

# **Oral Health Status And Barriers To Utilization Of Dental Services Among Adolescent With Learning Disabilities**

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# Outline of the presentation

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# 1. Background of the study

- Learning disabilities are neurologically-based processing problems- can interfere with learning basic skills such as reading, writing and/or math

(Desai, 1997)

Type	Feature
Dyslexia	Difficulty with reading
Dysgraphia	Difficulty with written language
Dyscalculia	Difficulty with math

- also interfere with higher level skills such as organization, time planning, abstract reasoning, long or short term memory and attention

(Desai *et al.*, 2001)

- Dental caries, gingivitis, and periodontal disease are common and significant oral health problems in LD population

(Oredugba, 2007)

- Majority of LD adolescents had poor oral hygiene and periodontal disease when compared to mainstream children

(Bradley and McAlister, 2004)

- Routine medical and dental visits are important components of comprehensive health care for all children, but disabled individuals faced some difficulties to achieved it

(Hernandez *et al.*, 2007)

- The barriers for assessing healthcare were;
  - Scarcity of services
  - Physical barriers to access
  - Communication difficulties experienced
  - Diagnostic shadowing
  - Disabled attitudes among healthcare staff

(Cumella *et al.*, 2000)

- These factor need to be consider based on study done by Pradhan *et al.* (2009)-dental caries was significantly associated with dental visits

## 2. Rationale of the study

1. The outcome of this study will gear us to identify their oral health status and barriers that limit them from seeking dental services
2. Providing evidence for the need of services for LD and will enhance the well being of these disadvantage group of people
3. Application of sound preventive measures and regular follow up – dental diseases are preventable

# 3. Objectives

## General

- To study on oral health status and barriers to dental service utilization among LD adolescent in Kota Bharu

## Specific objectives

1. To determine the prevalence of dental caries among LD adolescent
2. To determine the barriers of the utilization of the dental services among LD adolescent.



## 4. Methodology

Variable	
<b>Study design</b>	Cross-sectional study
<b>Duration of the study</b>	Feb 2014 to April 2014
<b>Reference population</b>	LD adolescent in Kota Bharu
<b>Source population</b>	LD adolescent in 3 selected schools
<b>Inclusion criteria</b>	All the LD adolescent aged between 13 and 17 years old
<b>Exclusion criteria</b>	LD children with severe detrimental systemic disorders like cardiac defects, unknown aetiology for mental disability, and those wearing intraoral appliances

## Sample size calculation

The sample size was calculated using single proportion formula

$$n = \frac{Z_{\alpha/2}^2 * P(1-P)}{\Delta^2}$$

n = The required sample size

P = prevalence of dental caries among deaf children = 83.9% (Jain et al., 2008).

Level of confidence = 95% (therefore  $Z_{\alpha/2} = 1.96$ )

