and real-world implementations in clinical settings in addition to improving the of Cerebral Palsy Patient in Nangarhar Province. This methodology sought to equip medical practitioners with the knowledge and skills needed to improve patient outcomes, hone treatment strategies, and lead the way in the management of brain trauma-related alterations and disorders by offering evidence-based recommendations on the prevalence of Cerebral Palsy Patient in Nangarhar Province.

IV. RESULTS

Figure 1: Total Number of CP patients according to neurological disfunction : Shows the total number of patients (152) that I found throughout my investigation. Of these patients, 114 patients (75%) are quadraplegia, 19 patients (12.5%) are diplegic, 18 patients (11.84%) are hemiplegic, and 1 patient is (0.65%).

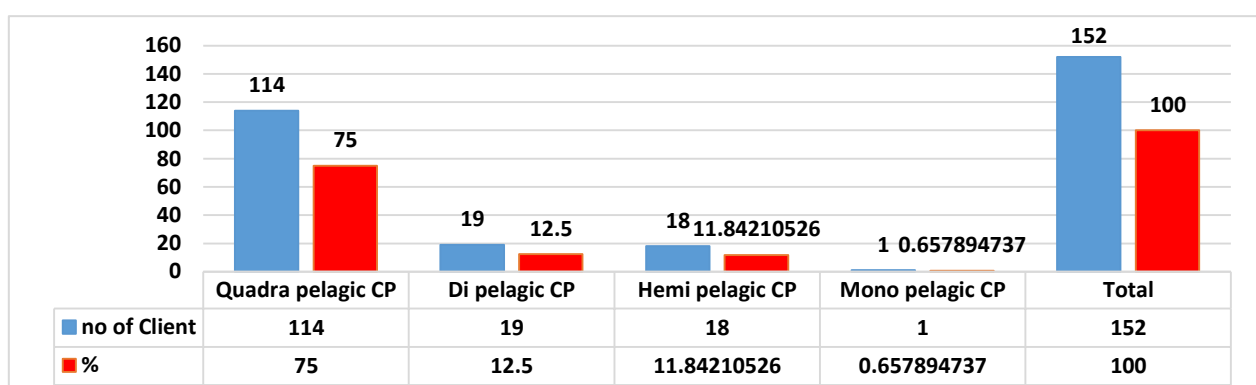


Figure 2: Incidence of CP patients to according to gender: Shows the patients by gender: 90 patients (59.21%) are male and 62 patients (40.78.8%) are the female patient.

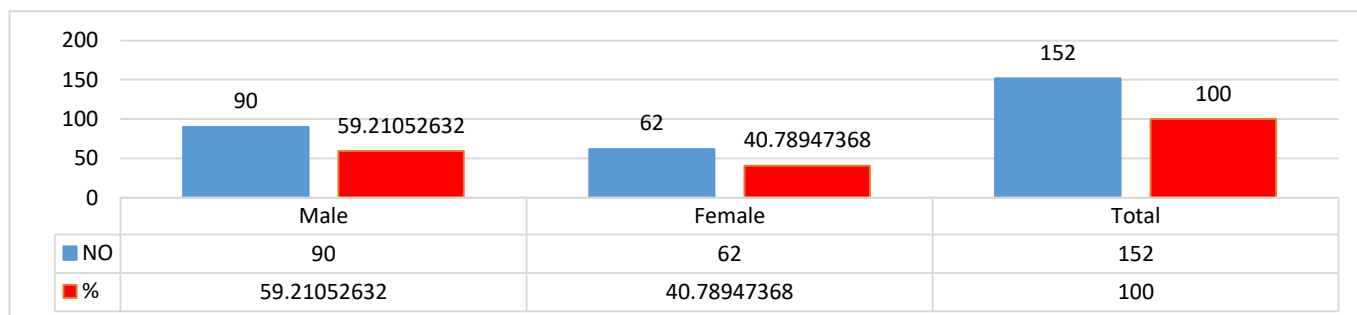


Figure 3: Incidence of CP patients to according to Age: Based on age, 34 patients (22.36%) were male age up to 6 years, and 56 patients (36.8%) were male age from 7 to 13 years. 31 patients, (20.3%) of the total are female age up to 6 years, 31 patients(20.3%) are female with age of 7 to 13 years.

