

Describing Sociodemographic Factors, Quality of Life, and Hopelessness of Adults with Cerebral Palsy: A Cross-Sectional Study

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What is already known on this topic?

- Children with cerebral palsy (CP) commonly present with one or more impairments in motor, cognitive, visual, auditory, speech, or behavioral functions. These primary impairments, along with secondary health conditions that develop over time—particularly those involving the musculoskeletal system—lead to significant limitations in activity and participation.
- Thanks to improvements in care services in recent years, there has been an increase in the rate of individuals diagnosed with CP in childhood reaching adulthood.
- Adulthood is a relatively challenging stage of life, as individuals face increased responsibilities and expectations for greater independence in many areas of life.

What this study adds on this topic?

- When children with CP transition to adulthood, the continuation of various health-related challenges and activity and participation limitations, along with low educational attainment, financial inadequacy, inability to find employment, and inability to marry, can lead to negative sociodemographic outcomes, reduced quality of life, and feelings of hopelessness.

ABSTRACT

Objective: Adults with cerebral palsy (CP) experience various limitations in daily and social life due to structural and functional impairments. These limitations affect their sociodemographic characteristics, quality of life (QoL), and emotional well-being. This study aimed to describe the sociodemographic factors, QoL, and hopelessness levels of adults with CP.

Methods: This study was a cross-sectional descriptive study conducted in Amasya, Türkiye, between 2020 and 2021. It included 102 adults with CP. The Sociodemographic Evaluation Form was administered to all participants, and the Short Form-36 (SF-36) QoL Scale and Beck Hopelessness Scale were administered to 54 participants without intellectual disability. Descriptive statistics and Spearman correlation analysis were used for analysis.

Results: The mean age of the participants was 30.78 years. The participants' profile was characterized by low educational attainment (40.2% illiterate) and high unemployment (78.4% not working). Physical Role (38.27 ± 45.51) and Physical Function (45.87 ± 33.30) had the lowest SF-36 scores. The majority (74%) exhibited minimal to mild hopelessness. Significant negative correlations were found between hopelessness and several QoL subscales, most notably Vitality ($r = -0.63$) and General Health Perception ($r = -0.57$).

Conclusions: This study provided important insights into the challenges faced by adults with CP, highlighting limitations in physical functioning, role-physical, general health, and vitality, as well as the presence of moderate to severe hopelessness in some of the participants. The findings revealed a strong negative relationship between QoL and hopelessness and emphasized the need for comprehensive interventions that supported both functional independence and psychosocial well-being.

Keywords: Adulthood, cerebral palsy, hopelessness, quality of life

Introduction

Cerebral palsy (CP) is the most common health condition causing physical disability in childhood, both in Türkiye and worldwide.¹⁻³ In CP, physical, mental, and multiple problems come to the fore.³ In individuals with CP who transition into adulthood, these problems and the secondary problems associated with them increase the level of disability. These challenges lead to limitations in social roles and impairments in quality of life (QoL) and emotional well-being in adults with CP.^{4,5}

Although CP is largely considered a childhood disease, there has been a significant increase in the adult CP population in recent years due to improvements in care. Medical developments in recent years have

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allowed children with CP, who have a high mortality rate in infancy, to reach adulthood, and a significant increase in life expectancy occurs in people with CP. It was reported that 70% of children with CP survive at least 20 years of age, and 80% of those who reach adulthood survive to an average of 55 years of age.^{6,7,8}

Cerebral palsy is a lifelong neurological condition in which existing musculoskeletal structural and functional impairments, combined with age-related declines in muscle strength and endurance, fatigue, and chronic pain, lead to a decrease in functional capacity.^{4,9,10} In adults with CP, these functional limitations adversely affect individuals' functional independence, social roles, and sociodemographic characteristics such as employment opportunities, economic autonomy, and marital status, thereby imposing an additional burden on QoL.^{10,11}

Psychological and emotional problems are common among adults with CP.¹² Hopelessness is an emotional state in which individuals feel unable to find solutions to their problems, pursue their goals, or mobilize the energy needed to reach their desired outcomes.¹³ Adults with CP often experience hopelessness as a result of the cumulative effects of physical limitations, social barriers, and emotional strain. From early childhood, individuals with CP are exposed to intensive medical, physical, and psychological interventions. However, by adulthood, the functional gains often plateau despite continued effort, which can lead to frustration and a loss of belief in further improvement. This sense of stagnation may contribute significantly to feelings of hopelessness.¹⁴ Therefore, to develop effective solutions for the challenges faced by adults with CP, it's crucial to comprehensively define these problems.

