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Socio-Demographic Characteristics and Presenting Complaints among children with Behavioural Disorders Attending a Tertiary Care Hospital in Colombo, Sri Lanka

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ABSTRACT

Children's behavioural disorders, which range from moderate defiance to severe disorders such as attention deficit hyperactivity disorder (ADHD), have a profound impact on their emotional, social, and intellectual development. While developed countries have established systems for early identification and intervention, low- and middle-income countries (LMICs), such as Sri Lanka, confront significant obstacles in addressing these concerns. Limited resources, cultural stigma, and limited understanding worsen the situation. The purpose of this study is to describe the sociodemographic characteristics and presenting complaints of behavioural disorders among children attending a child guidance clinic in Colombo. A cross-sectional study was conducted at the Child and Adolescent Clinic of Lady Ridgeway Hospital for Children in Colombo (LRH). The study included 183 parents or caregivers of children aged 5–18 years, selected through systematic sampling, who had confirmed diagnoses of behavioural disorders and were under continued clinical follow-up. A standardised questionnaire administered by an interviewer was used to assess behavioural disorders and sociodemographic factors. Descriptive statistics and cross-tabulations were used to uncover patterns and relationships between behavioural disorders and various socio-demographic characteristics. A total of 183 children aged 5 to 18 years (M = 10.42, 95% CI: 9.98–10.86) participated in the study. The majority were male (72.7%) and from the Colombo district (51.9%). Most children were in middle childhood (8–12 years; 56.3%), and 69.4% belonged to nuclear families. Behavioural issues were the most common presentation (93.4%), followed by poor academic performance (35.0%), school refusal (24.0%), and hyperactivity (23.5%) of children who had a diagnosis of a behaviour disorder. Family structure showed a significant association with hyperactivity ($p = 0.010$). Poor academic performance was seen in about one-third of the children, without significant demographic differences.

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Overall, the findings indicate that behavioural challenges were the most common presenting complaint. The association of hyperactivity with family structure warrants future investigation. It would be important to collect nationwide data, to better understand the trends in order to help establish a national plan that includes comprehensive intervention measures. In the setting of limited resources, such data will help to build multi-layered care models that incorporate existing community services to enhance outcomes for Sri Lankan children with behavioural disorders.

Keywords: *Behavioural disorders, Children, Socio-demographic factors, Sri Lanka*

1. Introduction

Children's behavioural disorders, ranging from mild defiance to severe disorders such as ADHD and conduct disorders, can have a significant impact on their emotional, social, and intellectual development. These challenges not only impede the child's development, but also put a significant load on families, schools, and communities. Early intervention is acknowledged as critical in dealing with these issues, particularly in industrialised countries where integrated medical, educational, and social services efficiently address these obstacles (Rutter & Sroufe, 2000; Moffitt et al., 2001). Behaviour disorders in children and adolescents refer to persistent patterns of oppositional, aggressive, or socially disruptive behaviour that significantly interfere with functioning at home, school, or in peer relationships. These conditions include Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD), which involve ongoing defiance, irritability, aggression, and violation of societal norms beyond what is expected for age and development. Early assessment and intervention are crucial to prevent long-term academic, social, and mental health difficulties. (Goodman, R., & Scott, S. 2012).

In contrast, low- and middle-income countries (LMICs) confront significant difficulties in addressing childhood behavioural issues. Limited healthcare resources, social stigma, and a lack of awareness frequently impede early detection and intervention (Patel et al., 2007). Sri Lanka's healthcare system provides some assistance, but it is not fully equipped to meet the complex needs of children with behavioural issues. The lack of a solid social care system exacerbates the problem, leaving many children without the assistance they require to thrive.

Given these challenges, there is an urgent need for multi-layered models of care in LMICs, integrating existing medical, educational, and social services (Kieling et al., 2011). This study attempts to close this gap by investigating the incidence of behavioural issues among children in Colombo and offering a framework for a comprehensive care model based on socio-demographic parameters.

2. Methodology

The cross-sectional descriptive design was adopted in this investigation. A semi-structured interviewer-administered questionnaire was used to collect data on the presence and patterns of behavioural disorders, as well as the participants' socio-demographic characteristics, such as age, gender, district of residence, parents' educational level and occupation, presenting problems, and clinic referral pathways.

