



RESEARCH PAPER**Initial Challenges and Opportunities for the Parents of Children Born with Erb's Palsy in Rural and Urban Areas of Punjab, Pakistan**

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ABSTRACT

This study investigates the unique challenges and opportunities faced by parents of children born with Erb's Palsy in rural and urban areas of Punjab, Pakistan. Erb's Palsy, characterized by arm paralysis due to a birth-related brachial plexus injury, poses multifaceted challenges affecting physical, emotional, and socioeconomic aspects of afflicted families. Through quantitative research involving 200 parents surveyed via structured questionnaires, the study reveals disparities between rural and urban parents in terms of knowledge levels, initial difficulties encountered, and coping strategies. Urban parents tend to possess higher awareness and employ more effective coping methods compared to their rural counterparts who face greater initial challenges. Education plays a pivotal role, with a positive link between higher education levels and increased awareness. These findings underscore the importance of targeted awareness campaigns, improved healthcare accessibility, and strengthened support systems to enhance the well-being and prospects of Erb's Palsy-affected families in Punjab, Pakistan. Implementing these recommendations can create a more inclusive and supportive environment for these children, improving their chances of leading fulfilling lives.

KEYWORDS Erb's Palsy, Initial Challenges, Opportunities, Rural and Urban

Introduction

Erb's Palsy, sometimes referred to as brachial plexus paralysis, manifests as arm paralysis due to injury to the upper trunk (C5-C6) of the brachial plexus (Andersen, Watt, & Olson, 2006). Parents' first experience Erb's Palsy may be distressing due to the possibility of long-term disability, immobilization, or deformity in the affected arm (Abid, 2016). Insufficient innervation of the muscles innervated by cervical origins C5 and C6 is indicated by the laxity of the infant's shoulder, wrist, and finger flexion (Thatte & Mehta, 2011). The use of traction on the neck during a difficult delivery is an often seen factor, although not universally, associated with neurological birth injuries, including the one mentioned (Louden, Allgier, & Overton, 2015). The need for therapy and surgery is contingent upon the severity of the injury.

Shoulder dystocia and fetal size are significant risk factors, contrary to the prevailing notion that the delivery technique used by obstetricians is solely responsible (Chater, Camfield, & Camfield, 2004). Certain neonates may need surgical intervention, but most spontaneously recover without medical intervention (Malik & Ullah, 2019). While encounters with individuals who have lifelong disabilities may be few, the existence of sufficient instances serves as evidence of their potential occurrence (Anees, Burq, Afzal, Yousaf, & Rizwan, 2022). The parents of children afflicted with Erb's Palsy encounter distinct challenges and opportunities within rural and urban areas in Punjab, Pakistan. The

well-being of individuals affected by this condition, as well as that of their families, is severely influenced (Abid, 2016).

In rural regions of Punjab, parents may encounter additional challenges due to the restricted availability of healthcare facilities and specialized medical interventions (Bano & Tariq, 2018). It is important to comprehend the unique challenges parents in rural areas encounter with children diagnosed with Erb's Palsy (Alvi & al-Ghamdi, 2016). This is due to the higher probability of these families facing inadequate infrastructure, poorer socioeconomic status, and limited healthcare alternatives (Hassan & Qureshi, 2018).

Although individuals residing in metropolitan or urban areas often have greater accessibility to medical services, they may also have additional challenges associated with urban living, including heightened stress levels and competition. To comprehensively understand the dynamics surrounding Erb's Palsy, it is also essential to include the experiences of parents residing in urban regions. Understanding the initial challenges and potential opportunities experienced by parents of children born with Erb's Palsy in both rural and urban areas of Punjab, Pakistan, is of significant importance to several stakeholders, including healthcare delivery, health equity, family welfare, and policy formulation (Shaikh et al., 2017). In accordance with global efforts to enhance the standard of care and assistance provided to individuals with disabilities and their families, this research can significantly influence the well-being of affected families and the local healthcare infrastructure (UNICEF, 2018).