Despite the growing population of adults with CP, the existing literature has predominantly focused on motor skill development in children. The lack of studies examining the emotional outcomes—such as QoL and hopelessness—associated with social role limitations caused by functional impairments during the transition to adulthood hinders the development of effective interventions for this population. This study addressed this gap in the literature and aimed to collect data on sociodemographic factors, QoL, and feelings of hopelessness of adults with CP.

The research addressed the following questions: What are the sociodemographic status, QoL, and hopelessness levels in adults with CP, and how does QoL affect hopelessness in this population?

Methods

Design and Participants

The descriptive model, a quantitative research model, was used in the research. The research data were collected between December 2020 and June 2021 via the “Snowball Sampling Method,” which is a probabilistic sampling method. In the snowball sampling method, reference persons are selected regarding the subject of the research, and the other people can be reached through these people. Snowball sampling facilitates the data collection process by establishing a trust-based network as participants refer to one another, allowing for a deeper understanding of the challenges faced by this specific population.

Individuals who were diagnosed with CP between 19 and 65 years of age were included in the research. Individuals who were not diagnosed with CP, who had another physical disability along with CP, and who were younger than 19 years old or older than 65 years were excluded from the research.

The study was conducted in Amasya, Türkiye. Participants had received or were currently receiving services at special education and rehabilitation centers in Amasya.

Three questionnaires were administered to the participants. They consisted of 93 questions in total. It took approximately 30 minutes to answer. A suitable place and time were chosen for the participants to answer the questions in an environment where they could feel comfortable, such as at home and in their spare time. The questionnaires were administered to participants face-to-face or via phone call. Due to the restrictions of the COVID-19 pandemic, most participants wanted to answer the questions by phone.

Participants without intellectual disability completed all questionnaires independently. However, for individuals with intellectual disability, proxy responses were obtained from their caregivers solely for sociodemographic data collection, as questions concerning QoL and hopelessness necessitate direct self-report and thus were not administered to these participants or their caregivers. First, the participants were informed about the research, and then their consent to participate in the research was obtained voluntarily. In face-to-face surveys, participants were confirmed to participate in the research voluntarily by signing the “Informed Voluntary Consent Form.” In the surveys administered via phone call, an “Informed Voluntary Consent Form” was sent to the participants online, and participation approval was received in writing online. The researchers read the questions to the participants, and their answers were marked on the survey forms.

To fully describe the sociodemographic information of individuals with CP, mentally disabled participants were also included in the study. The mental disabilities of the participants were determined according to the training reports received from the Guidance Research Center. No scale or test was applied to determine their mental status.

Data Collection

In this study, the Sociodemographic Evaluation Form for Individuals with CP, developed by the researchers, was administered to the participants, and information such as age, sex, and educational status of the participants was recorded. The Short Form-36 (SF-36) QoL Scale was used to evaluate QoL, and the Beck Hopelessness Scale was used to evaluate hopelessness. The “Sociodemographic Evaluation Form” was applied to 54 participants who did not have intellectual disabilities and to the caregivers of 48 participants who had intellectual disabilities. The SF-36 QoL Scale and Beck Hopelessness Scale were administered to 54 participants who did not have mental disabilities because these 2 scales collect data about the thoughts and feelings of the participants, not the caregivers.

