

Childhood Disability among Students Population in Dubai, School-based Screening Strategy, Dubai, UAE, 2016

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Abstract:

Background: Disability is a health problem of public health concern. Screening procedures are an important part of the assessment process to identify children and youth who have disabilities. However, such procedures must be used with care as they provide only a preliminary sign that a child has a disability.

Objectives: This study is aiming at screening of childhood disability, physical, mental, developmental and others, among students population at school facilities in Dubai. **Methodology:** The screening was carried out at private schools facilities in Dubai for the period 2015-2016. All students population at private school facilities in Dubai (170) at both (Diera side and Bur Dubai Side) were included. Schools were screened for identification of disability. About 266000 students were approached through conducting comprehensive routine annual medical examinations by school physicians, revising students Medical records, and utilizing diagnostic reports provided by specialist doctors and hospitals.

Results: The study revealed that about 3.2% of total student's population in private schools in Dubai are suffering from some kind of disability (4.77% of total Emirati, and 2.99% of total expatriates). Learning disabilities was among the highest prevalent cause of disability followed by visual impairment and hyperactivity: 1.7%, 0.38% and 0.36 respectively; Regarding physical disability, 0.13 % of the total students population at private schools in Dubai were having some kind of it, and again it is more prevalent among UAE nationals (0.19%) compared to other expatriate nationalities (0.12%).

Conclusion: Functional and structural impairments and disabilities among Dubai school population at private schools facilities showed alarming prevalence. This raises many questions in terms of applying further tools for further identification as well as the need for early interventions and early rehabilitation services for better correction. It is recommended to apply well structured and competently operated national screening program at earlier ages for addressing both identification and intervention/ rehabilitation issues

Keywords: Childhood Disability, Student Population, School Screening, Dubai 2016

Conflict of interest: The authors declare that they do not have any conflict of interest

Introduction:

Screening procedures are an important part of the assessment process to identify children and youth who have disabilities. However, such procedures must be used with care, as they provide only a preliminary sign that a child has a disability.¹ Most disabilities with a clear medical basis are recognized by the child's physician or parents soon after birth or during the preschool years.

In contrast, the majority of students with disabilities are initially referred for evaluation by their classroom teacher (or parents) because of severe and chronic achievement or behavioral problems. There is evidence that the prevalence of some disabilities varies by age. The high-incidence disabilities such as learning disabilities and speech-language disabilities occur primarily at the mild level. In mild disabilities, there are no clear demarcations between those who have and those who do not have the disability, and there is

a need to identify mild disabilities because they may constitute formidable barriers to academic progress and significantly limit career opportunities. Problems with the current classification system include stigma to the child, low reliability, poor correlation between categorization and treatment, obsolete assumptions still in use in treatment, and proportionate representation of the different classes.^{2,3}

Intellectual disability along with other mental disorders and epilepsy are highly stigmatizing. Stigma attached to hearing impairment has also been found. Some researchers have identified this issue and have tried to address it through their research.⁴⁻⁹

The World Health Organization (WHO) estimates that worldwide, around 15 million children aged below 15 are handicapped by vision due to uncorrected refractive disorders! The WHO estimated that in 2004, 275 million people were handicapped because of compromised hearing and 80% of these people lived in low- and middle-income countries. Recently published results show that between 2% and 8% people have visual problems and around 6% have hearing disabilities in countries with limited public health-care systems. In many low- and middle-income countries, the testing of children’s senses is not part of the country’s free primary health-care system. As a result, children with compromised sight or hearing may be poorly equipped for the challenges of life. Even though expenses for glasses and hearing aids may be challenging and for many, impossible to cover, the knowledge of any existing handicap is important to help these children have access to an education.¹⁰⁻¹⁷

Previous studies on the situation in Dubai and Dubai private schools couldn’t be located.

Objectives:

This study is aiming at screening of childhood disabilities, physical, mental, developmental and others, among students population at school facilities in Dubai

Methodology:

The screening was carried out at private schools facilities in Dubai for the period 2015-2016. All students population at private school facilities in Dubai (170) at both (Diera side and Bur Dubai Side) were included. Schools were screened for identification of disability. About 266000 students were approached through conducting comprehensive routine annual medical examinations by school physicians, revising students Medical records, and utilizing diagnostic reports provided by specialist doctors and hospitals.