Literature Review

Erb's Palsy, a condition arising from the unfortunate impairment of the brachial plexus during the delicate moments of birth, poses unique challenges for infants and their families (Stutz, 2021). The quality of life experienced by parents of children with Erb's Palsy can be profoundly influenced by the environment in which they reside. Through the diligent efforts of epidemiological investigations, a comprehensive understanding of the prevalence of this particular phenomenon across various geographical regions has been attained (Yarfi et al., 2019). These meticulous studies have revealed an incidence rate of approximately 1.5 per 1000 live births within the borders of the United States, while the United Kingdom exhibits a notably lower rate of 0.42 per 1000 live births (Mazhar, et al., 2019). A statistical revelation emerges in the bustling city of Peshawar, nestled within the province of Khyber Pakhtunkhwa. It is none other than the rate, a mere fraction, hovering at approximately 0.07 per 1,000 live births (Shabbir & Zahid, 2015; Anees, et al., 2022). This figure, a testament to the delicate balance between life and mortality, paints a vivid picture of the prevailing conditions in this region. In the bustling city of Karachi, located in the province of Sindh, India, the prevailing rate of a particular occurrence stands at a modest 3.62 instances per 1,000 live births (Hasabe, Diwane & Chandawar, 2018). This phenomenon, with a frequency ranging from 0.5 to 4.4 occurrences per 1,000 live births, has captured the attention of many observers (Mohammad et al., 2017).

Erb's Palsy, a condition frequently encountered, arises primarily from applying considerable downward force upon the brachial plexus in the anterior shoulder region. This unfortunate occurrence is commonly associated with arduous childbirths, where the delicate nerves of the brachial plexus sustain undue strain (Andersen, Watt, & Olson, 2006). The condition in question may also be attributed to the hyperextension of limbs during posterior vaginal birth (Nauman et al., 2022). Two additional potential causes to consider are the insufficiency of shoulder rotation within an oblique posture, and the persistent pressure exerted by the posterior shoulder against the sacral eminence in the moments preceding birth (Frade, Gómez-Salgado, Jacobsohn, & Florindo-Silva, 2019). The risk

factors associated with Erb's Palsy encompass a range of obstetric complications and maternal conditions (Siu, 2020). Among these factors is shoulder dystocia, a condition in which the infant's shoulder becomes lodged behind the mother's pubic bone during delivery, leading to potential nerve damage (Estrella, 2021). Another contributing factor is macrosomia, which refers to an abnormally large infant, often weighing more than 4,000 grams (Patra et al., 2016). Gestational diabetes, a condition characterized by high blood sugar levels during pregnancy, has also been identified as a risk factor for Erb's Palsy.

Additionally, persistent fetal head malposition, wherein the baby's head is not optimally positioned for delivery, can increase the likelihood of nerve injury. Maternal age, particularly older maternal age, has been associated with an elevated risk of Erb's Palsy (Andersen, Watt, & Olson, 2006; Anees et al., 2022; Chater et al., 2004). Lastly, a prolonged stage 2 delivery refers to the period of the myriad factors to be contemplated; one must not overlook the delicate matter of a baby's positioning within the birth canal, for it holds great significance (Thatte & Mehta, 2011). The mother's age is equally consequential, as it influences the course of events. Furthermore, whether labour was induced must be considered as it imparts its distinct implications (Akel, Oksuz, & Oskay, 2013). Lastly, one must not disregard whether the delivery was aided or unassisted, for it plays a pivotal role in the grand tapestry of childbirth (Siu, 2020; Andersen, Watt, & Olson, 2006).

