

RESEARCH ARTICLE

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Factors influencing the parent's attendance to regular physiotherapy follow-up intervention for their children with cerebral palsy at a specialized rehabilitation center in Bangladesh: A descriptive survey

Ruksana Akter, Shameem Ahammad, Rajib Hasan,
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ABSTRACT

Aims: The aim of the study was to find out the factors that influencing parents' attendance to physiotherapy follow-up intervention for their children with Caring a child with cerebral palsy (CP) at a rehabilitation center in Bangladesh. Caring a child with CP requires the parents to be more responsible than the typical children. Routine physiotherapy and follow-up sessions are also considered as the major duties for them. As the rehabilitation takes time, not all parents can maintain the continuity. As a result, the child becomes vulnerable to be permanently disabled for the rest of his/her lives.

Methods: This was a quantitative cross-sectional survey where data were collected through face-to-face interview. By convenience sampling 105 data were collected from Centre for the Rehabilitation of the Paralysed (CRP) and deposited for analysis.

Result: Age categories show most prominent child's age is 6–10 years which comprises 68.6% (n=72). Male shows 9.5% (n=10) and female shows 90.5% (n=95). Parents completed masters as their highest education, where father 9.6% (n=10) and mother 5.7% (n=6). Among four categories of factor analysis we found in category one where attitude seems strong association with education ($p=70.37$, $x=0.000$), physiotherapy (PT) co-operation ($p=36.46$, $x=0.006$), improvement from initial treatment (Rx) ($p=59.36$, $x=0.000$), PT experience ($p=44.05$, $x=0.001$), equipment uses for Rx ($p=41.83$, $x=0.001$). Environment of the organization ($p=42.26$, $x=0.001$), service delivery system of the organization ($p=45.45$, $x=0.005$), Rx fees of the organization ($p=49.43$, $x=0.002$), home exercise log book form organization does not seem correlation ($p=17.62$, $x=0.481$). Mothers' education strongly associated with every category. Fathers' occupation seemed poorly correlate with the categories two and three; however, there are strong correlation with category one of physiotherapist interpersonal skill ($p=33.56$, $x=0.004$), category three seemed treatment fees of the organization ($p=31.90$, $x=0.044$). Mothers' occupation found poorly correlate with categories one, three, and four, however, category two found strong correlation with physiotherapy co-operation ($p=14.97$, $x=0.020$), improvement from initial treatment ($p=22.81$, $x=0.004$), physiotherapy experience ($p=20.15$, $x=0.003$), equipment used for treatment ($p=16.10$, $x=0.013$). We did not find any strong association with marital status.

Conclusion: This study helps us to explore the real influencing factor that is responsible for CP child's parents to come to CRP for physiotherapy follow-up

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which is helpful to comply with the organizational policy or physiotherapist patient follow-up policy.

Keywords: Cerebral palsy, Factor influencing parents, Follow-up, Physiotherapy

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INTRODUCTION

Cerebral palsy (CP) children turn burdensome for most of the families in Bangladesh, they used to live in four walls and the majority of the times their families suffer devastating financial problems to take care of them. Cerebral palsy is resulting from brain injury before cerebral development and it is happened during the prenatal, perinatal, or postnatal period [1, 2]. It is estimated that global incidence between 2 and 3 per 1000 live birth [3] and the prevalence of child disability in Bangladesh both rural and urban is 70/1000 among 2–9 years old who have all grades of severity and 22/1000 who suffers serious disability [4]. As CP children suffer a lot, the family members especially mothers undergo a lot of familial, social, and emotional difficulties [5]. To deal with the problem of chronic medical conditions and the types of disability, a multidisciplinary team (MDT) approach is needed to do medical and rehabilitation services [6]. As it is a slowly progressive disease so parents' motivation is the prerequisite for child improvement. In Bangladesh different government [7] and non-government [8] organizations took initiatives to provide quality service for CP children, not only that but also they continuously doing awareness programs among parents and different media. Centre for the Rehabilitation of the Paralyzed (CRP) carried out its therapy service from its initial setup, this organization provides 15 days of indoor service for CP where the main focus is to educate the mother about the conditions of the child as well as how to maintain the child with daily-based therapy at home. It provides the follow-up books and graphical presentations of treatment procedures that they follow at their homes. The evidence said that physiotherapy plays an important role in strengthening the muscular balance and physical

fitness especially the strengthening program [9, 10] of CP children. Though the standard service is being provided; however, the main aim of this research is to know the reason behind, which makes parents come with their children for receiving the physiotherapy treatment.