Results:

The study revealed that about 3.2% of total student’s population in private schools in Dubai are suffering from some kind of disability (4.77% in Emirati, and 2.99 in Expatriates), and about 6.3% of total Emirati males at private schools in Dubai were diagnosed with one of disabilities as shown by Table Number (1).

| Nationality | Gender | Total students | Total disabilities | % |
|--------------------|--------|----------------|--------------------|------------|
| UAE | M | 15699 | 995 | 6.3 |
| | F | 14330 | 437 | 3.1 |
| | Total | 30029 | 1432 | 4.77 |
| Expatriates | M | 121247 | 4617 | 3.8 |
| | F | 115067 | 2465 | 2.1 |
| | Total | 236314 | 7082 | 2.99 |
| Grand total | | 266343 | 8514 | 3.2 |

Table 1: Total disabilities among private school students of Dubai according to nationality and gender

Figure 1 shows the distribution of the disabilities among private schools of Dubai according to the type of the disability. Current study showed that learning disability was among the highest prevalence of disability followed by visual impairment and hyperactivity (1.7%, 0.38% and 0.36) respectively.

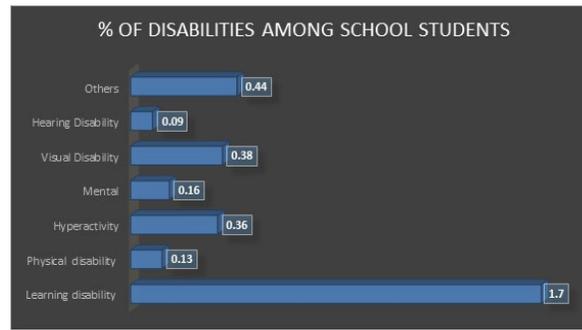


Figure 1: Disabilities among private school students of Dubai according to the type

Table 2 shows the distribution of the learning disabilities according to nationality and gender.

Table 2: Learning disabilities among private school students of Dubai by nationality and gender

| Nationality | Gender | Total students | Learning disability | % |
|--------------|--------|----------------|---------------------|------------|
| UAE | M | 15699 | 578 | 3.7 |
| | F | 14330 | 236 | 1.7 |
| Expatriates | M | 121247 | 2183 | 1.8 |
| | F | 115067 | 1387 | 1.2 |
| Total | | 266343 | 4384 | 1.7 |

This study reflected that about 0.13 % of total students population at private schools in Dubai were having some kind of physical disability and again it is more prevalent among UAE nationals comparing to other expatriate nationalities 0.19 % among UAE versus 0.12% among Expatriate as appeared in table (3).

Table 3: Physical disabilities among private school students of Dubai by nationality

| Nationality | Gender | Total students | Physical disability | % |
|--------------------|--------|----------------|---------------------|-------------|
| UAE | M | 15699 | 37 | 0.24 |
| | F | 14330 | 20 | 0.14 |
| Total | | 30029 | 57 | 0.19 |
| Expatriates | M | 121247 | 158 | 0.13 |
| | F | 115067 | 120 | 0.1 |
| Total | | 236314 | 278 | 0.12 |
| Grand total | | 266343 | 335 | 0.13 |

It has been shown that Hyperactivity disability among private school students in Dubai was 0.36%. It is about 0.64 among UAE males at private schools in Dubai and 0.16% of UAE females, while 0.56% of expatriate male at private schools in Dubai and 0.13 of expatriate females at private schools in Dubai. As shown in table (4).

Table 4: Hyperactivity among private school students of Dubai by nationality and gender

| Nationality | Gender | Total students | Hyperactivity | % |
|--------------|--------|----------------|---------------|-------------|
| UAE | M | 15699 | 101 | 0.64 |
| | F | 14330 | 23 | 0.16 |
| Expatriates | M | 121247 | 682 | 0.56 |
| | F | 115067 | 144 | 0.13 |
| Total | | 266343 | 950 | 0.36 |

In relation to mental disabilities at private schools in Dubai, the study revealed that about 0.25% of total male and 0.1 of total UAE females were having mental disability and 0.2 of expatriate male and 0.11 of expatriate females were shown to having mental disability. as appeared in table (5).