The SF-36 QoL Scale is a widely used instrument for evaluating an individual's health status, and its Turkish validity and reliability were established by Koçyiğit et al¹⁵ in 1999. The scale consists of 36 items and assesses physical and mental health through 8 subparameters. Scores for each subparameter are converted to a percentage ranging from 0 to 100, with higher scores indicating better QoL. The SF-36 allows evaluation of both positive and negative aspects of health; however, a total scale score cannot be calculated, and only subparameter scores are obtained. In the Turkish reliability study, Cronbach's alpha coefficients for the subparameters ranged between 0.732 and 0.761. In the present study, internal consistency of the SF-36 was also assessed, and Cronbach's alpha coefficients for the subparameters ranged between 0.616 and 0.941.

The Beck Hopelessness Scale consists of 20 items, and each question is scored between 0 and 1. At high scores, the individual's level of hopelessness is assumed to be high. “Yes” or “No” answers are given to these questions. For 11 questions (2, 4, 7, 9, 11, 12, 14, 16, 17, 18, 20), 1 point is given for the “Yes” option. On the other hand, 9 of them (1, 3, 5, 6, 8, 10, 13, 15, and 19) are given 1 point for the “No” option based on the score obtained from the scale. As a total of 20 points

increases, the hopelessness of the individual increases. The Cronbach's alpha reliability coefficient for the Turkish version is 0.86.¹⁶ In the present study, the internal consistency coefficient (Cronbach's alpha) of the Beck Hopelessness Scale was 0.813.

The questionnaires were scored by the researcher.

Statistical Analysis

The data obtained in the research were analyzed using the SPSS (Statistical Package for Social Sciences for Windows 22.0) program. Descriptive statistical methods (number, percentage, mean, standard deviation) were used to evaluate the data. To determine the statistical tests to be used in the analysis of the data, the Kolmogorov–Smirnov test, which is a test of conformity to a normal distribution, was performed, and it was determined that the data were not normally distributed ($P=.00$). Spearman correlation analysis was applied to assess the relationships between continuous variables. The correlation between 2 variables is as follows: if $r < 0.20$ and is close to 0, the relationship is very weak; if $r < 0.20-0.39$, the relationship is weak; if $r < 0.40-0.59$, the relationship is moderate; if $r < 0.60-0.79$, the relationship is considered to be strong; and if $r < 0.80-1.0$, the relationship is very strong. The findings were evaluated at the 95% CI and the 5% significance level. In this analysis, correlations with a P value $< .05$ were considered statistically significant. The correlation coefficient (r) indicates the direction and strength of the relationship, with a negative “ r ” value signifying an inverse relationship, where one variable increases as the other decreases.

Compliance with Ethical Standards

Ethics Committee approval was obtained for the research by the Kütahya Health Sciences University Non-Interventional Clinical Research Ethics Committee (2020/17-08) on December 16, 2020. Written and verbal consent was obtained from the participants who voluntarily participated in the research. The research was conducted according to the Declaration of Helsinki.

Results

The study started by first reaching out to adults with CP who received services at the special education and rehabilitation center where the researcher worked, and then the people cited by these participants as references were reached. Of the 104 participants included in the study, 102 agreed to participate in the study and were asked research questions when they were available.

The sociodemographic and clinical characteristics of the participants were presented in detail in Table 1. The majority of the participants were male (58.8%) and the majority were between the ages of 18-29 (52%).

In terms of clinical features, a significant proportion of participants exhibited spastic CP type (83.3%). An examination of Gross Motor Function Classification System (GMFCS) levels indicated that participants were most frequently in GMFCS Level I and Level V.

Upon reviewing social and economic indicators, it was noted that the vast majority of participants were unemployed (80%), predominantly lived with their parents (87.3%), and belonged to a low-income group (58.8%).

The QoL levels of adults with CP were evaluated using the SF-36 QoL Scale sub-parameters, and the obtained scores were summarized in Table 2. The lowest mean scores were recorded in the Physical Function and particularly the Physical Role sub-parameters. Conversely, areas where participants' QoL was perceived as relatively higher included Pain, Social Health, and Emotional Role.

