Editorial Manager(tm) for Journal of the American Academy of Child and Adolescent Psychiatry

Manuscript Draft

Manuscript Number:

Title: Letters: Prevalence of Pervasive Developmental Disorder in Down's Syndrome

Article Type: Letter to the Editor

Section/Category:

Keywords:

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Manuscript Region of Origin: BRAZIL

Abstract:

Dear Editor:

The frequencies of pervasive developmental disorder (PDD) in Down's syndrome (DS) have been reported from 1% to 11% (Capone et al. 2005; Kent et al. 1999; Lund 1988). However, it is not clear if the frequency of this co-occurrence is higher or lower than in other mental retardations. The relevance of this relationship is to understand if DS would be a risk factor for PDD, or would have a protective effect on it. We studied a large sample of DS living in Curitiba, a city in the southern of Brazil, with an estimated 5 to 19 year-old population of 419,000 people. The sample was obtained from all special schools in the city, the only specialized center (the DS Program of the Clinics Hospital of the Federal University of Parana Medical School), and also the only local parents association. The self-reported Autism Screening Questionnaire (ASQ) (Berument et al. 1999) and the family history questionnaire[1] were filled out by parents and socio-economics status was evaluated by a research assistant. The project was approved by IRB of Mackenzie Presbyterian University and the Consent Informed was signed by all parents. This letter accounts for the first 205 subjects that have been contacted, from whom 25 declined to participate in the study.

The frequency of PDD in the DS sample was 15.6%, with 5.58% of autism (8 males and 2 females) and 10.05% of PDD non autism (9 males and 9 females). Mean age of DS sample was 9.86 (SD=3.99), father's mean age was 44.45 (SD=9.60) and mother's mean age was 42.10 (SD=12.85). No difference was found between genders (table 1).

Up to now, only one published study was focused on DS children and PDD relationship. This study, with a small sample size, found a frequency of 7% of PDD in DS (Kent et al. 1999). Our result is more than two-fold higher than this previous study, maybe due to methodological issues, such as the screening proprieties of ASQ and/or sample size. Despite these differences, one might assume that DS is a risk factor for PDD, since the frequencies found in other mental retardation tend to be lower (Capone et al. 2005; Kent et al. 1999). Interestingly, like previous studies (Fombonne et al. 2006), we found no gender differences between groups suggesting that higher male prevalence found

[1] Prof. C. Gilberg, personal communication.

in PDD is lacking in DS population. The meaning of this result is unclear, and it is not known if DS would have a protective effect in male subjects, or would increase risk for PDD in females. Finally, we found higher frequency of social disabilities in familial members of the DS/PDD total group. The same was not observed within learning disabilities, suggesting that independent traits are being segregated in this population. To clarify these questions more studies are needed.

Reference

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Table: Demographic data of Down syndrome (DS) and Down syndrome with PervasiveDevelopmentalDisorder(DS/PDDtotal)

		DS (%)		*DS/PDD_{total} (%)*		
gender						
	male	74/180 (41.34)		17/180 (9.49)		χ^2 (3.6)=2, p=0.16
	female	77/180 (43.01)		11/180 (6.14)		
SES						
	high	39/45 (86.67)		6/45 (13.33)		χ^2(1.63)=2, p=0.44
	middle	59/67 (88.06)		8/67 (11.94)		
	low	49/61 (80.33)		12/61 (19.67)		
Family history		Yes (n)	No (n)	Yes (n)	No (n)	
	Social disability	12	126	7	18	P= 0.01
	Learning Disability	58	77	12	14	P= 0.83
	Psychiatric disability	42	96	7	18	P= 1.00
	Genetic disability	85	53	12	13	P= 0.26
	Epilepsy	14	122	2	24	P= 1.00

560 words (including table), 5 references

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Acknowledgment: This project was supported by the Mackpesquisa Institutes.

No Financial Conflict.

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