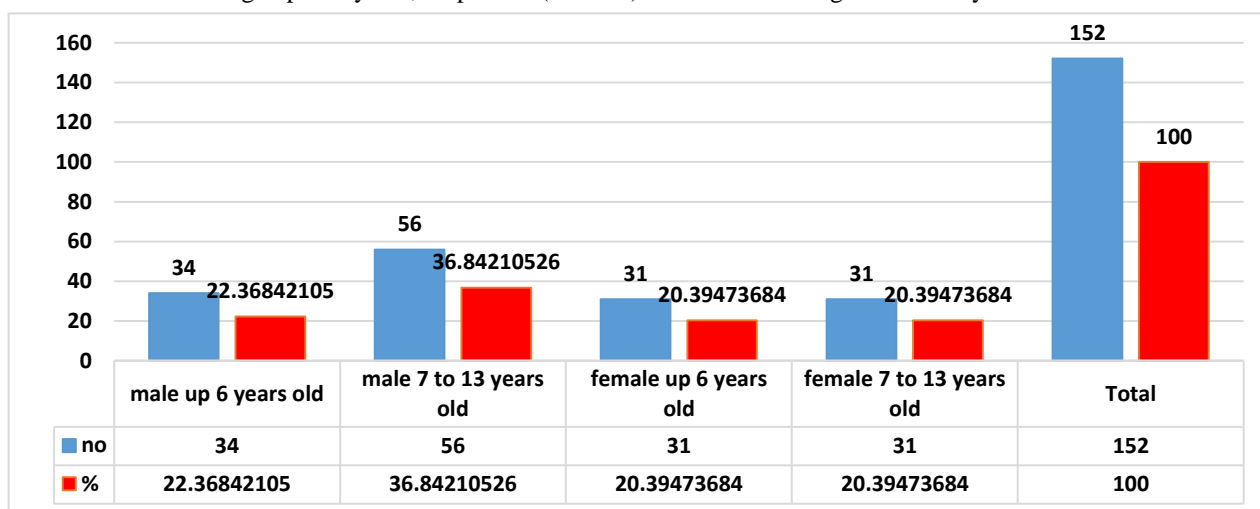


Figure 4: Incidence of CP patients according to geographic location in Nangarhar province: Using the patient address, which measures CP epidemiology and location of incidence, the following patients were made highest number of incidences in this study: 47 patients (30.9%) had GCS 3–4 with critical coma condition, 19 patients (14.8%) had GCS 5-8 with severe coma belong to urban areas of Jalalabad city of Nangarhar province AFG. 22 patients (14.47%) belong to Surkhrood distract to Nangarhar province and 26 patients (17.11%) belong to Bihsood distract of Nangarhar province AFG

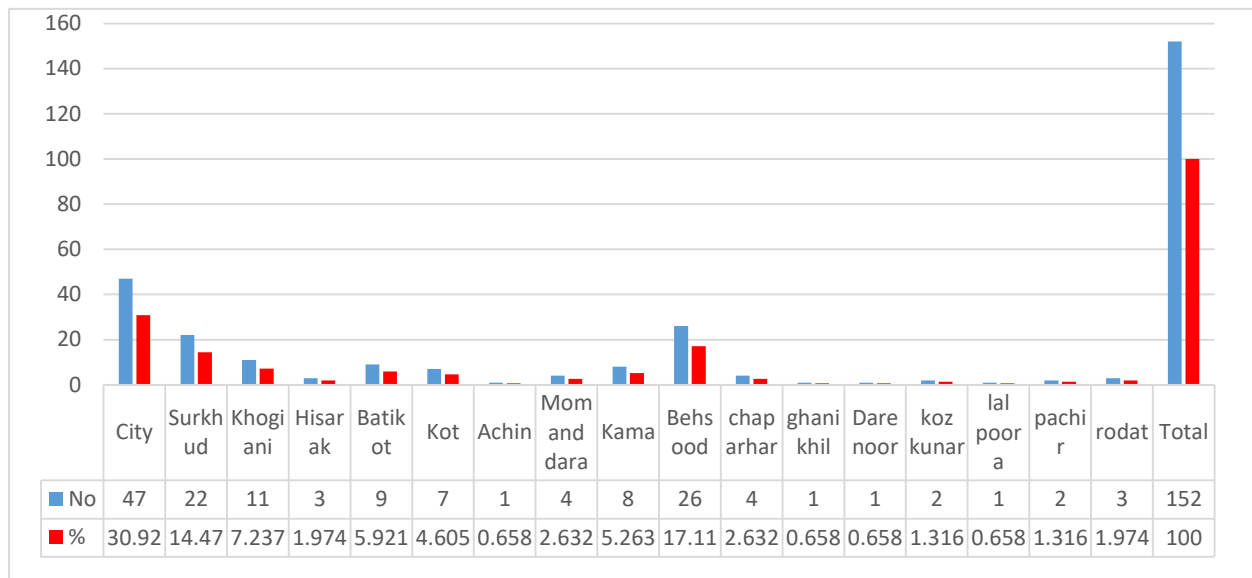


Figure 5: shows the number of CP patients according to their mothers' age in the time of marriage: 82 patients, 53.9% of the total is patients that their mother's age is from 14 to 18 years old. 68 patients, 44.73% of the total is patients that their mother's age is from 19 to 30 years old. 2 patients, 1.3% of the total is patients that their mother's age is from 31 to 35 years old.