MATERIALS AND METHODS

Methods

This research is a quantitative cross-sectional survey where data were collected through face-to-face interview.

Study place

Centre for the Rehabilitation of the Paralyzed is one of the largest tertiary levels of rehabilitation center in Southeast Asia which receives referrals from different hospitals from all over Bangladesh. It provides 15 days indoor treatment for pediatric child where MDT approach also maintained.

Data collection, management, and analysis

Data have been collected from the duration of one year from CRP indoor. A structured questionnaire has been deployed by preparing with Bangla format for easy understanding of the participants. A pilot study was performed for pre-testing the questionnaire. Here our aim is to receive the general impression of the parent's not detailed examination of their attitudes. The questionnaire was structured with absolute and relative measure of the items. All the data kept secure and the analysis was done with using SPSS version 20. Descriptive analysis performs to find out the demographic profile and cross-tabulation between independent and dependent variables to explore the association.

RESULTS

Among 105 respondents, age category shows 0–5 years comprises 24 (22.9), 6–10 years comprises 72 (68.6%), and 11–15 years comprises 9 (8.6%). Male shows 10 (9.5) and female shows 95 (90.5). Fathers' highest education showed masters 10 (9.6) and lowest was illiterate 6 (5.7%), most of them passed Higher Secondary Certificate (HSC) means 33 (31.4%). Mothers' highest education showed masters 6 (5.7) and lowest educational background was illiterate 6 (5.7%), most of them were passed the Secondary School Certificate (SSC) 38 (36.2%). Fathers' occupation showed that lion's portion involved with service which comprises 57 (54.3%) and businessmen were 23 (21.9%). Mothers' occupation showed that most of them were housewives 99 (94.3%).

Table 1 shows father's education is strongly associated with PT attitude ($p=70.37$, $x=0.000$), PT co-operation ($p=36.46$, $x=0.006$), improvement from initial Rx ($p=59.36$, $x=0.000$), F7: PT experience ($p=44.05$, $x=0.001$), F8: Equipment used for Rx ($p=41.83$, $x=0.001$), F9: Environment of the organization ($p=42.26$, $x=0.001$), F10: Service delivery system of the organization ($p=45.45$, $x=0.005$), F11: Rx fees of the organization ($p=49.43$, $x=0.002$), F12: Home exercise log book form organization does not seem correlation ($p=17.62$, $x=0.481$). Mothers' education strongly associated with every category. Fathers' occupation looked poorly correlate with the categories two and three; however, there were strong correlation with category one of physiotherapist interpersonal skill ($p=33.56$, $x=0.004$), in category three treatment fees of the organization ($p=31.90$, $x=0.044$). Mothers' occupation found poorly correlate with categories one, three, and four; however, category two found strong correlation with physiotherapy co-operation ($p=14.97$, $x=0.020$), improvement from initial treatment ($p=22.81$, $x=0.004$), physiotherapy experience ($p=20.15$, $x=0.003$), equipment used for treatment ($p=16.10$, $x=0.013$). We did not find any strong association with marital status.

DISCUSSION

Age category of children shows 0–5 years comprises 24 (22.9%), 6–10 years comprises 72 (68.6%), and 11–15 years comprises 9 (8.6%). Evidence shows that 4–16.7-year-old children in a randomized control trail reported positive changes after physical activity involvement four weeks after intervention [11]. Among parents male showed 10 (9.5%) and female showed 95 (90.5%). Fathers' highest education showed masters 10 (9.6%) and lowest was illiterate 6 (5.7%), most of them passed HSC means 33 (31.4%). Mothers' highest education showed masters 6 (5.7%) and lowest educational background was illiterate 6 (5.7%), most of them were passed the SSC 38 (36.2%). Fathers' occupation shows lion's portion involved with service which comprises 57 (54.3%) and businessmen were 23 (21.9%). Mothers' occupation showed most of them were housewives 99 (94.3%) (Table 2). Fathers' education was strongly associated with PT attitude ($p=70.37$, $x=0.000$), PT co-operation ($p=36.46$, $x=0.006$), improvement from initial Rx ($p=59.36$, $x=0.000$), PT experience ($p=44.05$, $x=0.001$), equipment uses for Rx ($p=41.83$, $x=0.001$). Environment of the