The unfortunate consequence of impaired upper extremity function, a distressing condition known as Erb's Palsy, is a burden that afflicts patients with a lasting impact on their lives (Estrella et al., 2021). The resulting lifelong impairment not only hampers their physical abilities but also takes a toll on their overall well-being, leaving them with a diminished quality of life and a sense of diminished self-worth (Xue, et al., 2018; Yarfi, 2019; Patra, et al., 2016). The toll of this predicament manifests in various facets of their existence - their physical well-being, mental equilibrium, emotional stability, behavioural patterns, and even their financial standing (Mazhar, et al., 2019). In the realm of pediatric medicine, a child afflicted with the enduring condition known as chronic Erb's Palsy may experience a gradual waning of physical strength and endurance, a perturbation in the natural progression of bone growth, a gradual wasting away of muscle tissue, a compromised sense of balance and coordination, an aberration in joint movement, and a notable impairment in joint function (Akel, et al., 2013; Hasabe, 2018).

In a recent scholarly investigation conducted by Malik and Ullah (2019), it has come to light that parents residing in rural regions of Pakistan may encounter considerable challenges in obtaining timely diagnosis and treatment for their children afflicted with Erb's Palsy. This predicament arises primarily from the dearth of specialized healthcare facilities and a scarcity of proficient medical practitioners in these remote areas (D Carvalho, 2019). The accessibility of medical facilities and rehabilitation programs for parents may face hindrances from geographical remoteness and insufficient transportation infrastructure, resulting in the unfortunate delay of crucial treatments (Bano & Tariq, 2018). In the rural landscapes of Punjab, a region steeped in tradition and resilience, parents grapple with the harsh realities of financial strain. Already burdened with the arduous task of making ends meet, they now face the additional weight of exorbitant medical expenses, therapy fees, and the acquisition of assistive gadgets. This predicament, as highlighted by UNICEF Pakistan in 2018, only serves to compound these families' mounting stress. In the remote corners of rural landscapes, a disheartening reality unfolds. Erb's debilitating Palsy frequently falls victim to the clutches of misdiagnosis and delayed treatment. The root cause of this tragic phenomenon lies in its dearth of awareness, coupled with the limited resources available to those grappling with its burdensome effects (Shaikh, Memon, & Tariq, 2017).

Although urban regions provide better access to healthcare services, they are often linked to high-stress living circumstances, intense competition, and time restrictions, which may pressure parents' capacity to give care and support (Hassan & Qureshi, 2018). According to Hassan and Qureshi (2018), healthcare facilities in urban areas may have high levels of congestion and inadequate staffing, leading to extended waiting periods and reduced provision of personalized treatment. This situation may potentially cause frustration among parents. According to Badhiwala et al. (2017), urban parents with children with Erb's Palsy may encounter many challenges, including heightened stress levels, anxiety, and social isolation. Consequently, these parents may need access to specialist support services to address their unique needs. Regardless of geographical location, early intervention strategies have significantly impacted the outcomes of persons diagnosed with Erb's Palsy. According to the study conducted by Malik and Ullah in 2019, These courses should prioritise the provision of parental education and skills required to facilitate their child's growth and progress effectively. Telehealth services in rural regions bridge the gap by allowing parents to receive medical consultations and treatment sessions (UNICEF Pakistan, 2018). Shaikh et al. (2017) argue that establishing community-based support networks and parent support groups may provide emotional and practical assistance to parents residing in rural and urban areas. The importance of increasing knowledge of Erb's Palsy and the support systems that are accessible cannot be overstated since it is essential in both rural and urban settings to enable timely identification and intervention (UNICEF Pakistan, 2018).

The obstacles encountered by parents of children born with Erb's Palsy in rural and urban Punjab, Pakistan, are influenced by the geographical setting in which they reside (Hassan & Qureshi, 2018). To develop support systems and treatments that are successful and suited to the unique needs of parents and their children in varied settings, it is essential to have a comprehensive understanding of the challenges and possibilities present in these contexts. Collaboration among healthcare professionals, governments, and communities can enhance the well-being and results of families impacted by Erb's Palsy. This may be achieved by effectively addressing the existing difficulties and making the most of the possibilities that are now accessible.

Material and Methods

This study was based on a quantitative research design, and primary data was obtained from the parents of children with Erb's Palsy in rural and urban areas of Punjab, Pakistan.

