

Correlation between Socioeconomic Status and Quality of Life in Cerebral Palsy Children between 4 to 12 Years of Age

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Abstract

Aim and Objective: To analyze the correlation of socio-economic status and quality of life of cerebral palsy children.

Methodology: 98 subjects of age group “4-12” were selected. They were briefly interviewed by their age, sex and socioeconomic status.

Results: It was statistically analyzed and it was found that there is positive and significant correlation between socioeconomic status and quality of life.

Conclusion: Quality Of Life of patients with cerebral palsy depends on socioeconomic status of family

Keywords: CPQOL (Cerebral Palsy Quality of Life Questionnaire), SES (Socioeconomic Status), CP (Cerebral Palsy).

Introduction

The term cerebral palsy refers to a number of disorders of movement and posture that are due to a nonprogressive abnormality of the immature brain⁽¹⁾. It is a static motor impairment, occurring during the prenatal, perinatal, or postnatal period with associated handicaps that may include vision and auditory deficits, seizures, mental retardation, learning disabilities, feeding, speech and behavior problems. Cerebral palsy influences the way children develop, it is known as a developmental disability. Because the disability is primarily motor

in nature, it is distinguished from conditions such as organic brain deficits, autism, emotional disorders or mental retardation syndromes. Socioeconomic status is evaluated as a combination of factors including Income, level of Education and Occupation. It is a way of looking at how individuals or families fit in to society using economic and social measures that have been shown to impact individual's health and wellbeing⁽²⁾. Socioeconomic status is typically broken into three categories, high socioeconomic status, middle socioeconomic status and low socioeconomic status to describe the three areas a family or an individual may fall into. According to WHO quality of life as individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is broad ranging concept affected in a complex way by the person's physical health, psychological state, level of relationships, personal beliefs and their relationships to salient features of their environment⁽³⁾. In such environmental context, a family's socioeconomic status may likely have an impact

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on these children's functional mobility opportunities, as families from a higher socioeconomic status may have resources that allow them to obtain various mobility devices, thus supporting functional mobility in different environments. Children from high socioeconomic levels used a wheelchair more frequently and crawled less frequently for mobility compared to those from the low socioeconomic group, which reported lower frequency of wheelchair use and higher frequency of crawling⁽⁴⁾. Aim of the study is to analyze the correlation of socioeconomic status and quality of life of cerebral palsy children.

Methodology

A. Research Design: Correlational study, (survey)

- Independent variable-Kuppuswamy socioeconomic status scale
- Dependent variable-Cerebral palsy quality of life questionnaire

B. Subject Design:

Subject Size: 98 subjects

Source of Subject: Amar jyoti rehabilitation centre New Delhi, HCRA Delhi, Gzb, Saksham special school Ghaziabad.

Sample Design: Convenience sampling.

Inclusion Criteria:

1. Parents of children with cerebral palsy.
2. Age group 4 -12 years.
3. Both gender

Exclusion Criteria:

1. Children with Autism
2. Behavioral problems like ADD and ADHD.

C. Outcome Measure:

1. Kuppuswamy socioeconomic status scale
2. CPQOL Questionnaire Parent Proxy Version.

D. Procedure:

1. Study was explained to parents and caregivers of cerebral palsy children.

2. Informed consent was taken from the parents and caregivers which are recruited from special schools and NGO's located in Delhi and Ghaziabad.
3. General information of each candidate to be taken and pertaining to identification data and detailed assessment of socioeconomic status and quality of life administered using standardized outcome measures – Kuppuswamy socioeconomic scale and Cerebral palsy quality of life questionnaire for children.
4. The detailed assessment was taken of 98 subjects. Master chart was formed and analyzed using STATISTICA software.

Data Analysis: The continuous data were summarized as Mean \pm SD while discrete (categorical) in numbers and percentage (%). Pearson correlation analysis was used to assess association between SES and QOL. A $p < 0.05$ was considered statistically significant. All analyses were performed on STATISTICA software (Windows version 6.0).

Results

A. Basic Characteristics: The present study evaluates the correlation between socio-economic status (SES) and quality of life (QOL) in 4 to 12 yrs cerebral palsy children. A total of 98 convenient children either sex were recruited. The demographic characteristics (age and gender), SES and QOL score of all recruited children are summarized in Table 1

The age of all cerebral palsy children ranged from 4-12 yrs with mean (\pm SD) 7.52 ± 2.56 yrs. Among children, mostly males (67.3%), mostly belong to Upper middle class (42.9%) followed by Lower middle class (21.4%), Upper lower (19.4%) and Upper the least (16.3%).