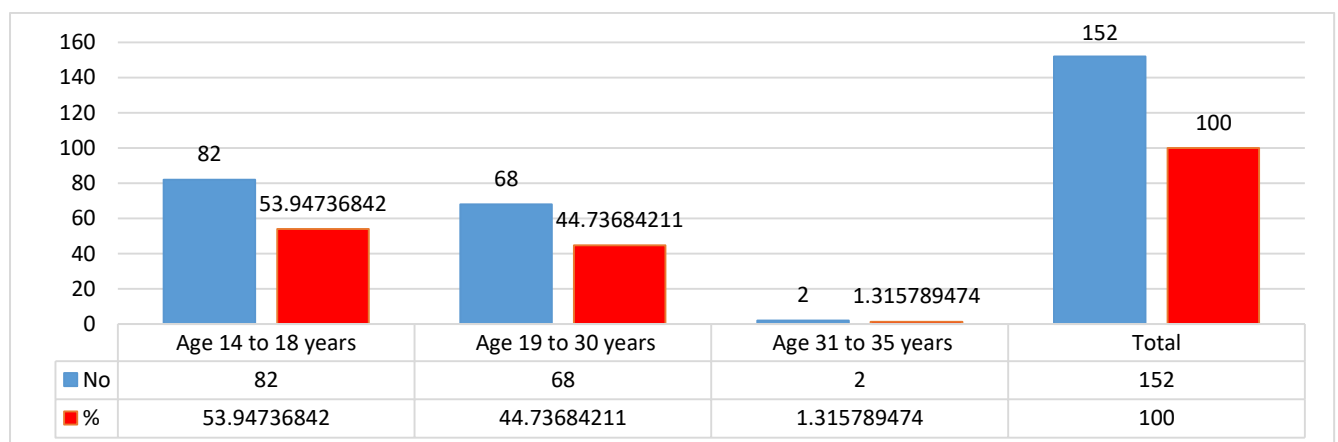


Figure 6: shows the number of CP patients according to their fathers' age in the time of marriage: 14 patients, 9.2% of the total is patients that their father's age is from 14 to 18 years old. 135 patients, 88.8% of the total is patients that their father's age is from 19 to 30 years old. 3 patients, 1.9% of the total is patients that their father's age is from 31 to 35 years old.

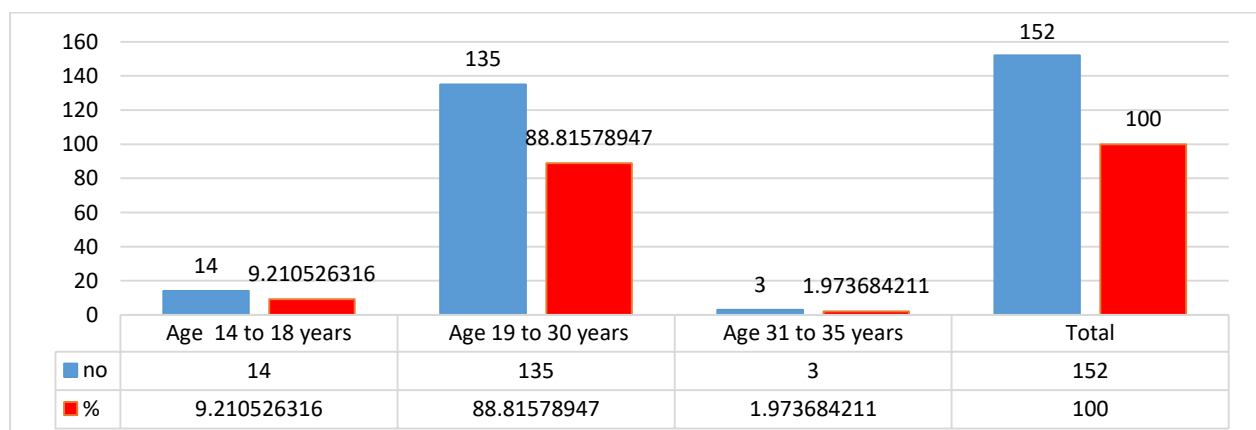


Figure 7: shows the number of CP patients according their fathers' age in the time of marriage. 14 patients, or 9.2% of the total is patients that their father's age is from 14 to 18 years old. 135 patients, 88.8% of the total is patients that their father's age is from 19 to 30 years old. 3 patients, 1.9% of the total is patients that their father's age is from 31 to 35 years old.

