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THE RELATION BETWEEN TEETH LOSS AND COGNITIVE DECLINE AMONG SAUDI POPULATION IN RIYADH CITY

S. Alzahrani[1] , , R. Alhefdhi[1], A. Altamimi[1], A. Alshareef[1], F. Alsubaie[1], S. Sonbol[1], B. Aldosari[1]
R. ALFotawi[2]

[1]Senior Dental Student, College of Dentistry, king Saud University

[2]Assistant Professor OMFS Dept, Dental Faculty, KSU

Cognitive functions: are those mental processes that lead to the acquisition of knowledge and allow us to carry out our daily tasks.

Cognitive decline: when a person has trouble remembering, learning new things, concentrating, or making decisions that affect their everyday life.

H. Chertkow et al. (2013)

predisposing risk factors for

cognitive decline

Gerstorf, D., Herlitz, A. & Smith, J. (2006).

Teeth loss Cognitive decline

Impaired masticatory ability:

the sensory and motor cortical remapping hypothesis,

"relating teeth loss and impaired masticatory ability to neuroanatomical and chemical changes that occur in the brain due to the reduction in sensory input and cortical blood flow"

F. Teixeira et al. (2014)

Teeth loss Cognitive decline

Loss of periodontal ligaments(PDL)

natural teeth are essential for hypocampus based cognitive processes as episodic long-term memory, teeth loss will decrease periodontal mechanoreceptors input from the trigeminal nerve. Thereafter, hippocampus-dependent cognitive function will be reduced.

M Trulsson et al. (2014)

Teeth loss  Cognitive decline

Periodontal disease

periodontal disease and periodontal inflammatory blood markers have also been investigated in relation to cognitive decline.

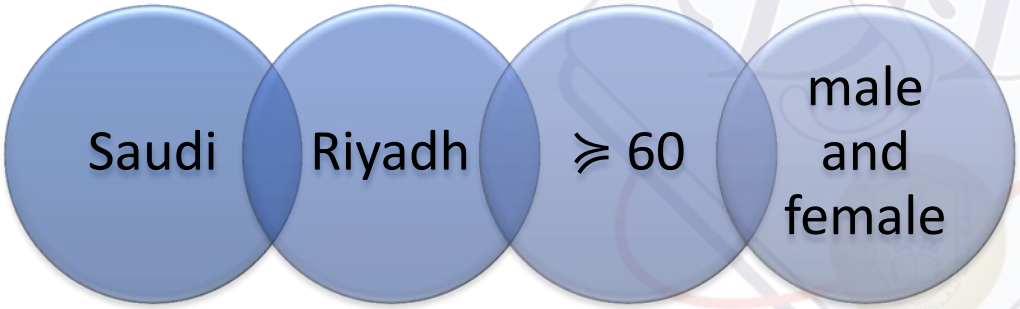
N Okamoto et al. (2014)

Objectives

- ***Assess the relationship between the number of teeth, periodontal state and cognitive ability in multicenter across city of Riyadh.***
- ***Enhance the public awareness about conservative oral health care from early age.***

MATERIALS AND METHODS

participants :



الجمعية السعودية الخيرية لمرض الزهايمر
SAUDI ALZHEIMER'S DISEASE ASSOCIATION

وزارة العمل والتنمية الاجتماعية
المملكة العربية السعودية

جامعة الملك سعود
King Saud University
1957
مستشفى طب الأسنان الجامعي
Dental University Hospital

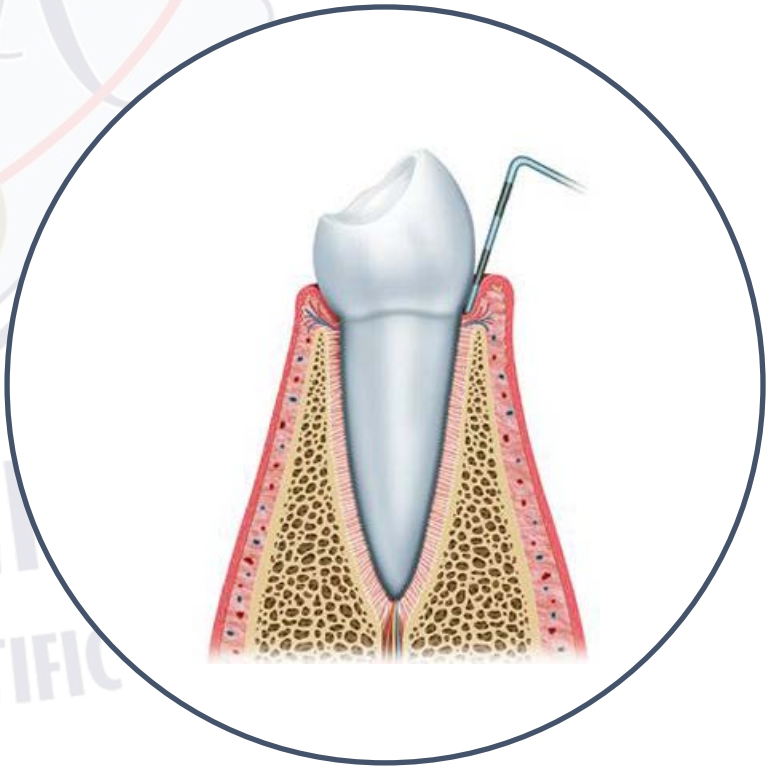
مركز الملك سلمان الإجتماعي
King Salman Social Center

exclusion criteria: included any disorders interfering with psychometric assessment such as terminal illness and/or conditions such as history of cerebrovascular accident.