Table 1. Findings on the Defining Characteristics of Adults with CP (n=102)

Characteristics	Groups	n	%
Age	19-29	53	52
	30-55	49	48
Gender	Female	42	41.2
	Male	60	58.8
Diagnosed period	Prenatal	34	33.3
	Newborn	35	34.3
	Postnatal	33	32.4
CP clinical type	Spastic	85	83.3
	Ataxic	11	10.8
	Dyskinetic	6	5.9
CP involvement pattern	Hemiplegia	28	27.5
	Diplegia	32	31.4
	Quadriplegia	42	41.2
GMFCS	I	12	11.8
	II	39	38.2
	III	19	18.6
	IV	12	11.8
	V	20	19.6
Number of problems accompanying CP	0	6	5.9
	1	28	27.5
	2	17	16.7
	3	15	14.7
	4 and above	36	35.3
Mental disability level	No	54	52.9
	Light	14	13.7
	Middle	23	22.5
	Heavy	11	10.7
Orthotic usage	Yes	26	25.5
	No	76	74.5
Assistive device usage	Yes	41	40.2
	No	61	59.8
Assistive device used	Wheelchair	25	24.5
	Standing frame	1	1.0
	Crutches or walking sticks	2	2.0
	Walker	1	1.0
	Positioning tools	1	1.0
	Other	1	1.0
	Using multiple devices	11	10.8
Physiotherapy time received	0-3 years	18	17.6
	4-6 years	19	18.6
	7-9 years	8	7.8
	10 years and over	57	55.9
Attendance to physiotherapy	Yes	82	80.4
	No	20	19.6
Educational status	Illiterate	41	40.2
	Literate	9	8.8
	Primary school graduate	10	9.8
	Secondary school graduate	12	11.8
	High school graduate	21	20.6
University graduate	University graduate	9	8.8
	University graduate	9	8.8
Working status	Employed	22	21.6
	Unemployed	80	78.4
Receiving economic aid	Yes	60	58.8
	No	42	41.2
Parent's disability status	Mother disabled	1	1.0
	Father disabled	4	3.9
	No disabled parents	97	95.1

(Continued)

Table 1. Findings on the Defining Characteristics of Adults with CP (*Continued*)

Characteristics	Groups	n	%
Number of siblings with disabled	0	85	82.4
	1	11	10.8
	2	6	5.9
Living with parents	Yes	89	87.3
	No	13	12.7
Marital status	Married	11	10.8
	Single	91	89.2
Disabled spouse	Yes	3	27.3
	No	8	72.7
Number of children with disabilities	0	10	90.9
	1	1	9.1
The design of the house according to the participant	Yes	33	32.4
	No	69	67.6
Going outside alone	Yes	49	48
	No	53	52
Frequency of going outside in a week	0 times	9	8.8
	1-2 times	30	29.4
	3-5 times	23	22.5
	6-7 times	40	39.2

CP, cerebral palsy; GMFCS, Gross Motor Function Classification System.

Table 2. Scores of Adults with CP on the SF-36 QoL Scale

SF-36 Sub-parameters	(n=54)	
	Min-Max.	X ± SD
Physical function	0-100	45.87 ± 33.30
Physical role	0-100	38.27 ± 45.51
Emotional role	0-100	70.36 ± 42.79
Vitality	0-100	56.94 ± 25.27
Mental health	16-96	64.09 ± 16.86
Social health	0-100	72.17 ± 30.69
Pain	0-100	71.38 ± 30.50
General health perception	0-100	51.20 ± 53.90

Significant difference, *P* value <.05.

Max, maximum; Min, minimum; QoL, quality of life; SD, standard deviation; SF, Short Form.

The hopelessness levels of adults with CP were presented in Table 3. It should be clearly stated that the majority of participants experienced minimal or mild levels of hopelessness (74%), while the proportion of individuals with severe hopelessness was relatively low (13%).

The relationship between the SF-36 QoL Scale sub-parameters and hopelessness levels in adults with CP were presented in Table 4. The analyses revealed statistically significant and negative correlations between hopelessness levels and the SF-36's sub-parameters of physical function, physical role, vitality, mental health, social health, and general health perception.

Notably, vitality and general health perception showed moderate to strong negative correlations with hopelessness. Conversely, no statistically significant relationship was found between hopelessness levels and the pain and emotional role sub-parameters.