2.1 Study Setting

The research was conducted at the Child and Adolescent Psychiatry Clinic of Lady Ridgeway

Hospital for Children (LRH), Colombo, one of the largest tertiary care children's hospitals in South Asia. The clinic caters to children referred from different parts of the country, although the majority come from Colombo District due to accessibility.

2.2 Study Population

Inclusion Criteria

The following categories will be included in the study,

- Children 5-18 years (School-aged children attending the clinic to receive services from the Child and Adolescent Psychiatry Clinic at Lady Ridgway Hospital).
- Parents of children with behavioural disorders currently attending the above clinic

For the purposes of this study, behavioural disorders in children were defined as persistent patterns of emotional, attentional, or conduct-related difficulties that interfered with daily functioning at home, in school, or in peer relationships. These included hyperactivity, inattention, oppositional or defiant behaviour, aggression, school refusal, and academic underperformance.

The study populations' clinical frameworks were drawn from the DSM-5 criteria for common behavioural disorders, but operationalised into caregiver-reportable problems.

All participants in the selected sample were clinically diagnosed by a Child and Adolescent Psychiatrist at the University Child and Adolescent Psychiatry Clinic of LRH.

2.3 Sampling Method

A systematic sampling method was used to interview parents and caregivers of children aged 5–18 years who had a diagnosis of behavioural disorder (ODD, ADHD and CD) and receiving follow-up care at the Child and Adolescent Psychiatry Clinic. During the data collection period, 183 parents or caregivers completed the questionnaires.

2.4 Data Collection

Data were collected using an interviewer-administered semi-structured questionnaire. The tool was designed to capture:

- Socio-demographic characteristics (child's age, gender, district of residence, family structure, parental education and occupation).
- Presenting behavioural concerns, based on the working definition above.

Parents/caregivers were asked about specific behavioural difficulties (e.g., hyperactivity, inattention, aggression, poor academic performance, school refusal), allowing the responses to be systematically classified into standardised categories.

2.5 Data Analysis

Quantitative data were analysed using SPSS. Descriptive statistics (frequencies, percentages, means, and confidence intervals) were generated to describe the sample characteristics and the prevalence of behavioural problems. Cross-tabulations and Chi-square tests were used to explore associations between socio-demographic variables and identified behavioural problems.

3. Results

In this study, we explored the participants' socio-demographic data such as age, gender, district, educational level, and occupation of parents, presenting problems and referral pathways. Our findings indicate a positive association between the socio-demographic factors of families of children with behavioural disorders and behavioural patterns at the time of clinical assessment of those children presenting to specialised Child and Adolescent Psychiatry Clinics at a selected tertiary care hospital.

3.1 Demographic Characteristics

3.1.1 Age categories

The study looked at the ages of 183 participants. The sample includes children aged 5 to 18 years old. The children's average age is 10.42 years. The 95% confidence interval for the sample's mean age is roughly (9.98, 10.86). The ages range from 5 to 18 years, suggesting a diversified sample in terms of developmental stages: Early Childhood (5-7 years) 34 children (18.6%), Middle Childhood (8-12 years) 103 children (56.3%), and Adolescence (13-18 years) 46 children (25.1%).

3.1.2 Gender

Out of 183 participants, 133 were male, accounting for 72.7% of the total. Female participants numbered 50, accounting for 27.3% of the group.

3.1.3 Geographic Distribution

Colombo has the highest frequency, with 95 occurrences, accounting for 51.9% of the overall sample. This shows that a sizable proportion of the sample comes from Colombo. Gampaha follows with 38 cases (20.8%), making it the second most represented district. Many districts include only one or a few occurrences, demonstrating a diverse geographical distribution in the sample. This distribution paints a clear image of where the children in the sample live geographically, with a concentration in Colombo and Gampaha districts and a spreading in lower numbers across other districts.

3.1.4 Educational Background

Grade 4 has the highest frequency with 15.8% of participants, followed by grade 7 with 23 participants (12.6%). The distribution of grades appears to be fairly spread out, with a notable range from lower to higher grades

3.2 Socio-demographic factors of parents or guardians of participants of the study.

3.2.1 Family Structure

The most common family type in the dataset includes 69.4% of all families. Nuclear families typically consist of parents and their biological or adopted children living together. Extended families represent 15.3%, each includes relatives beyond the nuclear family, such as households that often include grandparents, aunts, uncles, and cousins living together. 38 families (20.8%) have 1 child.