Population and Sampling

The population of this study was all the parents of children with Erb's Palsy in rural and urban areas of Punjab, Pakistan. Using convenient sampling, a sample of 200 parents was selected from urban and rural areas. Considering the approach and access of parents willing to participate in the survey, this sampling technique was used.

Study Instrument

The researcher developed a closed-ended structured survey questionnaire to know the awareness level, initial challenges and problems, and coping strategies available for the parents of children with Erb's Palsy. The instrument comprised two sections; the first covered the participants' demographic information, including the initial scanning of their child's diagnosis and the first help available. The instrument's second section comprised 17 statements about awareness, initial challenges and problems, and coping strategies. The

questionnaire was developed on a Likert 5-point scale (Strongly disagree, Disagree, Neutral, Agree, and Strongly Agree). The Cronbach's Alpha value was found to be 0.817, generally an indication of good internal consistency. This questionnaire was made in both Urdu and English languages for the convenience of participants.

Data Collection procedure

Data was obtained from various urban and rural areas of Punjab Pakistan, including Lahore, Sahiwal, Gujranwala, Shekhupura, Multan, Okara, Sahiwal, Faisalabad, Chiniot, Depalpur, Rahimyar Khan, and suburb areas and villages nearby the cities. In many areas, the researcher personally visited the parents to get the survey questionnaire filled out, and to visit some areas, help from some colleagues and friends was taken to complete the survey. Questionnaires were dispatched through courier, and parents were requested to fill out and return the form. The survey questionnaire was explained to the parents with the purpose of this study to get the most accurate information from these primary sources.

Data Analysis

Once the survey was completed, all the forms were filled, data was entered into SPSS software, and descriptive and inferential statistical tools were applied to find the answers to research questions. An Independent sample t-test was used to know the significant difference in the awareness level, initial challenges and problems, and coping strategies for rural and urban areas of Punjab. An Independent sample t-test was also applied to know the significant difference in the initial challenges and problems, awareness level, and coping strategies based on the gender and education level of parents. One-way ANOVA was applied for mean comparison in awareness level, initial challenges and problems, and coping strategies for parent's education level and social status. The analysis results were tabulated, interpreted, and presented in descriptive form.

Study limitations

A small sample of 200 parents was selected because of limited resources and access to parents of children born with Erb's Palsy. This is mainly because most children in Punjab Pakistan's rural areas are born at home, or there is no proper record at hospitals for birth injuries reported. Therefore, reaching the parents willing to participate in the survey was challenging.

Ethical Considerations

Informed consent was obtained from all participants, emphasizing the importance of providing detailed information about the study's purpose, procedures, potential risks, and benefits. This ensures that participants have the opportunity to make an informed decision about their involvement. The study highlights the need to protect participants' privacy by anonymizing data and securely storing personal information. Thus, safeguards the confidentiality of participants. The study underscores the importance of voluntary participation, emphasizing that participants should not be coerced or pressured into taking part. Therefore, respect participants' autonomy and freedom to withdraw at any time without consequences. The study acknowledges the need to minimize potential harm or distress to participants, particularly given the sensitive nature of the topic.

Results and Discussion

Table 1
Gender

Response	<i>f</i>	%
Female	125	62.5
Male	75	37.5
Total	200	100.0

The above table shows that 62.5% of parents were females and 37.5% were male.

Table 2
Age

Response	<i>f</i>	%
25 to 35	88	44.0
35 to 45	106	53.0
45 to 55	6	3.0
Total	200	100.0

The above table shows that 44% of the parents were between 25 to 35 years of age, 53% were 35 to 45 years, 3% were 45 to 55 years.

Table 3
Education

<i>Response</i>	<i>f</i>	%
Matriculation	37	18.5
Intermediate	27	13.5
Graduate	61	30.5
Masters	71	35.5
PhD	4	2.0
Total	200	100.0

The above table shows that 18.5% of the parents were matric, 13.5% were intermediate, 30.5% were graduate, 35.5% were Masters and only 2% of the parents were PhD.

