Provision of Oral Healthcare Services in the WHO-EMRO Countries: A Rapid Review

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Oral Diseases Burden in EMRO region

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Elamin et al., 2021:

Systematic review

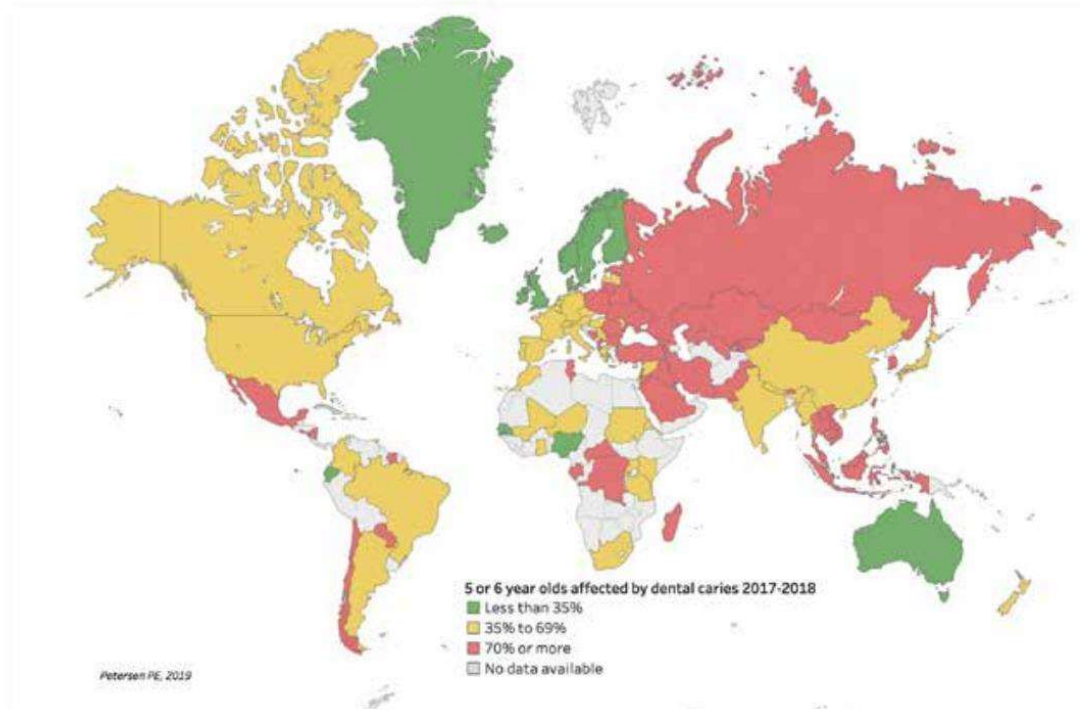
14 countries in the Middle East and North Africa region

Prevalence of dental caries

17.2% and 88.8%

Early childhood caries experience (dmft) reached **8.5**

Figure 1 Percentages of children aged 5 and 6 years affected by dental caries in 2017–2018



Source: Petersen PE. WHO Collaborating Centre for Community Oral Health Programme and Research, University of Copenhagen 2019.

Risk Factors Associated with Oral Diseases in EMRO region

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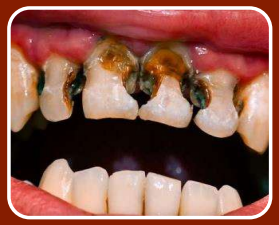
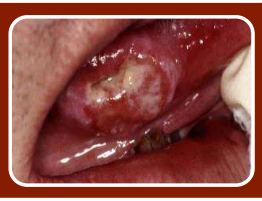


Dental Caries

- ⬇ Exposure to fluorides
- ⬇ Toothbrushing practice
- ⬇ Mothers' educational level /Socio-economic satatus
- ⬇ Utilisation of dental services (in rich countries)
- • Having mental/physical disabilities (autism, down syndrome and cerebral palsy)
- ⬆ Consumption of sugars and eating frequency

Periodontitis

- ⬆ Smoking
- ⬆ Malnutrition
- ⬆ Having Diabetes mellitus



Oral Cancer

- • Smoking / Smokeless tobacco (Shamma and Qat): Yemen
- • Alcohol drinking
- • Radiation exposures

- Diabetes
- Obesity
- Heart disease
- Strokes
- Cancer

Dental Caries Consequences

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Untreated tooth decay destroys tooth crowns and is often accompanied by:

- Severe pain
- Absence from school
- Eating difficulties
- Risk for delayed physical growth and development
- Increased days with restricted activity
- Diminished oral health-related quality of life

In most developed countries, the main reason for infants' and children's hospitalization was the extraction of infected decayed teeth (WHO, 2019)