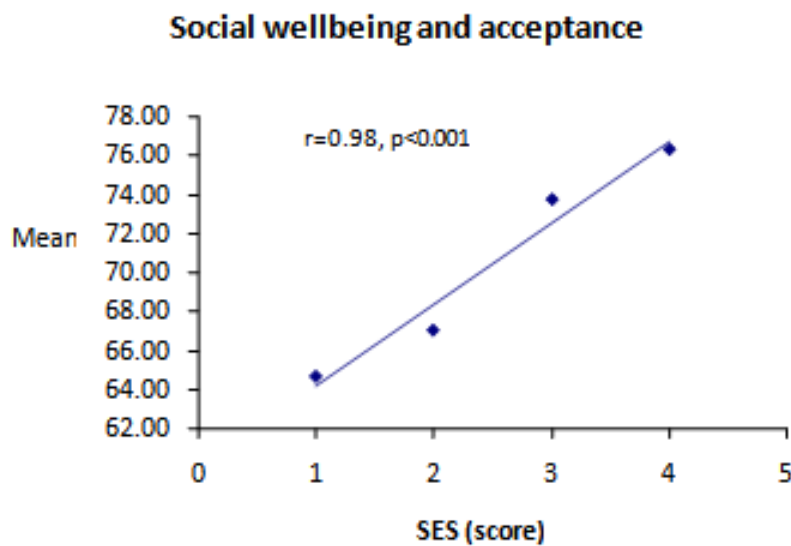
Similarly, in all cerebral palsy children, the mean score of QOL of Social wellbeing and acceptance (SWB) was the highest (70.94 ± 8.88) while Pain & impact of disability (PID) was the least (38.76 ± 19.05). The mean overall quality life (OQOL) score of all children was 56.07 ± 10.19 .

Table 1: Basic demographic, SES and QOL score of cerebral palsy children

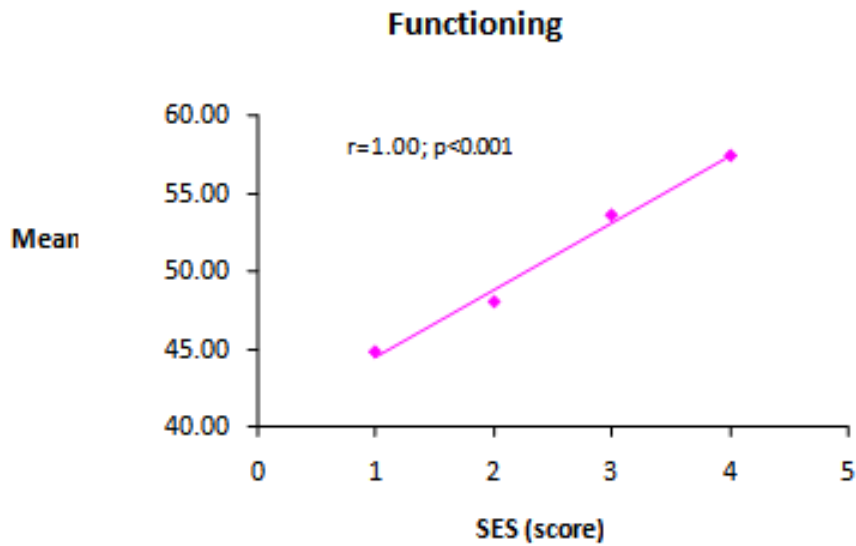
Characteristics	Variables	Statistics
Demographic	Age (Yrs)	7.52 ± 2.56
	Gender:	
	Males Females	66 (67.3%) 32 (32.7%)
SES	Upper	16 (16.3%)
	Upper middle	42 (42.9%)
	Lower middle	21 (21.4%)
	Upper lower	19 (19.4%)
QOL	Social wellbeing and acceptance	70.94 ± 8.88
	Functioning	51.31 ± 11.14
	Participation and physical health	51.12 ± 16.52
	Emotional wellbeing	64.78 ± 9.45
	Access to services	51.38 ± 14.19
	Pain and impact of disability	38.76 ± 19.05
	Family health	64.19 ± 20.96
	Overall QOL	56.07 ± 10.19