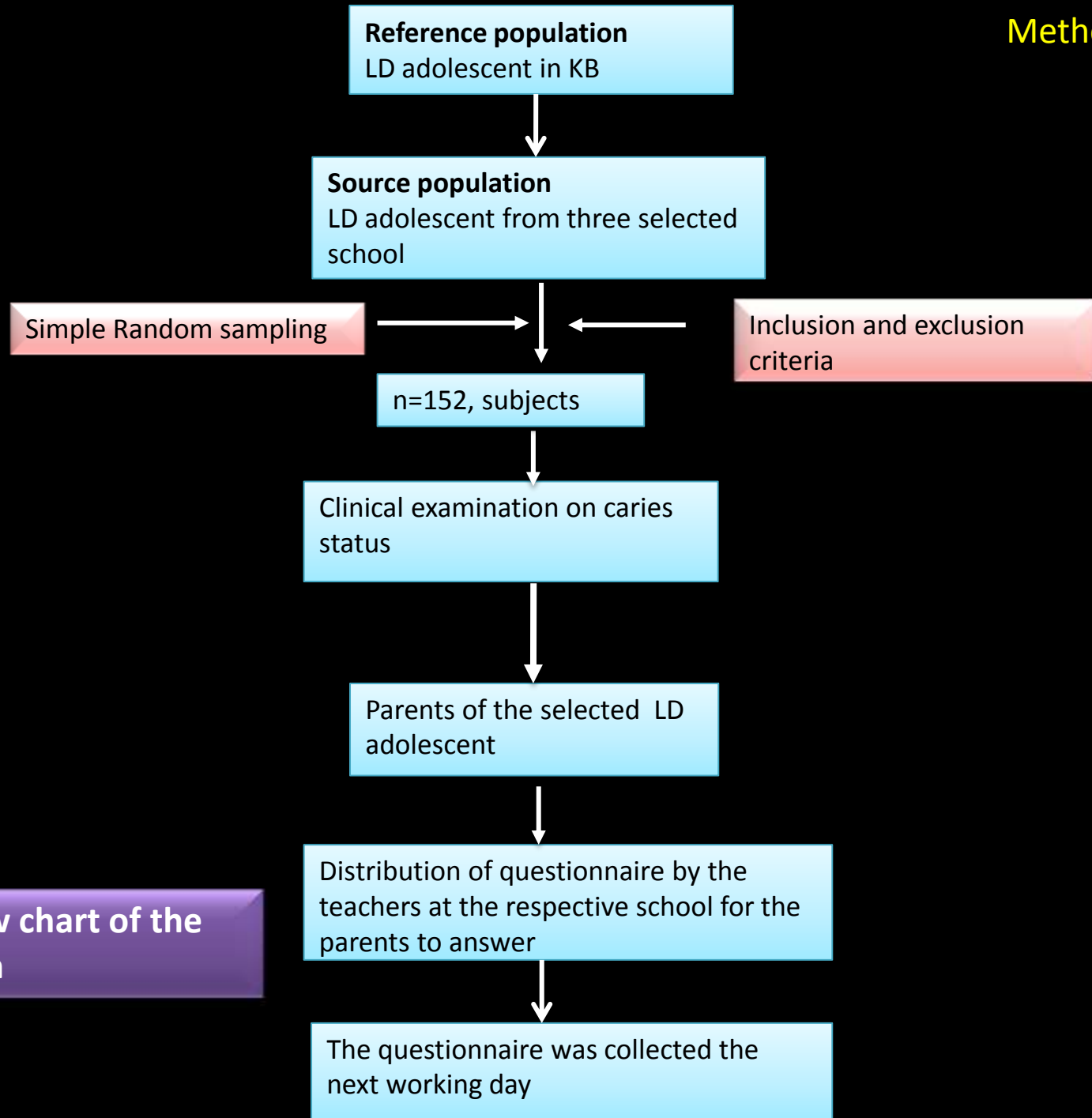
$\Delta$  = precision = 0.1

Therefore require sample size (n) was 152 subjects.

- All the eligible adolescent were listed and randomly selected using simple random sampling
- Details of the study and consents forms were distributed to the parents prior to clinical examination-teacher's help
- The clinical oral examination was done in school premises using WHO criteria for caries diagnosis and coding were used
- Utilization of healthcare services questionnaire was used- Malay language and validated (Nicolau *et al.*, 2003)

## Data collection

- Prior to data collection, training and calibration exercise on the procedure and assessment of caries was done
- The overall percentage of the examiners assessment on caries status against calibrators assessment was 95% and 97% respectively



**Figure 4.1** Flow chart of the data collection

## Statistical analysis

- PASW Statistic 18 software was used for data entry and analysis
- Descriptive statistics such as means and standard deviation (SD) or median and interquartile range (IQR) for continuous variable, frequency and percentage for categorical variables were calculated
- The prevalence of dental caries was calculated at 95% CI and the level was set at  $p < 0.05$

# 5. Results

## 5.1 Sociodemographic characteristic of the respondents (n=125)

Socio-demographic profile	n (%)
Age	15.5(1.37)
Sex	
Male	84(67.2)
Female	41(32.8)
Race	
Malay	121(96.8)
Chinese	4(3.2)
Father's education level	
Tertiary education	10(10.2)
Diploma education	7(7.6)
Vocational training	3(3.3)
Secondary education	57(62)
Primary education	11(12)
No formal education	4(4.3)

Socio-demographic profile	n (%)
<b>Mother's education level</b>	
Tertiary education	8(24.2)
Diploma	5(15.2)
Vocational training	
<b>Secondary education</b>	15(45.5)
Primary education	4(12.1)
No formal education	1(3.0)
<b>Father's occupation</b>	
Government	24(26)
Private	17(18.5)
<b>Self employment</b>	41(44.6)
Not working	10(1.9)
<b>Mother's occupation</b>	
<b>Government</b>	13(39.4)
Private	4(12.1)
Self employment	12(36.4)
Not working	4(12.1)



## 5.2 Prevalence of dental caries and caries experience

The prevalence of dental caries among LD children was 59% (95% CI: 50%, 68%).