Table 1: Sociodemographic distribution and relationship with the category of define factors

		Number of participants, n (%)	Category 1					Category 2					Category 3			Category 4		
			F1 t/chi, p value	F2 t/chi, p value	F3 t/chi, p value	F4 t/chi, p value	F5 t/chi, p value	F6 t/chi, p value	F7 t/chi, p value	F8 t/chi, p value	F9 t/chi, p value	F10 t/chi, p value	F11 t/chi, p value	F12 t/chi, p value	F13 t/chi, p value	F14 t/chi, p value	F15 t/chi, p value	F16 t/chi, p value
Parents' gender	Male	10 (9.5)	2.79, 0.592	3.09, 0.377	1.12, 0.771	.506, 0.918	.59, 0.897	2.79, 0.593	1.67, 0.643	.523, 0.914	2.79, 0.425	2.64, 0.618	1.92, 0.749	2.44, 0.485	2.62, 0.453	4.39, 0.222	.93, 0.816	5.94, 0.114
	Female	95 (90.05)																
Fathers' education	Illiterate	6 (5.7)																
	Primary	13 (12.4)																
	SSC	30 (28.6)																
	HSC	33 (31.4)	70.37, 0.000	33.37, 0.015	32.69, 0.018	28.30, 0.058	36.46, 0.006	59.36, 0.000	44.05, 0.001	41.83, 0.001	42.26, 0.001	45.45, 0.005	49.43, 0.002	17.62, 0.481	36.25, 0.007	36.93, 0.005	42.30, 0.001	45.22, 0.000
	Bachelor	13 ()																
	Masters	9 ()																
	Others	1 ()																
Mothers' education	Illiterate	6 (5.7)																
	Primary	19 (18.1)																
	SSC	38 (36.2)	92.63, 0.000	61.91, 0.000	105.50, 0.000	50.69, 0.000	61.60, 0.000	74.41, 0.000	55.72, 0.000	58.56, 0.000	66.32, 0.000	87.94, 0.000	61.95, 0.000	35.95, 0.002	32.99, 0.005	59.26, 0.000	60.21, 0.000	83.35, 0.000
	HSC	27 (25.7)																
	Bachelor	9 (8.6)																
Fathers' occupation	Masters	6 (5.7)																
	Service holder	57 (54.3)																
	Farmer	5 (4.8)																
	Businessman	23 (21.9)	24.42, .224	20.16, 0.166	33.56, 0.004	20.20, 0.164	23.95, 0.066	31.79, 0.046	11.73, 0.699	14.78, 0.46	18.91, 0.218	32.12, 0.042	31.90, 0.044	14.56, 0.481	23.24, 0.079	17.51, 0.310	14.95, 0.455	17.33, 0.300
	Laborer	11 (10.5)																
	Day laborer	2 (1.9)																
Mothers' occupation	Others	7 (6.7)																
	House wife	99 (94.3)																
	Service holder	5 (4.8)	6.76, 0.562	7.0, 0.320	7.54, 0.273	14.92, 0.021	14.97, 0.020	22.81, 0.004	20.15, 0.003	16.10, 0.013	8.92, 0.178	12.03, 0.150	11.68, 0.166	13.14, 0.041	14.94, 0.021	12.16, 0.058	8.01, 0.237	14.97, 0.020
	Teacher	1 (1.0)																
Marital status	Married	103 (98.1)																
	Widow	1 (1.0)	7.02, 0.534	6.21, 0.391	6.75, 0.344	3.05, 0.802	7.85, 0.249	10.72, 0.218	10.53, 0.104	9.44, 0.150	7.85, 0.249	8.76, 0.362	3.05, 0.931	3.59, 0.731	3.96, 0.681	4.44, 0.616	4.86, 0.561	7.61, 0.267
	Separation	1 (1.0)																

Table 2: Sociodemographic distribution (n: 105)