Table 5: Mental disability among private school students of Dubai by nationality and gender

| Nationality | Gender | Total students | Mental | % |
|--------------|--------|----------------|------------|-------------|
| UAE | M | 15699 | 39 | 0.25 |
| | F | 14330 | 15 | 0.1 |
| Expatriates | M | 121247 | 246 | 0.2 |
| | F | 115067 | 127 | 0.11 |
| Total | | 266343 | 427 | 0.16 |

Concerning visual impairment among private schools students in Dubai, the study concluded that about 0.82% of UAE males and 0.64 % of UAE females were having visual impairment while it was 0.42% of expatriate male and 0.25% of expatriate females were having visual disability among Dubai private schools students populations. As shown in table (6).

Table 6: Visual disability among private school students of Dubai according to nationality and gender

| Nationality | Gender | Total students | Mental | % |
|--------------|--------|----------------|------------|-------------|
| UAE | M | 15699 | 39 | 0.25 |
| | F | 14330 | 15 | 0.1 |
| Expatriates | M | 121247 | 246 | 0.2 |
| | F | 115067 | 127 | 0.11 |
| Total | | 266343 | 427 | 0.16 |

Table (7) in this study revealed that about 0.18% of UAE males and 0.15 of UAE females were having hearing disability among private schools students populations while it was about 0.08% of expatriate male and 0.08% of expatriate females shown hearing disability.

Table 7: Hearing disability among private school students of Dubai by nationality and gender

| Nationality | Gender | Total students | Hearing Disability | % |
|--------------|--------|----------------|--------------------|-------------|
| UAE | M | 15699 | 28 | 0.18 |
| | F | 14330 | 21 | 0.15 |
| Expatriates | M | 121247 | 97 | 0.08 |
| | F | 115067 | 93 | 0.08 |
| Total | | 266343 | 239 | 0.09 |

Current study reflected that about 0.53% of total UAE males and 0.22% of UAE females have one of developmental disabilities like (Autism, Down syndrome, Speech delay, Dwarfism and others, while about 0.62% of expatriate males and 0.27% of expatriate females were shown to have one of developmental disabilities among private schools population in Dubai as appeared in table (8).

Table 8: Other disabilities (Autism, ADHD, down syndrome, dwarfism, speech delay, developmental delay) among private school students of Dubai by nationality and gender.

| Nationality | Gender | Total students | Others | % |
|--------------|--------|----------------|-------------|-------------|
| UAE | M | 15699 | 83 | 0.53 |
| | F | 14330 | 31 | 0.22 |
| Expatriates | M | 121247 | 748 | 0.62 |
| | F | 115067 | 309 | 0.27 |
| Total | | 266343 | 1171 | 0.44 |

Discussion:

The study revealed that about 3.2% of total student’s population in private schools in Dubai suffering from some kind of disabilities. This figure is less than other figures shown by U.S. Department of Education, 2004–05 where 5.7% of the nation’s K–12 students had disabilities;18 and it is almost similar to disabilities among UAE nationals at private schools in Dubai which was almost equal to 4.7%.

The study showed that hearing disability among private school students in Dubai was 0.09%. Numbers found in other studies, like the study done by Blanchfield, et. al., refer to that as many as 738,000 individuals in the U.S. have severe to profound hearing loss, almost 8% of which are under the age of 18.19,20

Concerning visual disability, current study showed about 0.38 of total students population at private schools in Dubai have got some visual disability (Impairment), while one Indian study which enrolled 1123 students found that low vision (visual acuity

< 20/60) in the better eye was observed in 31 (2.9%) children, and blindness (visual acuity <20/200) was observed in 10 (0.9%) children.21

It has been identified that about 0.16% of total private school students in Dubai were having some mental disorders or disabilities. This figure is much less than other figures identified by other studies. Anxiety/ depression disorder prevalence was 10.28%, age range was 9-18 years. The reasons given for being anxious were poor self image, fear of death, repeated physical and sexual abuses by their care givers and other adults.22 Learning disability was the major associated comorbid disorder (18.68%). Generalized anxiety was the most common type of anxiety disorder identified (32.97%). Anxiety disorders are debilitating chronic conditions.