Table 4
Location

Response	<i>f</i>	%
Urban	126	63.0
Rural	74	37.0
Total	200	100.0

The above table shows that 63% of the parents belonged to urban areas, and 37% belonged to rural areas of Punjab.

Table 5
Social status

Response	<i>F</i>	%
Upper middle class	8	4.0
Middle class	65	32.5
Lower middle class	92	46.0
Poor class	35	17.5
Total	200	100.0

The above table shows that 4% of the parents belonged to the upper middle class, 32.5% to the middle class, 46% to the lower middle class, and 17.5% were from the poor class.

Table 6
When was your child diagnosed with Erb's Palsy?

<i>Response</i>	<i>f</i>	<i>%</i>
Immediately after birth	63	31.5
During the first week after birth	120	60.0
During the first month after birth	17	8.5
Total	200	100.0

The above table shows the responses of parents when they were asked when they were diagnosed with Erb's Palsy: 31.5% responded immediately after birth, 60% responded during the first week after birth, and 8.5% responded during the first month after birth.

Table 7
Who diagnosed Erbs palsy?

<i>Response</i>	<i>f</i>	<i>%</i>
Gynecologist	1	.5
Pediatric doctor	63	31.5
Orthopedic doctor	118	59.0
Physio therapist	18	9.0
Total	200	100.0

The above table shows that 31.5% of the parents responded that Pediatric doctor diagnosed their children, 0.5% answered that they had Gynecologist, 59% responded to an orthopedic doctor, and 9% responded physio therapist.

Table 8
Mean comparison of significant differences in the awareness level of parents, initial challenges and problems, and coping strategies and support based on their gender

Variables	Gender	<i>n</i> (199)	<i>M</i>	<i>SD</i>	<i>t</i> (199)	<i>Sig.</i>	Cohen's <i>d</i>
Awareness	Female	125	21.36	5.47	-.738	.462	0.11
	Male	74	21.97	5.77			
Initial challenges and problem	Female	125	21.40	2.08	-1.360	.176	0.19
	Male	74	21.82	2.15			
Coping strategies and support	Female	125	15.83	3.21	-.183	.855	0.03
	Male	74	15.92	3.26			

The results show no statistically significant gender differences in any of the variables. Specifically, there were no significant differences in awareness ($p = 0.462$), initial challenges and problems ($p = 0.176$), or coping strategies and support ($p = 0.855$) between females and males. All variables' effect sizes (Cohen's d) were small to negligible (0.11, 0.19, and 0.03, respectively).

Table 9
Mean comparison of significant differences in the awareness level of parents, initial challenges and problems and coping strategies and support based on urban and rural areas of Punjab

Variables	Location	<i>n</i> (199)	<i>M</i>	<i>SD</i>	<i>t</i> (199)	<i>Sig.</i>	Cohen's <i>d</i>
Awareness	Urban	126	22.83	4.49	4.32	.000	0.60
	Rural	73	19.44	6.56			

Initial challenges and problem	Urban	126	22.09	1.98	4.90	.000	0.72
	Rural	73	20.64	2.03			
Coping strategies and support	Urban	126	16.28	3.23	2.41	.017	0.36
	Rural	73	15.15	3.08			

The above table shows that urban participants had a significantly higher mean awareness score ($M=22.83$, $SD=4.49$) than rural participants ($M=19.44$, $SD=6.56$). ($t=4.32$, $p<0.001$), indicating that urban participants had higher awareness levels. ($M=22.09$, $SD=1.98$) for initial challenges and problems compared to rural participants ($M=20.64$, $SD=2.03$). The t-test revealed a significant difference ($t=4.90$, $p<0.001$), indicating that urban participants faced more initial challenges and problems. Higher mean scores ($M=16.28$, $SD=3.23$) for coping strategies and support than rural participants ($M=15.15$, $SD=3.08$). The t-test showed a significant difference ($t=2.41$, $p=0.017$), indicating that urban participants had stronger coping strategies and support. The effect size (Cohen's d) was 0.36, indicating a small to moderate effect. The results show a significant difference in awareness level, initial challenges and problems, and coping strategies and support based on the location (urban/rural) of parents of children with Erb's Palsy.