Table 4. The Correlation Between the Sub-Parameters of the SF-36 QoL Scale and the Hopelessness Levels

SF-36 Sub Parameters	Physical Function	Physical Role	Emotional Role	Vitality	Mental Health	Social Health	Pain	General Health Perception
Hopelessness Levels	<i>P</i> .00*	.00	.01	.00	.00	.00	.23	.00
	<i>r</i> -0.38	-0.45	-0.34	-0.63	-0.41	-0.49	-0.16	-0.53

Significant difference, *P* value <.05.

QoL, quality of life; *r*, Spearman correlation coefficient; SF, Short Form.

Table 3. Hopelessness Level and Hopelessness Score of Adults with CP on the Beck Hopelessness Scale

Hopelessness Level	(n=54)	Yüzde (%)
Minimal (0-3 points)	22	40.7
Light (4-8 points)	18	33.3
Medium (9-14 points)	7	13
Severe (15-20 points)	7	13
Scale Total Score Average	Min.-Max.	X ± SD
	0-18	6.31±5.35

Max, maximum; Min, minimum; SD, standard deviation.

Discussion

This study provided a comprehensive description of the sociodemographic characteristics, QoL, and hopelessness levels of adults with CP—a population that has received limited research attention despite its growing size. Additionally, it examines the relationship between QoL and hopelessness in this group, highlighting an important yet understudied aspect of adult CP.

The most common type of CP is spastic. In individuals with spastic CP, spasticity, muscle weakness, and age-related development of muscle contractures and joint deformities lead to motor dysfunction and limitations in social roles, and this condition is associated with a decrease in QoL.¹⁷ In this study, spastic CP was the predominant clinical type among participants. This finding aligns closely with previous research, including reports by Dhondt et al¹⁸ and Sucuoglu.¹⁹ Spastic quadriplegia-type CP involving all 4 extremities was found to be the most common type of spastic-type CP.

Motor disorders in individuals with CP are often accompanied by sensory, perceptual, cognitive, communication, epilepsy, behavioral disorders, and secondary musculoskeletal system problems.²⁰ Approximately one-third of the participants had 4 or more problems accompanying CP. The existence of these multiple problems may be associated with the low general health perception, physical function, and physical role scores found in the study.

Strauss et al²¹ emphasized that preserving and enhancing mobility whenever feasible is a primary priority for supporting the well-being of adults with CP. Mobility is a factor that significantly affects various domains of QoL, primarily including physical role, social role, and emotional role.¹⁰ Mobility assistive devices are effective in reducing mobility limitations.²² The finding that a substantial portion of the participants in the study did not utilize any assistive devices is consistent with Avci's study (73.3%).²³ The research reported that a wheelchair is the most used assistive device, with a rate of 24.5%. In a study by Andersson and Mattsson,²⁴ a substantial proportion of adults with CP use manual or electric wheelchairs. The difference in the use of assistive mobility devices is related to GMFCS levels of the participants in the studies. Participants with GMFCS I and II do not use assistive mobility devices, but participants with GMFCS III, IV, and V use devices such as a standing frame, crutches, walkers, and wheelchairs. A manual or motorized wheelchair is generally preferred for mobility by adults with CP with GMFCS IV and V or their caregivers. In the research, approximately 25% of the participants of adults with CP used

a wheelchair. Jahnsen²⁵ reported this rate as 43%. As wheelchair use increases, CP may have more beneficial effects on individuals' social roles as domains of QoL. According to the research, some of the participants (8.8%) were not able to go out even once a week.

A substantial portion of participants received physiotherapy at least once a week. Individuals with CP receive 2 sessions of individual training per week in special education and rehabilitation centers in Türkiye.²⁶ Most of the participants (80.4%) had used or were still using special education and rehabilitation centers.

Huang et al²⁷ reported that the education level of adults with CP is an essential determinant of social participation and functioning. When the educational status of the participants was examined, almost half of the participants were illiterate. Avcı reported that the percentage of illiterate people was 30%, and Noten et al²⁸ reported that it was 8.9%.²³ The high rate of illiteracy in the study (40.2%) was likely linked to the high proportion (47.1%) of participants with intellectual disability, a common comorbidity that negatively affects the education level of individuals in this population.