The most common category, with 100 families (54.6%) having 2 children. 40 families (21.9%) have 3 children. 5 families (2.7%) have 4 children.

The majority of mothers have an education level of 12 or higher, while the majority of the fathers have an education level of 8 or higher.

3.3 Prevalence

Table 1: Types of problems presented to the Child and Adolescent Psychiatry Unit

Problem	**Proportion**	**Percentage**	**95% Confidence Interval**
School refusal	44	24.04%	[17.85%, 30.24%]
Behavioural issues	171	93.44%	[89.86%, 97.03%]
Hyperactivity	43	23.50%	[17.35%, 29.64%]
Inattention	19	10.38%	[5.96%, 14.80%]
Poor academic performance	64	34.97%	[28.06%, 41.88%]
Physical illness	6	3.28%	[0.70%, 5.86%]
Problems in facing difficult times	3	1.64%	[-0.20%, 3.48%]
Victim of child abuse	5	2.73%	[0.37%, 5.09%]
Other	5	2.73%	[0.37%, 5.09%]

According to the study, behavioural issues are a common worry. A narrow confidence interval [89.86%, 97.03%] suggests that this estimate is highly reliable. A major problem is poor academic performance (34.97%), which shows that more than one-third of kids have difficulty in their studies. According to school refusal (24.04%), one out of every four kids has problems at school. Classic symptoms of Attention-Deficit/Hyperactivity Disorder (ADHD) include hyperactivity (23.50%) and inattention (10.38%). Only 3.28% of kids report having physical health issues. The study's low percentage of child abuse (2.73%) is alarming because research from around the world indicates that child abuse is frequently underreported. Given the small sample size, the negative confidence interval (-0.20%) for the percentage of kids who struggle in difficult situations points to statistical uncertainty.

3.4 Association of the type of problem with demographic factors

Table 2: Behavioural issues with gender, age and family type

Gender	**Behavioural issues**		**P-Value**
	With	Without	
Male	93.20%	93.20%	0.843
Female	94.00%	6.00%	
Age	With	Without	
<10	93.10%	6.90%	0.851
>10	93.80%	6.20%	
Family Type	With	Without	
Nuclear	90.60%	9.40%	0.059
Extended	100%		
Single	100%		

Hyperactivity was slightly more common in females (94%) than males (93.2%), but this difference was not statistically significant. Children both below and above 10 years showed similar rates of hyperactivity (93.1% and 93.8%, respectively). There is no significant association was found

between age group and hyperactivity. 90.6% (115 out of 127) of children exhibited hyperactivity in a nuclear family, whereas 100% had hyperactivity in the extended families and single-parent families.

While the Pearson Chi-Square test showed a borderline significance (p = 0.059), the Likelihood Ratio test indicated a statistically significant association between family type and hyperactivity (p =0.010).

This suggests that children from non-nuclear families may be more prone to hyperactivity, though findings should be interpreted cautiously due to small sample sizes.

Table 3: Hyperactivity with gender, age and family type

	Hyperactivity		**P-Value**
Gender	**With**	**Without**	
Male	24.20%	75.80%	0.751
Female	22.00%	78.00%	
Age	**With**	**Without**	
<10	25.50%	74.50%	0.476
>10	21.00%	79.00%	
Family Type	**With**	**Without**	
Nuclear	26.80%	73.20%	0.084
Extended	25.00%	75.00%	
Single parent	7.10%	92.90%	

22.0% of females and 24.2% of males were found to be hyperactive. At p = 0.751, this difference was not statistically significant. Hyperactivity was present in 25.5% of children under 10 and 21.0% of those 10 and older. At p = 0.476, the difference was not statistically significant. Children from nuclear families were hyperactive in 26.8% of cases. Additionally, hyperactivity in extended families was reported by 25.0% of respondents. In single-parent households, hyperactivity was present in just 7.1% of cases. Although the lowest rates of hyperactivity were found in single-parent households, there was no statistically significant correlation between family type and hyperactivity (p = 0.084).