Table 10
One-way ANOVA for mean comparison of significant differences in awareness, initial challenges and problems, and coping strategies and support based on the education level of parents

Variables	Matriculation		Intermediate		Graduate		Masters		PhD		$F(4, 194)$	η^2
	M	SD	M	SD	M	SD	M	SD	M	SD		
Awareness	19.41	6.85	19.00	6.23	22.52	4.73	22.83	4.61	23.25	6.50	4.562*	0.09
ICP	20.68	2.17	20.74	2.12	22.11	1.98	21.87	1.98	21.25	2.50	4.360*	0.08
CSS	15.22	3.38	15.00	2.93	16.23	3.12	16.18	3.19	16.50	5.00	1.279	0.02

Note. * $p<.001$

The above table shows some significant differences among the educational levels. The mean scores for awareness increased as the educational level progressed. The highest mean scores were observed in the Masters ($M=22.83$, $SD=4.61$) and PhD ($M=23.25$, $SD=6.50$) levels. A one-way ANOVA revealed a significant main effect of education level on awareness ($F(4, 194)=4.562$, $p<0.05$). The effect size (η^2) was 0.09, indicating a medium-sized effect. There were slight differences in mean scores across the educational levels, with Graduate ($M=22.11$, $SD=1.98$) and Master ($M=21.87$, $SD=1.98$) levels showing slightly higher scores. The ANOVA indicated a significant main effect of education level on ICP ($F(4, 194)=4.360$, $p<0.05$). The effect size (η^2) was 0.08, suggesting a small effect. The mean scores for CSS remained relatively consistent across the educational levels, with Masters ($M=16.18$, $SD=3.19$) and PhD ($M=16.50$, $SD=5.00$) levels having slightly higher scores. The ANOVA did not show a significant main effect of education level on CSS ($F(4, 194)=1.279$, $p>0.05$). The effect size (η^2) was 0.02, indicating a negligible effect.

Table 11
One-way ANOVA for mean comparison of significant differences in awareness, initial challenges and problems, and coping strategies and support based on the social status of parents

Upper class	Upper middle class	Middle class	Lower middle class	Poor class
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Variables	M	SD	M	SD	M	SD	M	SD	M	SD	F (3, 195)	η^2
Awareness	-	-	24.00	5.01	21.64	4.71	21.21	5.54	21.91	7.16	.678	0.01
ICP	-	-	22.25	1.98	21.63	2.06	21.56	2.18	21.25	2.12	.544	0.00
CSS	-	-	17.38	3.54	15.63	3.01	15.69	3.12	16.40	3.73	1.113	0.01

The above table shows that ANOVA for Awareness did not yield a statistically significant result ($p > 0.05$), indicating no significant difference in awareness across the social classes. The effect size (η^2) of 0.01 suggests a slight variance explained by social class, meaning that social class may have a minimal influence on awareness.

The ANOVA for Initial challenges and problems did not yield a statistically significant result ($p > 0.05$). This indicates no significant difference in the perception of initial challenges and problems across the social classes. The effect size (η^2) of 0.00 suggests that social class explains a negligible variance in this variable. The ANOVA for Coping strategies and support yielded a statistically significant result ($p > 0.05$), indicating a significant difference in coping strategies and support across the social classes. However, the effect size (η^2) of 0.01 suggests a small amount of variance explained by social class, indicating that social class may have a limited impact on coping strategies and support.

Discussion

The research findings revealed no statistically significant disparities between genders in terms of parental knowledge among individuals with Erb's Palsy. This finding indicates a comparable degree of understanding of the illness among parents of both genders. Likewise, there were no notable disparities between genders in terms of the early obstacles and difficulties encountered by parents and their approaches to managing these issues and seeking assistance.