The study concluded that about 0.36% of the total students at private schools in Dubai were suffering from hyperactivity disability. This figure is quite less than other figures identified by other studies. These figures equate to 5.1%.23-27

Regarding physical disability, the study showed about 0.13 % of total students population in Dubai private schools are having some kind of physical activities. This figure is much less than other figures shown by other studies. For example, it was much more prevalent in Ireland and counted for about 2.8% of the total students at the age 12-15.28

Concerning learning disability, the study concluded that about 1.7% of total private school students in Dubai were having some degree of learning disability. This figure is less than other figures in USA which showed that about Twelve percent of the respondents cited having a learning disability and 8 percent of the parents surveyed had a child with a learning disability.29

Current study showed that about 0.44% of total student population at private schools in Dubai were having developmental disability (autism, down syndrome) which was less than what has been mentioned in other studies which conducted in India to determine the prevalence of learning disabilities in school children and has been reported developmental disabilities to be 3-10 per cent among students population.30

Conclusion:

Functional and structural impairments and disabilities among Dubai school population at private schools facilities showed alarming prevalence. This raise many questions in terms of applying further tools for further identification as well as raising questions on early interventions and early rehabilitations for better corrections. It is recommended to apply well structured and competently operated national screening program at earlier ages for addressing both identification and intervention/ rehabilitation issues.

References:

1. De La Paz, S. & Graham, S. (1995). *Screening for Special Diagnosis*. ERIC Counseling and Student Services Clearinghouse (ERIC/CASS).
2. United Nations Children's Fund. *The State of the World's Children*. New York, NY: United Nations Children's Fund; 2005:27–28
3. Bryce J, El Arifeen S, Bhutta ZA, et al. *Getting it right for children: a review of UNICEF joint health and nutrition strategy for 2006–15*. *Lancet*.2006;368 :817–819
4. Rüsç N, Angermeyer MC, Corrigan PW. Mental illness stigma: concepts, consequences, and initiatives to reduce stigma. *Eur Psychiatry*.2005;20 :529–539
5. World Health Organization. *The World Health Report 2001: Mental Health—New Understanding, New Hope*. Geneva, Switzerland: World Health Organization; 2001
6. Héту R. *The stigma attached to hearing impairment*. *Scand Audiol Suppl*.1996;43 :12–24
7. Pal DK, Chaudhury G, Sengupta S, Das T. *Social integration of children with epilepsy in rural India*. *Soc Sci Med*.2002;54 :1867–1874