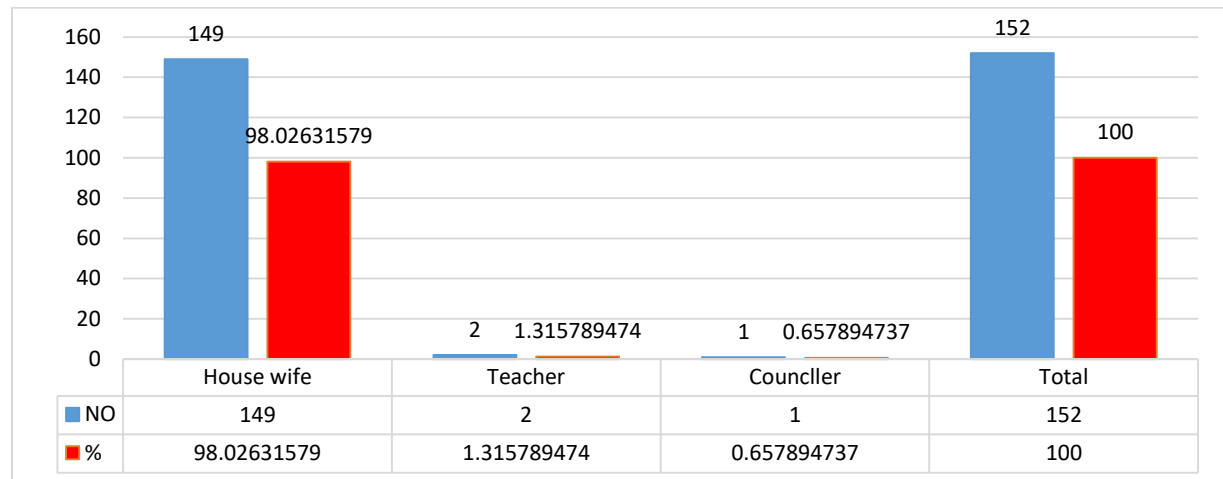


Figure 8: shows the number of CP patients according to fathers' occupation and states. 73 patients, or 48% of the total is patients that their fathers are labor. 37 patients, or 24.3% of the total is patients that their fathers are jobless. 12 patients, or 7.8% of the total is patients that their fathers are drivers. 8 patients, or 5.2% of the total is patients that their fathers are formers. 7 patients, or 4.6% of the total is patients that their fathers are barber and shopkeepers. 3 patients, or 1.9% of the total is patients that their fathers are died and teacher. 1 patients, or 0.6% of the total is patients that their fathers are cook and pharmacist.