Nevertheless, the research revealed notable disparities depending on the parents' geographical setting, namely whether they resided in urban or rural areas. The individuals living in urban areas exhibited greater awareness, encountered a greater number of early hurdles and issues, and had more robust coping techniques and support systems compared to their counterparts living in rural areas. The results of this study indicate that the geographical location is a contributing factor in the knowledge and management of Erb's Palsy. Parents residing in metropolitan areas may have increased access to information, resources, and support networks, which may influence their level of awareness and ability to manage this condition.

The research also investigated the impact of individuals' educational attainment on their knowledge and ability to manage Erb's Palsy. The study's findings demonstrated a positive correlation between parental educational attainment and levels of awareness. Specifically, parents who have attained higher levels of education, such as a Master or PhD, exhibited more significant levels of awareness than those with lesser levels of education. This study implies that education substantially impacts increasing parental knowledge and comprehension of Erb's Palsy.

However, the research did not provide statistically significant disparities in awareness, early obstacles, difficulties, or methods of managing issues and obtaining assistance as influenced by socioeconomic position. This suggests that irrespective of their socioeconomic status, parents of children diagnosed with Erb's Palsy encounter similar obstacles and exhibit equivalent awareness and coping mechanisms. Xue et al. (2018) investigated the relationship between parental stress and coping techniques in children

diagnosed with brachial plexus birth palsy (BPBP). This study's findings indicated no statistically significant disparities in parental stress or coping strategies based on gender. This discovery is consistent with the outcomes reported in the preceding section, which showed a lack of substantial gender disparities in awareness, early obstacles and difficulties, and coping mechanisms and support.

Concerning the impact of geographical location, namely urban and rural areas, on parental awareness, Siu et al. (2020) conducted research examining the discrepancies in healthcare accessibility and utilization between these two demographic groups. The study revealed that individuals residing in urban areas often exhibited superior healthcare service accessibility and a heightened degree of health consciousness compared to their rural counterparts. The discovery mentioned above aligns with the previously given outcomes, indicating that parents residing in urban areas exhibited more significant levels of awareness, encountered more early obstacles and difficulties, and had more robust coping mechanisms and support networks than their rural counterparts.

The literature has also examined the influence of schooling on parental awareness and coping techniques. The research conducted by Sorensen et al. (2015) investigated the correlation between parental education and their knowledge and comprehension of their child's brachial plexus injury. The findings revealed that parents with higher levels of education had superior knowledge and understanding of the condition. The discovery mentioned above provides more evidence in favor of the preceding findings, which demonstrated a positive correlation between greater levels of education, heightened awareness, and more robust coping mechanisms. Based on the results above, it is evident that providing adequate assistance and resources and promoting understanding among parents of children diagnosed with Erb's Palsy is of utmost importance. Professionals specializing in Erb's Palsy need to prioritize the development of focused awareness campaigns and educational initiatives that effectively engage individuals living in urban and rural areas. These programs have the potential to enhance levels of awareness and provide parents with the requisite knowledge and assistance to address the disease proficiently. Healthcare practitioners must consider parents' educational backgrounds when delivering information and recommendations. Customizing educational resources and interventions to cater to parents' unique requirements and educational aptitude may enhance comprehension and proficiency in addressing Erb's Palsy. The provision of extensive support networks and resources has the potential to augment coping methods and parental assistance, especially in metropolitan settings where access to such resources may be more easily attainable.

Conclusion

The primary objective of this research was to examine the initial challenges and opportunities encountered by parents of children diagnosed with Erb's Palsy in rural and urban Punjab, Pakistan. Several major discoveries were identified via the use of a quantitative research methodology and the examination of source data. The degree of knowledge of Erb's Palsy was much greater among parents residing in urban regions than those living in rural areas. This implies that metropolitan parents may possess more accessibility to knowledge pertaining to the disease, maybe attributable to enhanced healthcare infrastructure and educational resources. Urban parents have reported encountering more early issues and difficulties pertaining to Erb's Palsy compared to their rural counterparts. The observed phenomenon may be attributed to increased knowledge, which has resulted in heightened worries.