8. Sonnander K, Claesson M. *Classification, prevalence, prevention and rehabilitation of intellectual disability: an overview of research in the People's Republic of China*. *J Intellect Disabil Res*.1997;41 :180–192
9. Thorburn MP. *The role of the family: disability and rehabilitation in rural Jamaica*. *Lancet*.1999;354 :762–763
10. Gilbert C, Ackland P, Resnikoff S, editors. *Geneva: World Health Organization; 2007*. [Last cited on 2012 May 7]. *The Right to Sight, action plan 2006-2011* [monograph on the Internet] Available from: <http://www.vision2020.org/main.cfm?type=PUBLICATIONS>.
11. Geneva: Media centre; *Deafness and hearing impairment. Fact sheet No 300*; [Updated February 2012; Last cited on 2012 May 7]. World Health Organization. Available from: <http://www.who.int/mediacentre/factsheets/fs300/en/index.html>.
12. Kodjebacheva G, Brown ER, Estrada L, Yu F, Coleman AL. *Uncorrected refractive error among first-grade students of different racial/ethnic groups in southern California: Results a year after school-mandated vision screening*. *J Public Health Manag Pract*. 2011;17:499–505.
13. Lindquist AC, Cama A, Keeffe JE. *Screening for uncorrected refractive error in secondary school-age students in Fiji*. *Clin Experiment Ophthalmol*. 2011;39:330–5.
14. Gupta Y, Sukul RR, Gupta M, Phougat A, Jain R, Varshney A. *School eye survey in rural population in UP, India*. *Nepal J Ophthalmol*. 2011;3:78–9.
15. Limburg H, Kansara HT, d'souza S. *Results of school eye screening of 5.4 million children in India—a five-year follow-up study*. *Acta Ophthalmol Scand*. 1999;77:310–4.
16. Béria JU, Raymann BC, Gigante LP, Figueiredo AC, Jotz G, Roithman R, et al. *Rev Hearing impairment and socioeconomic factors: A population-based survey of an urban locality in southern Brazil*. *Panam Salud Publica*. 2007;21:381–7.
17. Mishra A, Verma V, Shukla GK, Mishra SC, Dwivedi R. *Prevalence of hearing impairment in the district of Lucknow, India*. *Indian J Public Health*. 2011;55:132–4.
18. National centre for education statistics, <https://nces.ed.gov/fastfacts/display.asp?id=64>.
19. Blanchfield, B. B., et. al. (2001). *The severely to profoundly hearing-impaired population in the United States: Prevalence estimates and demographics*. *Journal of the American Academy of Audiology*, 12, 183-189.
20. Niskar, A. S., et. al. (1998, April 8). *Prevalence of hearing loss among children 6 to 19 years of age: the Third National Health and Nutrition Examination Survey*. *JAMA*, 279(14): 1071–1075.
21. Rustagi N, Uppal Y, and Taneja DK. *Screening for visual impairment: Outcome among schoolchildren in a rural area of Delhi*. *Indian J Ophthalmol*. 2012 May-Jun; 60(3): 203–206. doi: 10.4103/0301-4738.95872

22. Angela I. Frank-Briggs and E. A. D. Alikor. [Anxiety Disorder amongst Secondary School Children in an Urban City in Nigeria](#). *Int J Biomed Sci*. 2010 Sep; 6(3): 246–251.
23. Fintan O'Regan. [Exclusion from School and Attention-Deficit/Hyperactivity Disorder](#), Volume 2, Number 2, November 2010 pp 3-18.
24. Achilles, G. M.; McLaughlin, M. J., and Croninger, R. G. 2007. [Sociocultural correlates of disciplinary exclusion among students with emotional, behavioural, and learning disabilities in the SEELS National Dataset](#). *Journal of Emotional and Behavioural Disorders*, 15, 33–4
25. [Attention Deficit Disorder Information and Support Service \(ADDISS\) 2006 Families survey August 2006](#). Last retrieved February 15, 2010 from <http://www.addiss.co.uk/>.
26. American Psychiatric Association 2000. [Diagnostic and statistical manual of psychiatric disorders](#). (4 ed., text revision). Washington, DC: APA.
27. Barbaresi, W.J., Katusic, S.K., Colligan, R.C., Weaver, A.L., and Jacobsen, S.J.. 2007. [Modifiers of long-term school outcomes for children with attention-deficit/hyperactivity disorder: Does treatment with stimulant medication make a difference? Results from a population-based study](#). *Journal of Developmental & Behavioral Pediatrics*, 28, 274-287.
28. National disability authority. [The Experiences of Students with Physical Disabilities in Second Level Schools](#), [http://www.inis.gov.ie/website/nda/cntmgmtnew.nsf/0/B1ECAA4DCC0AE28180257419003B60AD/\\$File/eslreport_03.htm](http://www.inis.gov.ie/website/nda/cntmgmtnew.nsf/0/B1ECAA4DCC0AE28180257419003B60AD/$File/eslreport_03.htm)
29. National Centre for Learning Disabilities. [The state of learning disabilities, facts, trends and Emerging Issue, 2012](#), <https://www.nclld.org/wp-content/uploads/2014/11/2014-State-of-LD.pdf>
30. Rachna Bhargava, Archana Sharma, and Jaspreet Kaur. [Prevalence of specific developmental disorder of scholastic skill in school students in Chandigarh, India](#) Priti Arun, Bir Singh Chavan, *Indian J Med Res*. 2013 Jul; 138(1): 89–98.