Adults with CP who work in a job have a greater QoL than those who do not.²⁹ However, due to personal factors such as lack of gross and fine motor skills, mobility, fatigue, pain, depression, and work-related problems in individuals with CP, the rate of working at work is low.^{30,31} It was determined that a small part of the participants (21.58%) worked in a job. Avcı and Noten reported this rate higher (34% and 36.64%).^{23,28} In the research, the rate obtained was lower than that in those studies. This lower rate was likely because the study included all CP patients, including those with intellectual disability, who face greater barriers to employment.

A substantial proportion of adults with CP reported experiencing poor financial circumstances. Consequently, some individuals stated that they were obliged to engage in work despite their physical limitations.²³ More than half of the participants (58.8%) said they received economic aid from official institutions. The reliance on economic aid highlights the financial vulnerability of this population.

Intellectual disability, defined as an intelligence quotient score of 69 or below, is one of the most serious problems seen in CP and is encountered at a rate of 30%-50%.⁶ The research revealed that a similar rate of adults with CP had various levels of intellectual disability. Similarly, Bener reported a rate of 46% in her research investigating the factors affecting QoL in patients with CP, and Dhondt et al¹⁸ reported a rate of 45.1%.³⁰

The study yielded distinct mean scores across the SF-36 QoL Scale's subparameters for participants, providing a nuanced view of their perceived QoL. The QoL outcomes of adults with CP appeared to be particularly limited in the domains of physical functioning and physical role performance. This pattern suggested considerable difficulties in performing activities that required basic physical capacity and in meeting the physical demands of daily life. This situation may be related to the fact that the majority of the participants had the quadriplegic type of CP, which has a greater clinical impact among the CP subtypes. In contrast, the more favorable results observed in social functioning, emotional role performance, and pain-related domains indicated that individuals were relatively better able to maintain social participation, manage emotional demands, and cope with pain. Vitality and mental health occupied an intermediate position between the physical and social domains, reflecting that while energy levels and psychological well-being were influenced by physical limitations, they did not present an entirely negative picture. The comparatively lower perceptions of general health suggested that participants viewed their overall health status less favorably, likely due to the substantial impact of physical

restrictions on their health-related self-assessments. When compared with the findings of Gaskin & Morris, who investigated similar domains in a cohort of adults with CP, notable differences emerge in certain areas.³⁰ When the research of Gaskin and Morris was compared with the data obtained in the present study, although the participants' physical function scores in were much higher, their physical role scores were much lower.³⁰ This suggested that while the participants might have maintained a certain level of physical ability, they struggled significantly with limitations in fulfilling their expected physical roles.

In the literature review, there was no study examining the hopelessness of adults with CP. The feeling of hopelessness is one factor that negatively affects QoL.³² In this research, approximately one quarter of participants had a moderate to severe sense of hopelessness. A similar rate was determined by Ciuffini et al³³ in their study on epilepsy patients, which is another neurological disease. Telci et al³⁴ reported that increased physical activity limitations were associated with higher hopelessness scores. Accordingly, the low Physical Role scores found in the participants were significantly correlated with higher levels of hopelessness.

According to the study, QoL was correlated with hopelessness across many factors (physical function, physical role, social health, vitality, mental health, and general health perception). This correlation suggested that a lower perceived QoL in adults with CP was strongly associated with an increased sense of hopelessness. The strong negative correlation found between vitality and hopelessness specifically indicates that emotional energy and perceived well-being were key factors linked to an individual's sense of hope.

Current research on individuals with CP focused on the development and maintenance of motor skills. However, studies addressing the emotional impact of CP were limited. Furthermore, studies on the sociodemographic characteristics and QoL of adults with CP are quite scarce. In this context, the study aimed to fill these gaps and is expected to contribute to the development of the International Core Set of Functioning, Disability, and Health for adults with CP.

Strengths and Limitations

This study is among the first to provide data on the relationship between QoL and hopelessness in this population, underscoring the need for comprehensive support services that address both functional independence and psychosocial well-being.