Additionally, it underscores the need to implement customized assistance and services in metropolitan areas to tackle these difficulties successfully. The coping techniques and support networks of urban parents were shown to be somewhat more robust when compared to those of rural parents. The observed phenomenon may be ascribed to the increased accessibility of support services in metropolitan regions. Nevertheless, parents residing in both urban and rural areas encountered notable obstacles, underscoring the need for improved support systems. The research findings indicated that parents with higher levels of education exhibited a heightened degree of knowledge of Erb's Palsy. This highlights the significance of educational initiatives and resources in equipping parents with information on the disease and the support options that are accessible. The impact of social standing on awareness levels and perceptions of early hurdles and issues was shown to be statistically insignificant. Nevertheless, a slight disparity was seen in the coping tactics and assistance used, as upper-middle-class parents reported somewhat superior coping processes.

This study provides insights into the diverse encounters of carers managing Erb's Palsy across several geographic and socioeconomic settings. This highlights the need to increase knowledge of Erb's Palsy, particularly in rural regions, and enhance support structures for all parents, irrespective of their geographical or socioeconomic circumstances. The implications of these results may be used by policymakers, healthcare professionals, and support organizations to formulate specific interventions and services that cater to the distinct needs of parents and children impacted by Erb's Palsy in Punjab, Pakistan. In conclusion, the augmentation of assistance and understanding has the potential to provide enhanced results and a higher standard of living for families impacted by the issue at hand. The present study establishes a significant groundwork for future research and endeavors focused on augmenting the welfare of families coping with Erb's Palsy in rural and urban Punjab, Pakistan.

Recommendations

Based on the findings of this study regarding the challenges and opportunities faced by parents of children born with Erb's Palsy in rural and urban areas of Punjab, Pakistan, several recommendations are proposed:

Awareness Campaigns:

- Develop and implement comprehensive awareness campaigns about Erb's Palsy targeting both rural and urban areas. These campaigns should focus on early recognition, risk factors, available treatments, and support resources.
- Collaborate with healthcare professionals, schools, and community organizations to disseminate information about Erb's Palsy to parents and caregivers.

Accessible Healthcare Services

- Improve access to specialized healthcare services in rural areas by establishing outreach clinics and telehealth services. This would ensure that parents in remote regions can receive timely diagnosis and treatment.
- Enhance the capacity of healthcare facilities in urban areas to cater to the specific needs of children with Erb's Palsy, ensuring that these services are readily accessible.

Support Networks

- Establish and promote support groups for parents of children with Erb's Palsy in rural and urban areas. These groups can provide emotional support, share experiences, and exchange information.
- Encourage the creation of community-based support networks to connect parents with local resources, therapists, and other families facing similar challenges.

Educational Programs

- Develop educational programs for parents and caregivers, emphasizing strategies for managing Erb's Palsy effectively. These programs should cover home exercises, adaptive techniques, and available assistive devices.
- Collaborate with schools and educational institutions to raise awareness among teachers and staff about Erb's Palsy, ensuring a supportive environment for affected children.

Financial Assistance

- Explore options for financial assistance, especially for families in rural areas facing economic hardships due to medical expenses. This could involve subsidies for medical treatments, therapy, and assistive devices.
- Advocate for government programs or insurance coverage that specifically address the needs of families with children diagnosed with Erb's Palsy.

Training for Healthcare Professionals

- Offer training and workshops for healthcare professionals, including pediatricians, orthopedic doctors, and physiotherapists, to enhance their expertise in diagnosing and treating Erb's Palsy.
- Promote multidisciplinary collaboration among healthcare providers to ensure comprehensive care for affected children.

Policy Development

- Advocate for developing policies and guidelines that address the unique needs of children with Erb's Palsy and their families, with input from healthcare experts and parent advocacy groups.
- Ensure that policies include provisions for early intervention, educational support, and disability rights for affected children.

Implementing these recommendations will improve support, awareness, and access to services for parents and children affected by Erb's Palsy in Punjab, Pakistan. It is crucial to address families' specific challenges in rural and urban areas, ensuring that no child is left without the care and resources they need to thrive despite their condition.

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