B. Correlation between SES (scores) and QOL in cerebral palsy children: To see the correlation (association) between SES and QOL, the mean scores of QOL parameters were further correlated with SES scores (Upper lower=1, Lower middle=2, Upper middle=3, Upper=4) by Pearson correlation analysis and summarized in Table 2 The QOL parameters SWB (r=0.98), FUNC (r=1.00), PID (r=0.95) and FH (r=0.94) showed significant and

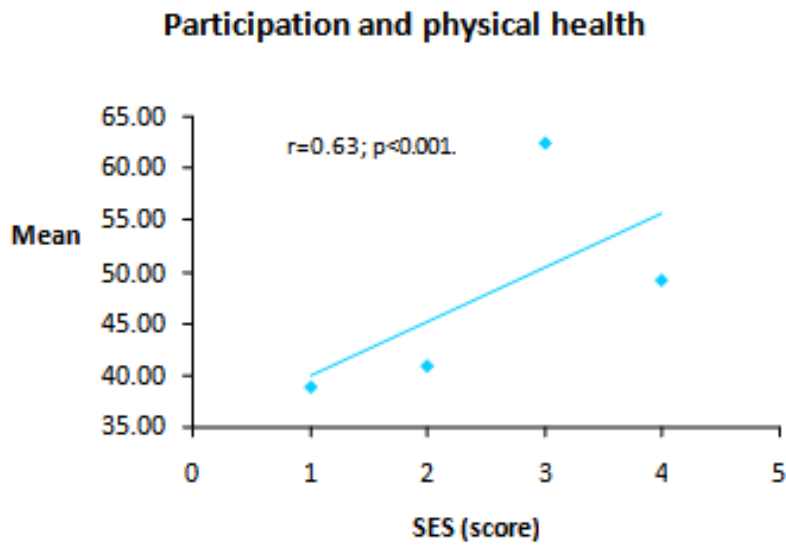
positive (direct) correlation with SES. Conversely, though both PPH (r=0.63) and AS (r=0.85) also show high correlation with SES but did not reach statistical significance. In conclusion, QOL (r=0.97) showed significant and direct association with SES. A positive correlation was analysed in SES and all variables of QOL(Graph1 to 5) implies that for an increase in the value of one of the variables, the other variable also increase in value



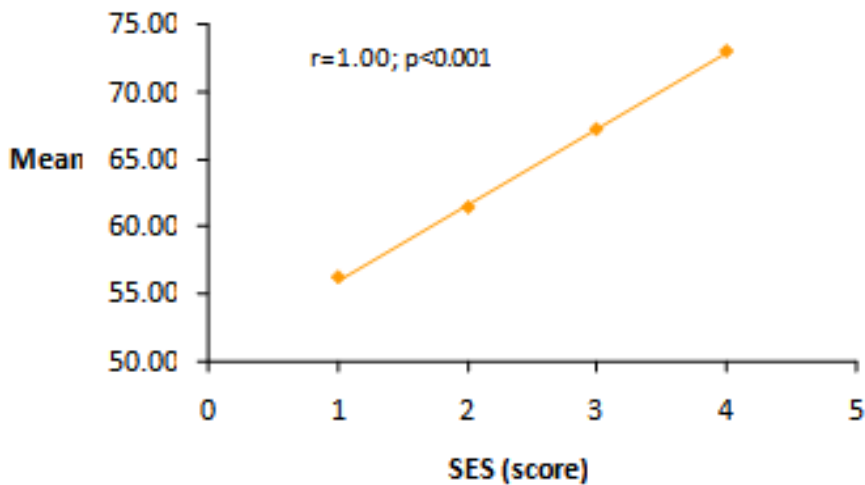
Graph. 1. Correlation between SES and SWB in cerebral palsy children.