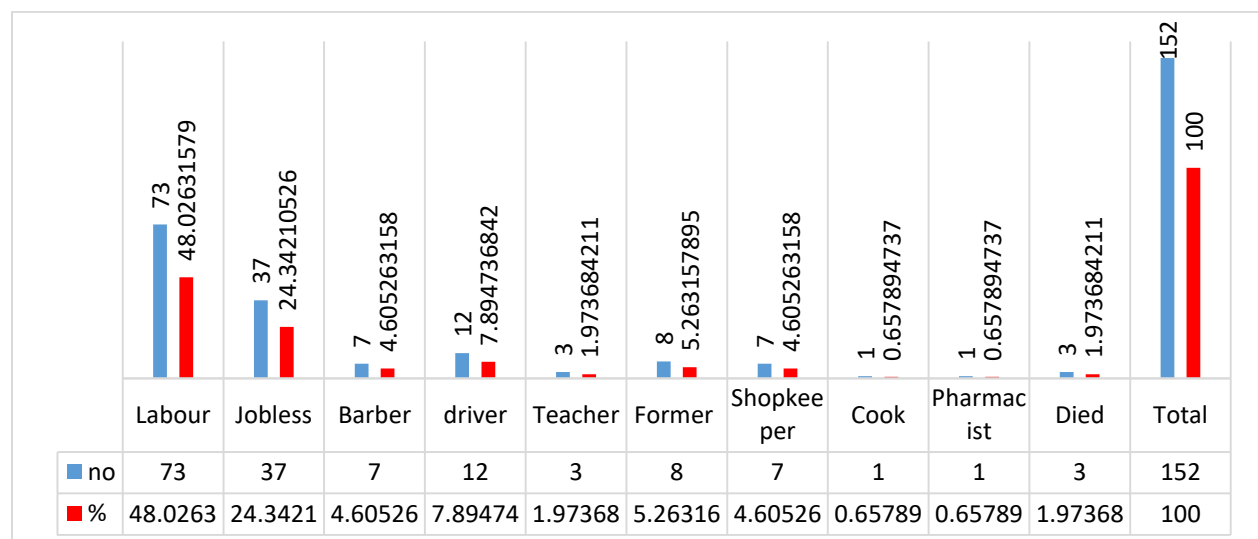


Figure 8: shows the number of CP patients that received medical facilities and rehab and states. 104 patients, or 68.4% of the total is patients that received physiotherapy facilities. 48 patients, or 31.6% of the total is patients that received both physiotherapy and speech therapy facilities.

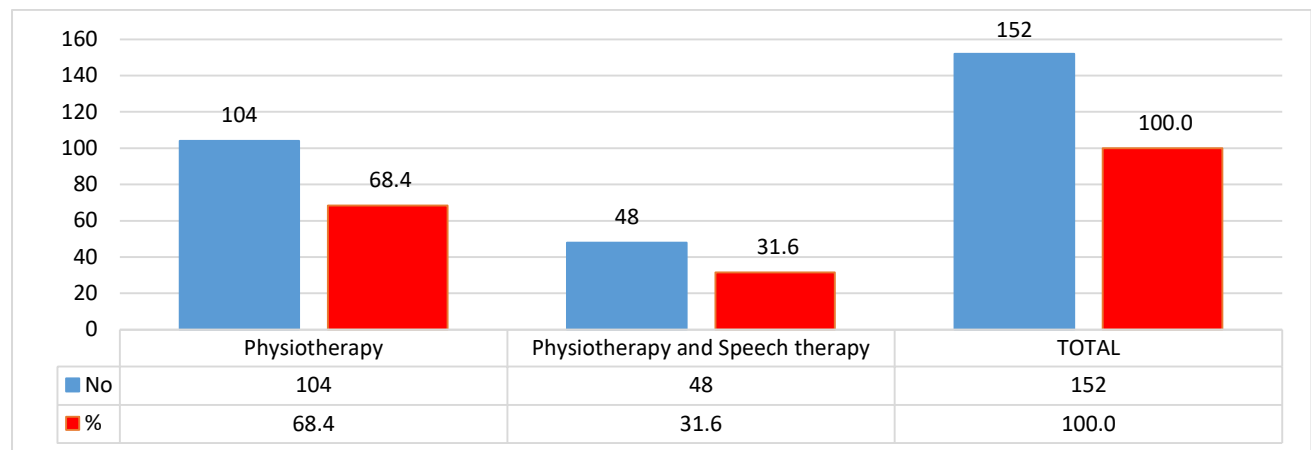


Figure 9: shows the number of CP patients that their parents (Mother) are closed in family relations. 58 patients, 38.2% of the total their parents are not belonged to same family (they are outsiders). 37 patients, or 24.3% of the total patients their mother are paternal uncle's daughters. 32 patients, or 21.1% of the total patients their mother are maternal uncle's daughters. 25 patients, or 16.4% of the total patients their mother are paternal uncle's daughters.