Assessment of Cognitive Mental Status:

It has been carried out by trained students at Psychology department at KKUH

Assessment of oral health parameters:



OTHER VARIABLES WERE CONSIDER

Statistical Analysis:

- **Pearson correlation**
- ***chi-square test***

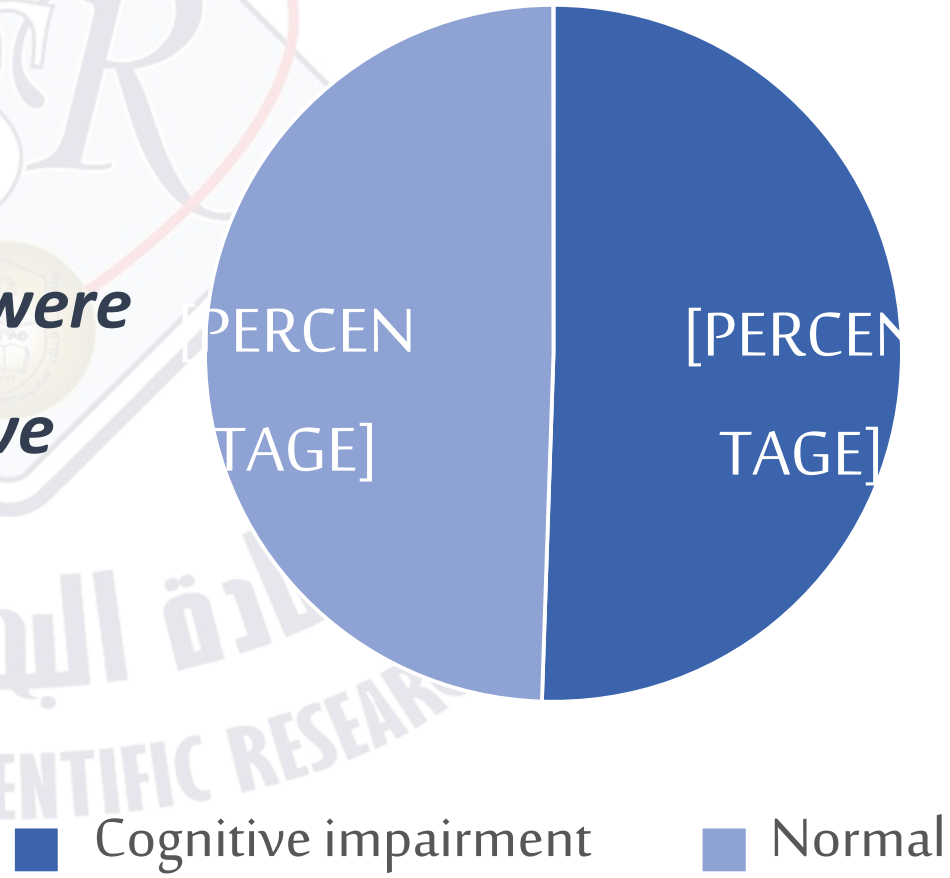
Two-tailed P values were calculated in all the analyses. Differences were considered statistically significant at $P < 0.05$.