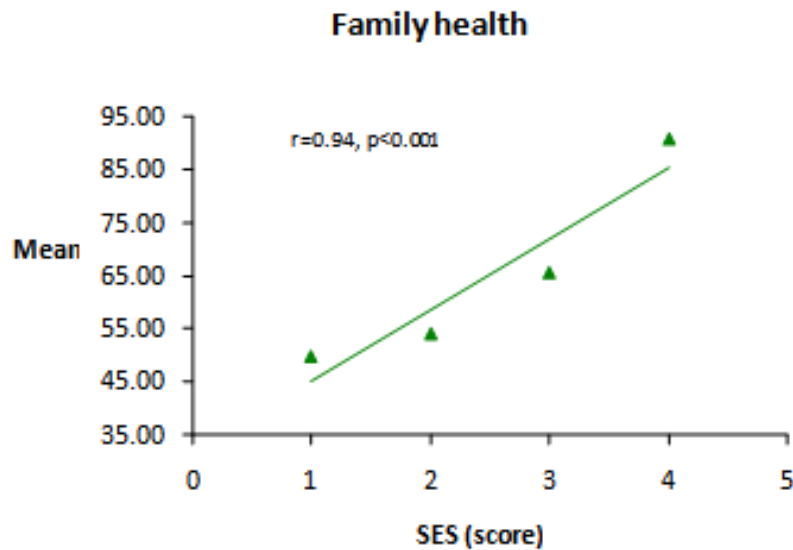
Graph. 2. Correlation between SES and FUNC in cerebral palsy children.



Graph. 3. Correlation between SES and PPH in cerebral palsy children.



Graph. 4. Correlation between SES and EWB in cerebral palsy children.



Graph. 5. Correlation between SES and FH in cerebral palsy children.

Discussion

Correlation between socioeconomic status and quality of life was done by using one way analysis of variance (ANOVA). 98 subjects were included in survey with SD of age 7.52 ± 2.56 and percentage of males and females were 67.3% & 32.7% respectively. Pearson correlation coefficient was calculated and result showed positive correlation between socioeconomic status and quality of life which means a one variable increases other will also increases. p value was calculated & was found to be 0.001 and also done correlation between socioeconomic status and all parameters of quality of life questionnaire which are participation and physical health, social wellbeing & acceptance, family health, functioning, access to services, emotional wellbeing & self-esteem and pain and impact of disability.

Correlation of participation and physical health with socioeconomic status showed there is positive correlation between participation and physical health and socioeconomic status which was supported by Kathryn N. Parkinson et.al 2011⁽⁵⁾. In their study both children and parents emphasized the importance of siblings and friend as companions but parents also tended to focus on how their child got frustrated at being unable to physically participate in the ways that nondisabled children could. Parents tried hard to facilitate their child social life often expending much effort in the process. Parents and children emphasized the discomfort and distress that medical and therapeutic procedures could

also the amount of the time spent and attending hospital visits is distressful and bothered.

Social wellbeing and acceptance was correlated along with emotional wellbeing & self-esteem both of them showed positive association with socioeconomic status. Functioning with socioeconomic status reflected positive correlation. because of the person's belonging to higher socioeconomic status they afford higher technologies and regular treatment

Access to services with socioeconomic status reflected positive correlation which was supported by Valeria. C.R in 2012⁽⁴⁾ that could be because the lower income group people cannot afford wheelchair for mobility more often than higher income group due to greater challenges in architectural modification, restricting the use of wheelchair for mobility at home. Pain and impact of disability with socioeconomic status also showed positive correlation.

Family health with socioeconomic status showed that there is positive correlation which was supported by Elise Davis et.al 2009⁽⁶⁾ that parents referred to the importance of the financial resources in caring for their children to fund therapist, medical intervention an equipment they further indicated that being financial stable enough to meet all of their children's need. Play a major role in their own coping and the Quality of life of their adolescent. This statement was contraindicated by Catherine Arnauld et.al 2007⁽⁷⁾ stated that the

socioeconomic determinants were associated weakly with quality of life. The explanation may be that a parent with higher levels of education tends to have higher expectations for their child and the difference between those expectations and reality influences their child's quality of life negatively. This will help to preparing the goals in the form of Rehabilitative and Compensatory approach according to the need of patients along with respect of socioeconomic status.

Limitations:

1. Groups of analysis in socioeconomic status cannot be done.
2. In this study taken two scales used for two different variables, more scales can be used which have more sensitivity with higher reliability values

Conclusion

The study identifies the socioeconomic status with relation of quality of life in cerebral palsy children. This study suggests that lower economic or uneducated group of cerebral palsy children is associated with poor quality of life. Socioeconomic status and quality of life reflected positive relationship between the two variables and which was supported alternative hypothesis

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance: Observational study; informed consent were taken from all subject.

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