Due to the COVID-19 pandemic, some participants participated in the survey by phone, while others participated in person. There might have been a difference in the reliability of the responses between these 2 practices. The restrictions during the COVID-19 pandemic prevented us from reaching more participants. Although an attempt was made to reduce this effect by conducting phone interviews, the impact of this measure was limited.

Conclusion

This study reveals the complex challenges faced by adults with CP, such as multiple comorbidities, limited mobility, low educational attainment, and reduced employment opportunities. The findings demonstrate that adults with CP experience significant QoL limitations in the domains of physical functioning, physical role, general health perceptions, and vitality. Hopelessness is observed in a substantial proportion of adults with CP and is associated with lower QoL.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

Artificial Intelligence Usage Statement: The authors declared that no Artificial Intelligence tool was used in the preparation of the manuscript.

Ethics Committee Approval: Ethical committee approval was received from the Kütahya Health Sciences University Non-Interventional Clinical Research Ethics Committee (Approval no: 2020/17-08, Date: December 16,2020).

Informed Consent: Written informed consent was obtained from the patients/patient who agreed to take part in the study.

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References

- Serdaroğlu A, Cansu A, Ozkan S, et al. Prevalence of cerebral palsy in Turkish children between the ages of 2 and 16 years. *Dev Med Child Neurol.* 2006;48(6):413-416. [CrossRef]
- Subaşı İÖ, Bingöl İ, Yaşar NE, et al. Prevalence, incidence, and surgical treatment trends of cerebral palsy across Türkiye: a nationwide cohort study. *Children (Basel).* 2023;10(7):1182. [CrossRef]
- McIntyre S, Goldsmith S, Webb A, et al. Global prevalence of cerebral palsy: a Systematic Analysis. *Dev Med Child Neurol.* 2022;64(12):1494-1506. [CrossRef]
- Bjornson KF, Belza B, Kartin D, et al. The relationship of physical activity to health status and quality of life in cerebral palsy. *Pediatr Phys Ther.* 2008;20(3):247-253. [CrossRef]
- Petranovich CL, Sarmiento CA, Glaros C, Friedman H, Brenner LA, Dorsey Holliman B. A qualitative study of the social and emotional needs of adults with cerebral palsy: "it's a terrible gap." *Disabil Rehabil.* 2025;47(25):6655-6662.
- Zaffuto-Sforza CD. Aging with cerebral palsy. *Phys Med Rehabil Clin N Am.* 2005;16(1):235-249. [CrossRef]
- Roebroeck ME, Jahnsen R, Carona C, et al. Adult outcomes and lifespan issues for people with childhood-onset physical disability. *Dev Med Child Neurol.* 2009;51(8):670-678. [CrossRef]
- Kerem Günel M, Anlar B. Serebral palsi multidisipliner yaklaşım. 2015;208:305-318.
- Elbasan B. Pediatrik Fizyoterapi ve Rehabilitasyon: Serebral Palside Fizyoterapi ve Rehabilitasyon. 2nd ed *Istanbul Tıp.* Ankara; 2018:89-126.
- Tarsuslu T, Livanelioğlu A. Relationship between quality of life and functional status of young adults and adults with cerebral palsy. *Disabil Rehabil.* 2010;32(20):1658-1665. [CrossRef]
- Krakovsky G, Huth MM, Lin L, et al. Functional changes in children, adolescents, and young adults with cerebral palsy. *Res Dev Disabil.* 2007;28(4):331-340. [CrossRef]
- Weber P, Bolli P, Heimgartner N, et al. Behavioral and emotional problems in children and adults with cerebral palsy. *Eur J Paediatr Neurol.* 2016;20(2):270-274. [CrossRef]