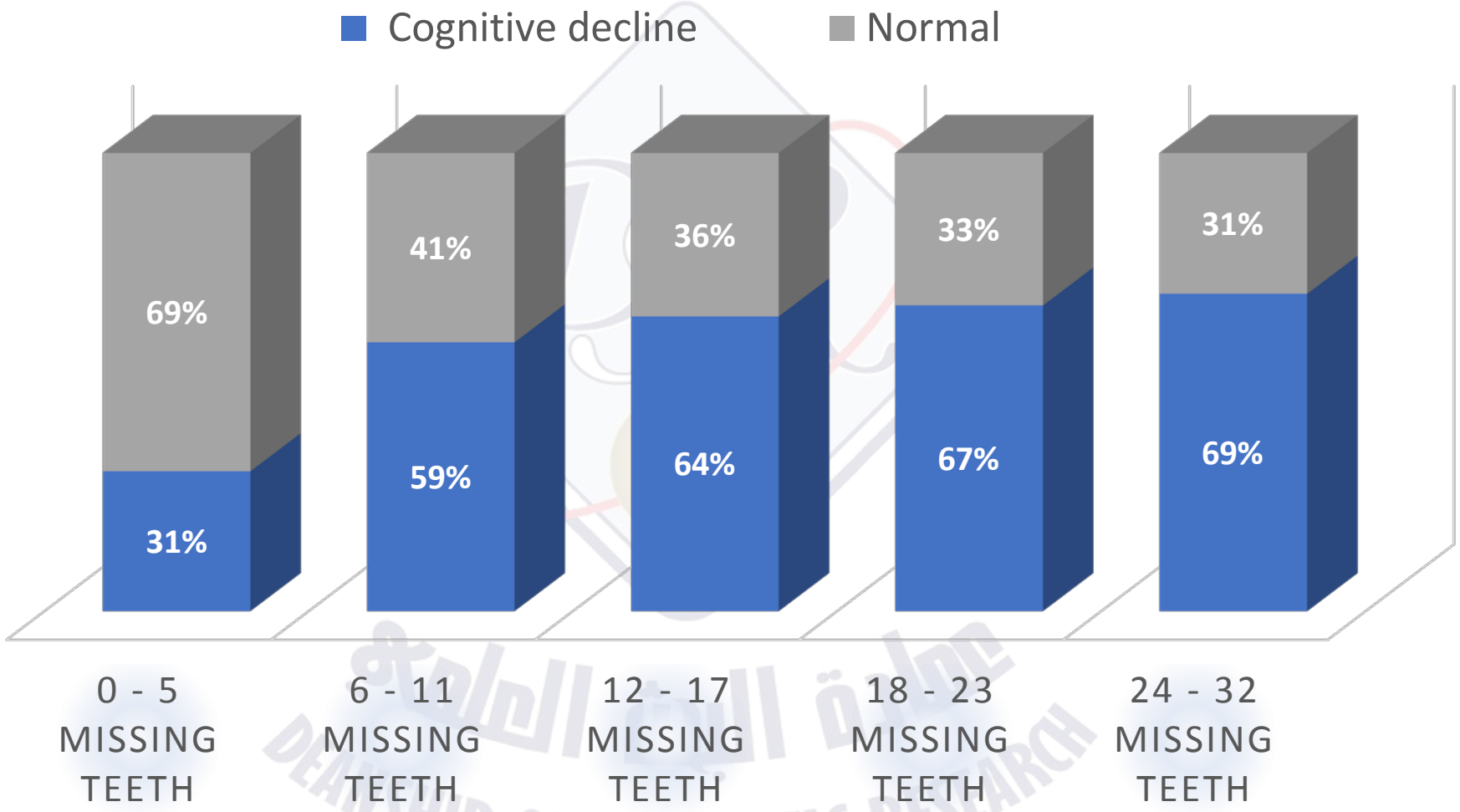
RESULTS

105 participants were examined

6 participants were excluded due to positive history of head trauma.

A 48 (51%) of participants were reported to have cognitive decline.





Presence of cognitive decline in different extracted teeth groups.

(P <0.046,)

Study Variable	MOCA test		
	Correlation coefficient	P value	Interpretation
Age	-0.508	< 0.001	Moderate negative correlation
Number of missing teeth	-0.386	< 0.001	Moderate negative correlation
CPI	-0.370	< 0.001	Moderate negative correlation

Correlation coefficient between study variables and Cognitive impairment ,MOCA test score

DISSCUSSION

- The result showed positive trend was detected for low MOCA score status in relation to the increases number of missing teeth, CPI and age of participants ($P<0.001$).

- The few existing studies in humans have reported ***similar*** results.

N. Okmato et al. (2010)

- Many variables were considered during the study which are level of education, income level and social network.

- Our results showed positive correlation of these variables and the reported (MoCA) score.

C.Roe et al. 2007

Y. Stern et al. 1995

B. SSGlass et al. 1991

- These findings were consistent with many studies which investigate the relation of years of educations, social isolation and income level with cognitive decline.

C.Roe et al. 2007

Y. Stern et al. 1995

B. SSGlass et al. 1991

CONCLUSIONS

We concluded from our preliminary data there is *significant* relationships between the number of remaining teeth, CPI, and cognitive function.

This would encourage further regional and national multicenter studies on bigger scale. Thus, enhance the public awareness about conservative oral health care from early age.

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Sarah Alzahrani[1], Reem Alhefdhi[1], Asma Altamimi[1], Ahmed Alshareef[1] , Faisal Alsubaiei[1], Saleh Sonbol[1], Bader Aldosari[1]
Supervised by: Dr. Randa ALFotawi[2]

[1]Senior Dental Student, College of Dentistry, king Saud University

[2]Assistant Professor OMFS Dept, Dental Faculty, KSU

References

For communication:

Sarah alzahrani

+966 55 299 8484

sarasaad1416@gmail.com