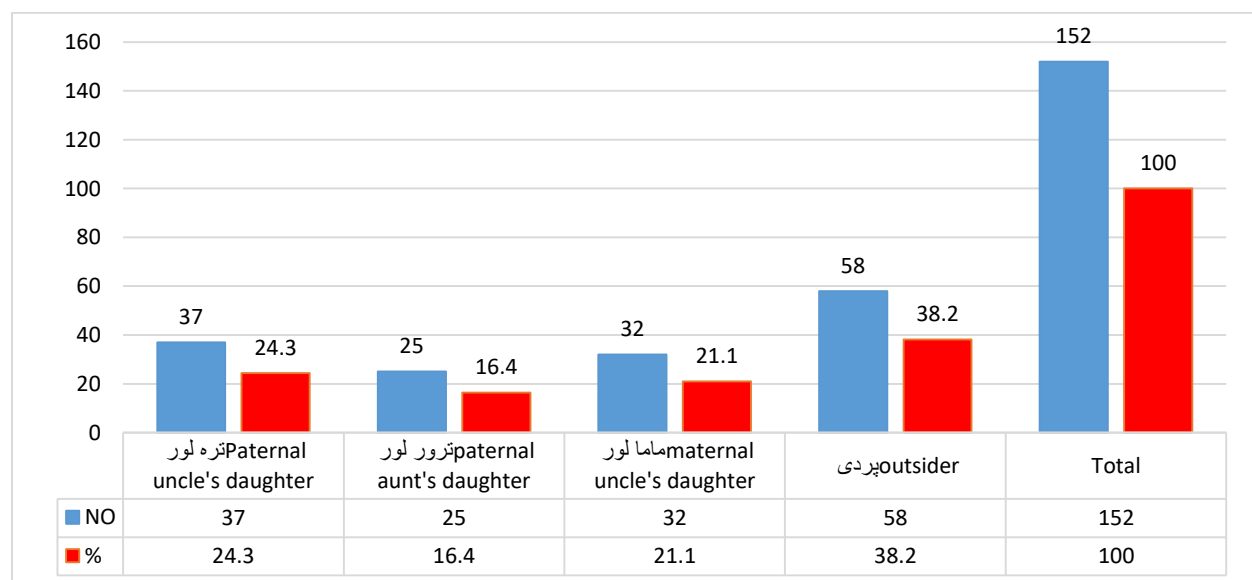


Figure 10: shows the number of CP patients according condition that shows patient cried just after delivery: 76 patients, 50% of the total their parents are cried just after delivery and 76 patients, or 50% of the total their parents are not cried.

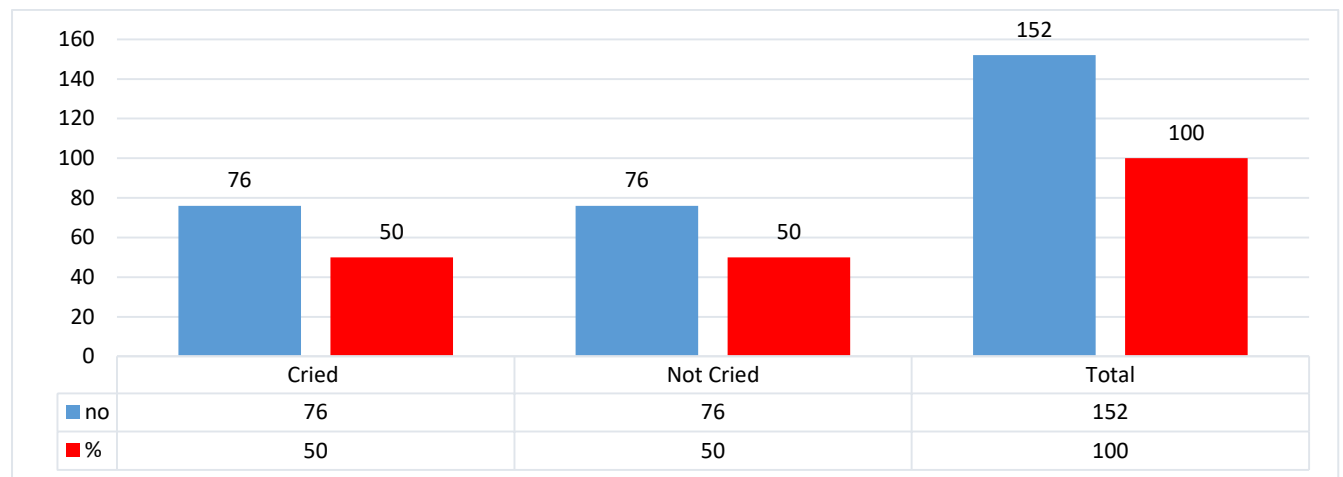


Figure 11: shows the number of CP patients according to delivery place: 135 patients, or 88.8% of the total patients born in both government and private hospitals. 17 patients, or 11.2% of the total patients born home.