- Öz F. Ümit ve ümitsizlik. In: *Sağlık Alanında Temel Kavramlar.* Ankara; vol 2; 2010:189-218.
- Doğan S, Kelleci M. Hopelessness level of inpatients for some physical illness. *Florence Nightingale J Nurs.* 2004;13(52):23-37.
- Koçyiğit H, Aydemir Ö, Fişek G, et al. SF-36'nın Türkçe için güvenilirliği ve geçerliliği. *İlaç Tedavi Derg.* 1999;12:102-106.
- Seber G, Dilbaz N, Kaptanoğlu C, et al. Umutsuzluk ölçeği: Geçerlilik ve güvenilirliği. *Kriz Derg.* 1998;1(3):1-4. [CrossRef]
- Poon DMY, Hui-Chan CWY. Hyperactive stretch reflexes, co-contraction, and muscle weakness in children with cerebral palsy. *Dev Med Child Neurol.* 2008;51(2):128-135. [CrossRef]
- Dhondt E, Dan B, Plasschaert F, et al. Prevalence of cerebral palsy and factors associated with cerebral palsy subtype: a population-based study in Belgium. *Eur J Paediatr Neurol.* 2023;46:8-23. [CrossRef]
- Sucuoglu H. Demographic and clinical characteristics of patients with cerebral palsy. *Istanbul Med J.* 2018;19(3):219-224. [CrossRef]
- Rosenbaum P, Paneth N, Leviton A, et al. A report: the definition and classification of cerebral palsy April 2006. *Dev Med Child Neurol Suppl.* 2007;109:8-14. [CrossRef]
- Strauss D, Ojdana K, Shavelle R, et al. Decline in function and life expectancy of older persons with cerebral palsy. *Neurorehabilitation.* 2004;19(1):69-78. [CrossRef]
- Rodby-Bousquet E, Hägglund G. Use of manual and powered wheelchair in children with cerebral palsy: a cross-sectional study. *BMC Pediatr.* 2010;10:59. [CrossRef]
- Avcı B. *Evaluation of functional state and life quality of cerebral palsy cases in adults.* Master's thesis. Halic University; 2017.
- Andersson C, Mattsson E. Adults with cerebral palsy: a survey describing problems, needs, and resources, with special emphasis on locomotion. *Dev Med Child Neurol.* 2001;43(2):76-82. [CrossRef]
- Jahnsen R, Villien L, Egeland T, et al. Locomotion skills in adults with cerebral palsy. *Clin Rehabil.* 2004;18(3):309-316. [CrossRef]
- Gazete R. *Özel Eğitim Hizmetleri Yönetmeliğinde Değişiklik Yapılmasına Dair Yönetmelik;* 2019. Accessed December 6, 2025.
- Huang IC, Wang YT, Chan F. Employment outcomes of adults with cerebral palsy in Taiwan. *Disabil Rehabil.* 2012;35(3):228-235. [CrossRef]
- Noten S, Rodby-Bousquet E, Limsakul C, et al. An international clinical perspective on functioning and disability in adults with cerebral palsy. *Disabil Health J.* 2022;15(3):101318. [CrossRef]
- Evirgen M. The Comparison of Functional Independency, Quality of Life and Depression Levels of Employed and Unemployed Cerebral Palsy Individuals. *J Exerc Ther Reh.* 2018;5:3-3.
- Bener MN. *Factors that affect the life quality in patients with cerebral palsy.* Master's thesis. Sağlık Bilimleri University; 2019.
- Gaskin CJ, Morris T. Physical activity, health-related quality of life, and psychosocial functioning of adults with cerebral palsy. *J Phys Act Health.* 2008;5(1):146-157. [CrossRef]
- Mystakidou K, Tsilika E, Parpa E, et al. The relationship between quality of life and levels of hopelessness and depression in palliative care. *Depress Anxiety.* 2008;25(9):730-736. [CrossRef]
- Ciuffini R, Stratta P, Rossi R, et al. Hopelessness in persons with epilepsy: relationship with demographic, clinical, and social variables. *Epilepsy Behav.* 2019; 1525-5050;100(A):106383. [CrossRef]
- Telci EA, Yaraf F, Cavlak U, et al. Comparison of musculoskeletal pain distribution, quality of life and hopelessness level in mothers with disabled children in different ambulation levels. *J Back Musculoskelet Rehabil.* 2018;31(2):305-313. [CrossRef]