Table 4: School Refusal with age, gender and family type

	School Refusal		**P-Value**
Gender	**With**	**without**	
Male	22.00%	78.00%	0.259
Female	30.00%	70.00%	
Age	**With**	**Without**	
<10	20.60%	79.40%	0.222
>10	28.40%	71.60%	
Family Type	**With**	**Without**	
Nuclear	25.20%	74.80%	0.707
Extended family	25.00%	75.00%	
Single parent	17.90%	82.10%	

School refusal was observed in 22.0% of males and 30.0% of females. While the proportion appears slightly higher among females, this difference is not statistically significant. Among children under 10 years, 20.6% exhibited school refusal compared to 28.4% in those over 10. Although older children showed a higher prevalence, the difference does not reach statistical significance.

School refusal rates were similar across nuclear (25.2%) and extended (25.0%) families, and somewhat lower in single-parent families (17.9%). However, these differences were not statistically significant. None of the variable's gender, age, or family type show a statistically significant association with school refusal in this sample, though there are some trends.

Table 5: Poor School Performances and with age, gender and Family type

	Poor School Performance		**P-Value**
Gender	**With**	**without**	
Male	36.40%	63.60%	0.582
Female	32.00%	68.00%	
Age	**With**	**without**	
<10	34.30%	65.70%	0.834
>10	35.80%	64.20%	
Family Type	**With**	**Without**	
Nuclear	37.00%	63.00%	0.66%
Extended family	28.60%	71.40%	
Single parent	32.10%	67.90%	

36.4% were identified as having poor academic performance. 32.0% showed poor academic performance.

Although a slightly higher proportion of males exhibited poor academic outcomes, the difference between genders is not statistically significant. 34.3% had poor academic performance, and 35.8% had poor academic performance. The rates of poor academic performance are very similar between the two age groups, suggesting no meaningful variation based on age. 37.0% of children had poor academic performance from the nuclear families, while 28.6 % were from extended families.

Poor academic performance was slightly more common among children from nuclear families, but overall differences between the different family types were small and not statistically significant. Overall, there were no statistically significant correlations found between age, gender, or family type and subpar academic performance. Small differences between categories have been observed, which could be the result of random chance in the sample.

4. Discussion

4.1 Demographic characteristics of the participants

The goal of the current study was to investigate the relationship between behavioural patterns and sociodemographic characteristics in children who visited specialised child guidance clinics at a Colombo tertiary care hospital. Our results demonstrate the complex interaction of environmental, educational, and familial factors in determining children's behaviour, showing a significant

correlation between sociodemographic background and the prevalence of particular behavioural issues in children. These findings are in line with earlier research that looked into related topics.

These recent studies demonstrate the complex relationships that exist between demographic and familial characteristics and children's behavioural and academic outcomes, underscoring the importance of considering these factors in research and intervention development.

The present study identified behavioural issues as the most prevalent presenting complaint among children diagnosed with ADHD, ODD and CD, attending the Child and Adolescent Psychiatry Unit, with 93.44% presenting with behavioural symptoms. This finding aligns with global and regional research which consistently highlights disruptive and behavioural difficulties as a common reason for referral to child mental health services. For instance, studies in South Asia and high-income countries report behavioural and emotional problems as primary referral reasons, particularly among school-aged children, reflecting similar developmental and psychosocial stressors. The prominence of school-related challenges, including school refusal (24.04%) and poor academic performance (34.97%), is consistent with evidence suggesting that educational stress and behavioural dysregulation frequently co-occur and constitute a significant burden for families seeking mental health support.

Hyperactivity (23.50%) and inattention (10.38%) observed in the sample correspond with prevalence patterns of ADHD symptoms described in international child mental health literature, where ADHD remains one of the most common neurodevelopmental disorders in clinical populations. The relatively lower rate of reported child abuse cases (2.73%) must be interpreted with caution. Global studies consistently emphasise under-recognition and under-reporting of abuse, particularly in South Asian contexts where stigma, fear, and limited awareness hinder disclosure. Thus, while the identified prevalence appears low, this likely reflects systemic challenges in identification rather than true absence of risk.

The demographic profile of the sample, dominated by middle childhood and early adolescence, mirrors referral trends reported in similar clinical settings internationally, where behavioural problems and academic concerns become more evident as educational and social demands increase. Furthermore, the majority of participants were male, which is in line with research showing higher clinical referral rates for boys for disruptive and hyperactive behaviour, possibly influenced by gender-based expectations and recognition patterns in both families and schools.