		Frequency	Percent
Child age category	0–5	24	22.9
	6–10	72	68.6
	11–15	9	8.6
Parents gender	Male	10	9.5
	Female	95	90.5
Fathers’ education	Illiterate	6	5.7
	Primary	13	12.4
	SSC	30	28.6
	HSC	33	31.4
	Bachelor	13	12.4
	Masters	10	9.6
Mothers’ education	Illiterate	6	5.7
	Primary	19	18.1
	SSC	38	36.2
	HSC	27	25.7
	Bachelor	9	8.6
	Masters	6	5.7
Fathers’ occupation	Service holder	57	54.3
	Farmer	5	4.8
	Businessman	23	21.9
	Laborer	11	10.5
	Day laborer	2	1.9
	Others	7	6.7
Mothers’ occupation	Housewife	99	94.3
	Service holder	5	4.8
	Teacher	1	1.0
Marital status	Married	103	98.1
	Widow	1	1.0
	Separation	1	1.0
Monthly income of family	Worse	14	13.3
	Moderate	38	36.2
	Good	44	41.9
	Very good	9	8.6

organization ($p=42.26$, $x=0.001$), service delivery system of the organization ($p=45.45$, $x=0.005$), Rx fees of the organization ($p=49.43$, $x=0.002$), home exercise log book form organization does not seem correlation ($p=17.62$, $x=0.481$). Mothers’ education strongly associated with every category. A study shows higher the education has higher the chances of appointment whereas lower the educational status had not attended their appointment [12].

A perception study shows 13 parents faced problem with arranging money, time, and regular follow-up where 17 parents were satisfied [13]. Fathers’ occupation looked poorly correlate with the categories two and three; however, there are strong correlation with category one of physiotherapist interpersonal skill ($p=33.56$, $x=0.004$), in category three treatment fees of the organization ($p=31.90$, $x=0.044$). Mothers’ occupation found poorly correlate with categories one, three, and four; however,

category two found strong correlation with physiotherapy co-operation ($p=14.97$, $x=0.020$), improvement from initial treatment ($p=22.81$, $x=0.004$), physiotherapy experience ($p=20.15$, $x=0.003$), equipment used for treatment ($p=16.10$, $x=0.013$). We did not find any strong association with marital status.

CONCLUSION

This study helps us to explore the influencing factor that is responsible for CP child’s parents to come for physiotherapy follow-up which is helpful to comply with the organizational policy. As this study is done with single centered, for better result if it is done with multiple centers with more data then the result could be more vibrant and acceptable by any policy maker and for organization get the proper direction.

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Author Contributions

Ruksana Akter – Conception of the work, Design of the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Shameem Ahammad – Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Final

approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Rajib Hasan – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Guarantor of Submission

The corresponding author is the guarantor of submission.

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Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

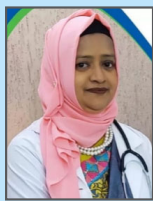
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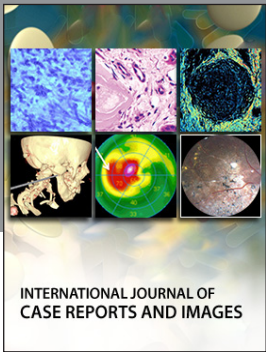
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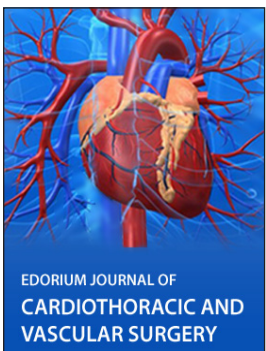
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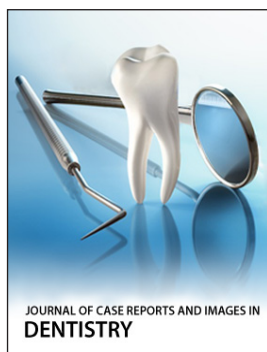
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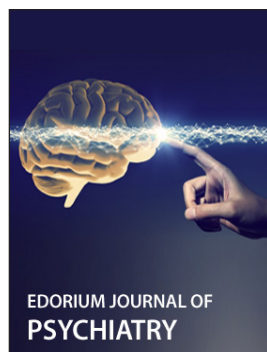
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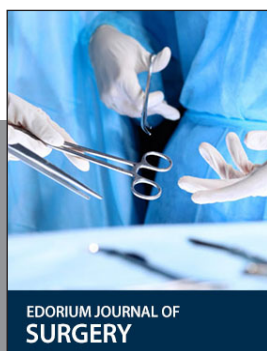
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