UK: Extraction of teeth under general anaesthesia (5y)

£800-900

Toothpaste + Toothbrush

£ 3-5

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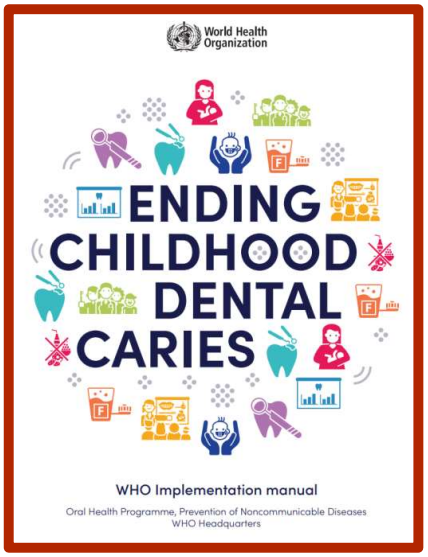
Oral Health Prevention



4. Tackling early childhood caries

4.1 Early diagnosis

4.2 Control of risk factors: infant feeding and diet in young children

4.3 Control of risk factors: population-based fluoride exposure

4.4 Arresting carious lesions through application of sealants, fluoride varnish and minimally invasive techniques for restoration

4.5 Health education and community engagement for prevention of early childhood caries

4.6 Involvement of primary care teams, including community health workers, in prevention and control of early childhood caries

4.7 Monitoring and evaluation

4.8 Building a supportive framework for integration of early childhood caries prevention and control in overall health initiatives

Empowering healthcare and oral healthcare systems??

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Are Healthcare Systems capable of adapting the WHO oral health promotion interventions and maintaining their high performance and outcome for improving oral health and reducing epidemic oral health inequalities?

Unavailability of oral healthcare information in the WHO-EMRO region to answer these questions

Aims and Objectives

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To explore the profiles of oral healthcare services (OHCS) in WHO-EMRO regions:

- To evaluate their performance
- To identify factors, gaps and challenges influencing this performance
- To envisage their capability to adapt the WHO oral health promotion interventions and maintain its high performance

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Overarching research questions:

- What are the profiles for OHCS in the WHO-EMRO region?
- Do these services perform effectively to promote the oral health of populations?

Search strategy: PubMed, Scopus, the Cochrane Library & Grey Literature

The keywords which will be used in the search database will be:

- WHO Eastern Mediterranean Region Counties
- UNRWA OR refugee
- Arab countries, Arabic countries
- Middle East, MiddleEast
- Oral health care services, oral health care system, dental health care system, dental health care services

INCLUSION CRITERIA

Population: Those living in WHO-EMRO region countries (indigenous and/or refugees).

Type of studies: Articles and health reports focus on oral healthcare Systems and services

Outcome: Oral healthcare services and the effectiveness of their performance

- ***Limitations for period or language***
- ***Methodological quality assessment and risk of bias assessment*** *(Grant and Booth, 2009)*