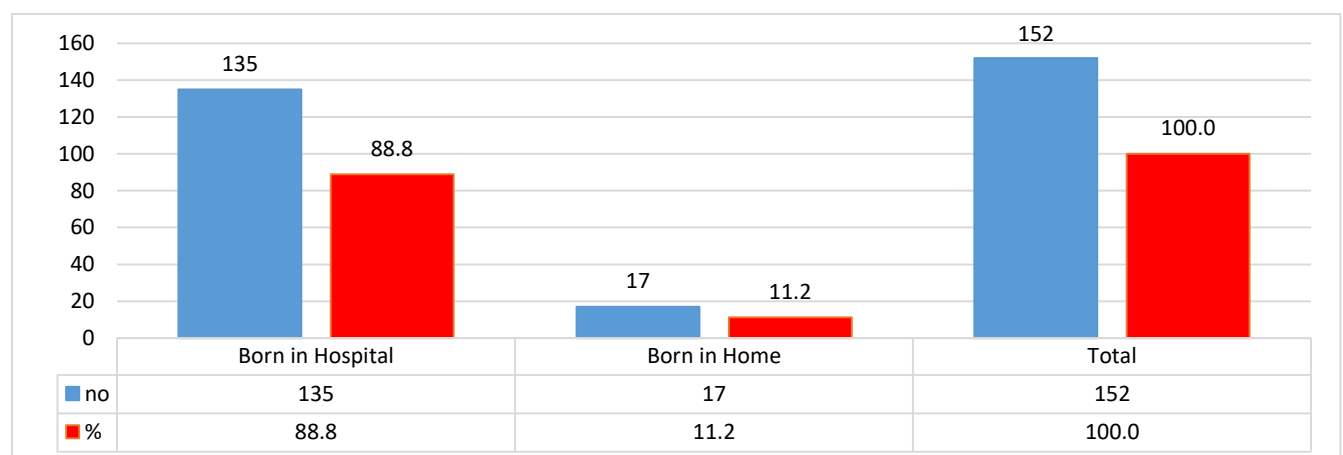


Figure 12: shows the number of CP patients according to child vaccination profile: 142 patients, or 93.4% of the total patients have been revised different vaccines in government and private hospitals. 10 patients, or 6.6% of the total patients have not revied any vaccination.

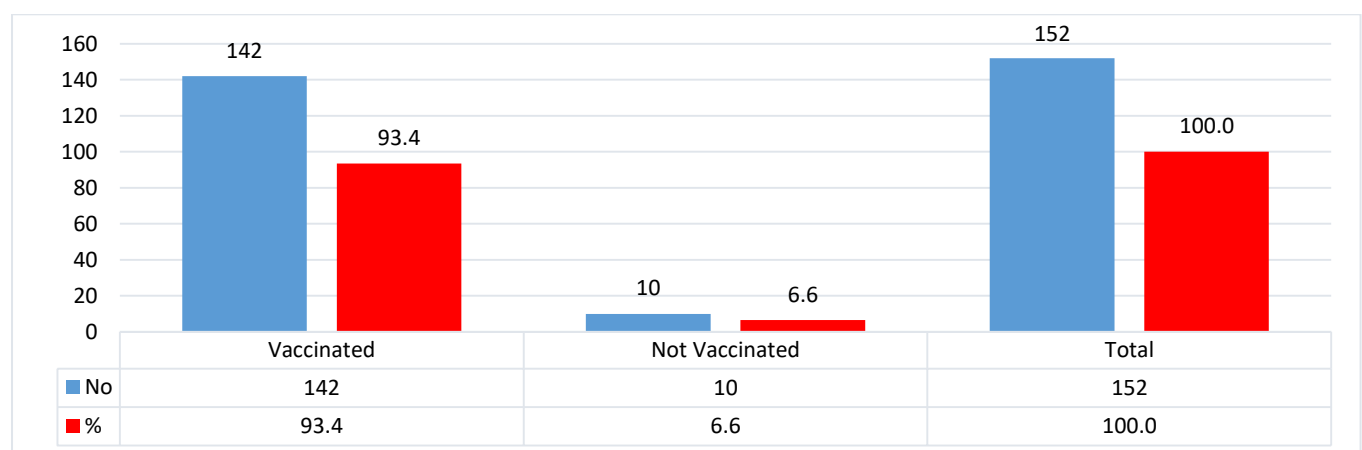
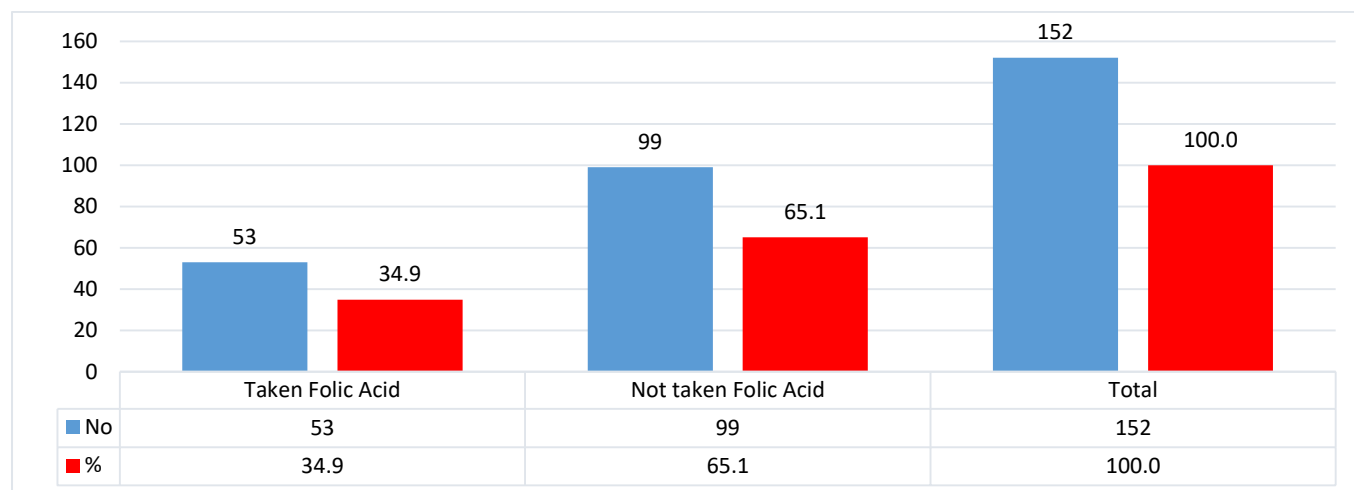