Caries component	Median (IQR) <sup>a</sup>
Decayed(D)	1 (5.0)
Missing(M)	0 (1.0)
Filled(F)	0 (1.0)
DMFT	3 (6.5)

\*<sub>a</sub> non normal distribution

44.8% of LD adolescent have mild type caries experience and only 24.8% were caries free.

THIS ANSWERED OBJECTIVE 1

## 5.3 Barriers to utilization of dental services (n=58)

Variables	n (%)	
	Yes	No
<b>1) Perception toward Oral Health</b>		
a) Not having any dental problems	27(46.6)	31(53.4)
b) Oral health is/not less important	11(18.9)	47(81.1)
<b>2) Fear</b>		
a) Fear of dentist	32(55.2)	26(44.8)
b) Fear of dental instrument	35(60.3)	23(39.7)
c) Fear of dental treatment	41(70.7)	17(29.3)
d) Fear of possible dental pain	40(69.0)	18(31.0)
e) Bad dental experience	18(31.0)	40(69.0)
<b>3) Accessibility to dental clinic</b>		
a) Long distance from house to clinic	17(39.3)	41(70.7)
b) Long travelling time	8(13.8)	50(86.2)
c) Do not own transport	15(25.9)	43(74.1)
d) Difficulty in getting public transport	11(19.0)	47(81.0)
e) Expensive public transport fare	7(12.1)	51(87.9)

## 5.3 Barriers to utilization of dental services (cont.)

Variables	n (%)	
	Yes	No
<b>4) Time constraints</b>		
a) Busy at work	15(25.9)	43(74.1)
b) Unable to get permission for leave from employer	11(19.0)	47(81.0)
c) Busy with household chores	23(39.7)	35(60.3)
<b>5) Quality of services</b>		
a) Late appointment	22(37.9)	36(62.1)
b) Long waiting time	34(58.6)	24(41.4)
c) No immediate treatment given	23(39.7)	35(60.3)
d) Poor service at the registration counter	9(15.5)	49(84.5)
e) Poor attitude of the staff	7(12.1)	51(87.9)
f) poor attitude of the dentist	3(5.2)	55(94.8)
g) Poor surroundings	6(10.3)	52(89.7)

THIS ANSWERED OBJECTIVE 2

## 6. Discussion

- The prevalence of dental caries among LD in Kota Bharu was 59%, similar with a study done in Taiwan and Poland but lower when compared with the study done by Rao *et al.*, 2001-variations of age of sample selected
- The dental caries prevalence is high but those LD adolescent were not getting treatment they needed as shown by caries experience ,3 (6.5)

- Most of the parents (46.4%) do not bring their child to clinic-46.6% perceived no dental problem
- The other reason was children fear of dental treatment (70.7%)
- Majority of disabled children do not come to see dentist due to low priority put by parent
  - 29% claimed busy at work
  - 39.7% busy with household chores
  - Long waiting time

- This could be due to
  - Parental belief of reduced importance of oral health  
(Randell *et al*, 1992)
  - due to parental lack of understanding on importance of oral health for LD adolescent compared to other underlying medical problems which required immediate treatment  
(Allison and Lawrence, 2004)
  - Lack of water fluoridation-Kelantan does not have artificial fluoridation of drinking water  
(Esa R. *et al.*, 1992)

## 8. Conclusions

1. The prevalence of dental caries among LD adolescent was 59% (95% CI: 50%, 68%).
  - i. Median(IQR) for DMFT score was 3(IQR 6.5)
  - ii. Most (44.8%) of the LD children have mild type of caries experience
  - iii. Only 24.8% were caries free
2. Barriers cited by parents who did not bring their LD children for dental visit were mostly due to fear (70.7%)

# 10. Acknowledgement

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Thank you for your kind attention