Nearly half of the children in our sample had behavioural problems, according to our study. According to Polanczyk et al. (2015) and Erskine et al. (2014), who stressed the significance of early identification and intervention, this finding is in line with international data on the prevalence of behavioural disorders in children. The age distribution of children in our sample (5–18 years; mean = 10.42 years) reflects a wide developmental range. Notably, children in middle childhood (8-12) align with research findings that behavioural issues are most prominent during this stage. This aligns with previous findings by Kieling et al. (2011) and Moffitt et al. (2011), which identify middle childhood as a critical period for the emergence of behavioural issues due to rapid cognitive, emotional, and social development. Males and younger children were slightly more likely to exhibit hyperactivity, one of the most frequently noted behavioural problems in our study, although these differences were not statistically significant. Although our results did not reach statistical significance, the BELLA study (2023) found that male gender was significantly associated with higher ADHD symptoms, including hyperactive/impulsive traits. These findings are consistent with the BELLA study.

The co-occurrence of behavioural issues with poor academic performance, hyperactivity, and school refusal provides additional evidence of the interconnectedness of these challenges. Barkley's (2006) study, which emphasised the negative impacts that ADHD and related behavioural disorders can have on social and academic functioning, is in line with this finding.

4.2 Relationships to Sociodemographic Elements

According to our research, behavioural problems were somewhat more common in men than in women. This pattern is in line with previous research (Rutter et al., 2004; Martel, 2013), which ascribes these variations to a confluence of sociocultural, neurodevelopmental, and biological elements. These results point to the importance of gender-sensitive diagnosis and intervention strategies.

While hyperactivity was slightly more common in younger children (less than 10 years old), there was no statistically significant difference in overall behavioural issues between age groups. However, our results imply that middle childhood might be a delicate developmental window deserving of careful consideration, which is in line with research such as that conducted by Kieling et al. (2011).

One element that may have an impact is the family's structure. The prevalence of behavioural disorders was higher in children from extended and single-parent households than in children from nuclear families; however, this difference was only marginally statistically significant in our study ($p = 0.059$). Significant results from the Likelihood Ratio test ($p = 0.010$) suggested a potential connection that should be looked into further.

Amato and Gilbreth (1999), who proposed that children in nuclear families typically have better behavioural outcomes, corroborate these findings. These results might be influenced by the intricate relationships and possible stressors found in extended or single-parent family environments.

One noteworthy finding was the correlation between higher rates of behavioural problems in children and lower maternal education (OL/AL level). This is consistent with the findings of McLeod et al. (2007) and Fergusson et al. (2013), who found that parental education was a significant predictor of the behavioural and emotional well-being of children. This implies that parent-focused educational and support interventions are necessary.

The majority of the cases in our study came from the districts of Gampaha and Colombo, which may have been due to variations in awareness, access to medical care, or regional trends in service use. Goodman et al. (2000) have documented similar patterns, suggesting that regional and socioeconomic differences influence the identification and treatment of behavioural disorders.

5. Conclusion

The complex relationship between sociodemographic factors and behavioural presentations among kids attending Colombo's specialised child guidance clinics is highlighted by this study. The results show that family structure and parental education, particularly maternal education, emerged as significant contextual factors that may influence behavioural presentations, while other variables, like gender and age, were not significantly associated with behavioural problems. These results are consistent with an expanding corpus of global research that highlights the significance of early childhood development, family dynamics, and parental influence in determining academic and behavioural paths. Overall, this study contributes to a more nuanced understanding of child behavioural health in South Asia, advocating for early detection, preventive programs, and supportive educational and mental health policies that take into account both individual and socioeconomic factors. Future research with larger and more diverse samples is needed to investigate these associations and guide evidence-based interventions at the clinical and community levels.

Author Agreement

All authors have significantly contributed to the study. They have read and approved the manuscript for submission, and the authors have no competing interests to declare with the submitting journal.

Ethical Statement

Ethical Clearance was obtained from the Ethics Review Committee (ERC) in the Faculty of Medicine, University of Colombo, and the Ethics Review Committee (ERC) at the Lady Ridgeway Hospital for Children, Colombo, Sri Lanka.

Conflict of interest

The authors declare that there are no conflicts of interest in the publication of this paper.

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