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EXCLUSION CRITERIA

Population: Not for populations and/or refugees in WHO-EMRO region countries

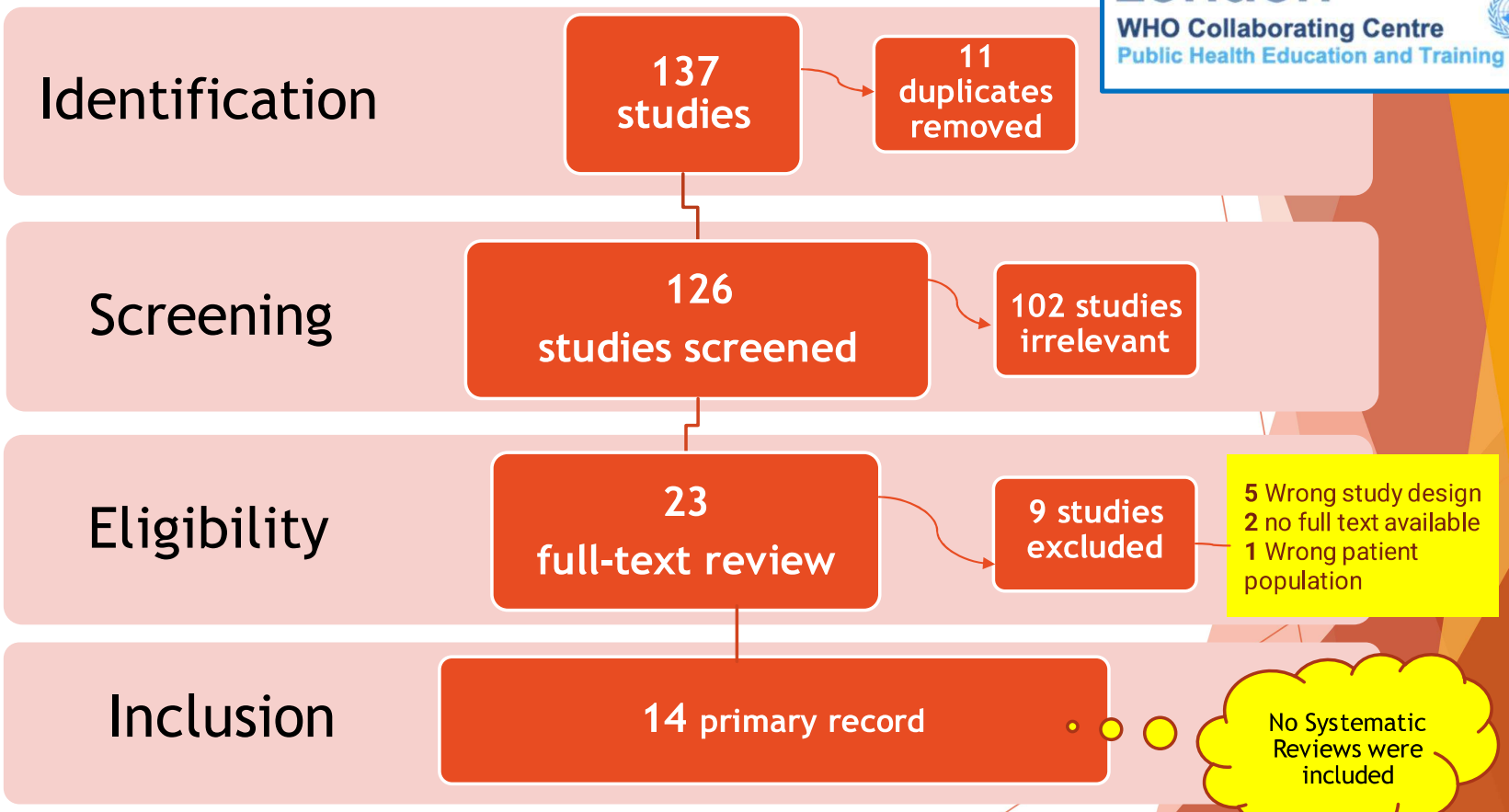
Type of Studies: studies not providing information about oral healthcare services and/or their performance and outcome

Outcome:

- Not record any information for oral healthcare services and/or
- No outcome about oral healthcare services performance

Study not found

PRISMA flow diagram



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Results

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- **The evaluation of oral health system performance will follow the WHO framework for health system performance assessment** (Murray and Frenk, 2000)
- **Studies were published:** 1987 to 2016
- **Countries reviewed OHCS:**
  High Income: Saudi Arabia, Kuwait, Oman
  Upper Middle Income: Libya, Jordan
  Low and middle Income: Iran, Egypt, Syria, Pakistan and Tunisia
- **Ministries of Health (MOHs) are the leading provider of dental care**
- **Contribution (%) of Gross Domestic Product to Health Expenditure/year:** 0.7-4 %
  - But not known for Dental care
- **Population growth rates:** 2-2.7%
  - Egypt (1988): 29.7%, The highest in the world

Results

- **Health Insurance Coverage to OHCS:**
  - Tunisia and Saudi Arabia: covers basic treatments (fillings and extractions)
- **National Health Budget Contribution to Oral Health Care Expenditure (%):**
  - Iran: 15.5% of overall health expenditures were allocated to dental services (in 2009)
- **OHCS included within the country's national health plan:**
  - Syria, Oman, Iran, Saudi Arabia, Pakistan, Tunisia, Kuwait

Results

- **Dentist to population ratio varies widely between countries:**
  - Low ratio in Pakistan and Oman
  - Tunisia (1993), unequal distribution:
    - **In the capital:** 1 dentist: 2215 inhabitants.
    - **In south Tunisia:**1 dentist: 120000 inhabitants

- **OHC-related research and oral health surveillance are rare**
- **Dental care prevention if existing is not assessed for effectiveness**
- **All OHC strategic planners agreed on the importance of shifting from curative to preventive approaches**

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Conclusions

- OHCS lacks dental care prevention
- MOHs struggle to meet populations' dental care needs due to resource deficiencies (OHCS expenditure is unknown) and highly prevalent dental diseases
- Thus, the dependence of governmental OHCS primarily on basic dental treatment provisions exacerbates the failure to meet population needs
- A study to assess the current OHCS performance, gaps and effectiveness is urgently needed, to predict the most effective and cost-effective OHCS practical model to tackle the seriously deteriorated oral health status in the region

Thank you

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