Figure 13: shows the number of CP patients that their mother's consumed folic acid during pregnancy: 99 patients, 65.1% of the total patients' mothers had taken folic acid during her pregnancy. 53 patients, 34.9% of the total patients' mothers had not taken folic acid during her pregnancy.



V. DISCUSSION

In the field of brain health, the study on the incidence of Cerebral Palsy between (April 1st 2022 to April 2nd 2023) has important ramifications for theory, practice, and policy. This research has the potential to impact clinical practice and healthcare policy by exploring the intricacies of descriptive study of cerebral palsy and finding important factors. The goal of this scoping review was to clarify the evidence that is currently available for CP diagnosis and treatment. In the end, we didn't find much information about diagnostic ability. The majority of research concentrated on clinical outcomes, management, and prognosis.

In comparison to other research, my study's year-over-year total of 152 patients treated accounted for 100% of all CP patients registered to our clinic. Males are more likely than females in my study to have CP, and patients between the ages of 7 and 13 are more likely than those in other age groups to be surfed.

According to my research, the majority of your patients experienced qurdarplagia after delivery, this finding is consistent with other studies. Approximately 50% of patients have been diagnosed with crying after delivery, based on the severity of their trauma as determined by GCS scores. According to a geographic location in Nangarhar province based on my research most patients related to Jalalabad city and Bihsood village of Nangarhar province.

Moreover, 98% of mothers are housewives, mother's age is 14 to 18 years and father's age is 19 to 30 years is heights age with incidence of CP born babies. Before and during pregnancy 65.1% of patient's mothers didn't had experienced folic acid intake, which is essential supplement to reduce risk of brain abnormalities. Study shows that 88.8% CP patients has born in hospital, which are 93.4% of them has been vaccinated.

VI. CONCLUSION

Cerebral Palsy (CP) constitutes a significant public health issue due to its contribution to the global burden of disease and its disproportionate impact on low- and middle-income countries. Research indicates that CP associated with congenital abnormalities is linked to a decreased likelihood of clinical deterioration and the need for surgical interventions. High-intensity monitoring, neurosurgical consultations, and routine CT scan implementation are often unnecessary in such cases. However, imaging plays a critical role in the management of CP related to congenital abnormalities,

aiding in early diagnosis and treatment planning. By emphasizing early critical care and surgical interventions, outcome predictions may be improved using frameworks such as the Stockholm and Helsinki ratings. In conjunction with imaging, a decision-making tree that incorporates head AIS, creatinine (Cr) levels, and patient age may prove useful in identifying individuals at a higher risk of mortality. Additionally, congenital abnormalities involving the central nervous system or other systems may necessitate thorough evaluation to rule out CP. The caliber of the included research is the main restriction on this scoping review, as it is with all of them. Since evaluating the quality of the included literature is not a standard part of scoping review technique, we did not employ any tools for this purpose. Because there were no randomized controlled trials, there was a greater chance of bias in the included research. The included studies can always be grouped in different ways. Nonetheless, we categorized the research into five groups according to our best interpretation of the available data.

RECOMMENDATIONS

Cerebral palsy has been the focus of a significantly larger body of research compared to other congenital abnormalities of the central nervous system. However, there remain critical gaps in our understanding of mortality rates, CT progression, neurosurgical interventions, and rehabilitation pathways associated with these conditions. Specifically, the field would benefit from more comprehensive studies on the diagnostic processes both during intrauterine life and in the postnatal period. Furthermore, advancements in imaging technology are urgently required to facilitate rapid and accurate diagnoses, a pivotal step in optimizing patient care and improving long-term outcomes.

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