Oral health inequalities in the Caribbean: A call for action

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Health and Oral Health

• The concept of health is complex and difficult to define.

  “State of physical, mental and social well-being and not merely the absence of disease” (WHO 1948)

  “Health is a resource for everyday life” (WHO 1986)

• Oral health

  “a standard of health of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general well-being” (UK Department of Oral Health (1994)

• “Oral health has often been a neglected area of global health” (The Lancet 2011)
Health in the Caribbean

- Ongoing problem of infectious and vector borne diseases.
- Changing patterns of diet and lifestyles.
- Epidemiological transition towards increasing prevalence of Non-Communicable Disease (NCDs)
- 1.7 million deaths from cardiovascular disease in the Americas (Ischemic Heart Disease, Cerebrovascular Disease, Heat failure, Hypertensive disease) = 30% of all deaths in the Region.
- 50-60% of all adults and 7-12% of children under 5 – overweight or obese.
- Increase in premature deaths from diabetes

(PAHO (2012))
Health Inequalities in the Caribbean

• “Health inequalities have not been seen as a research priority in the Caribbean” (Cloos 2010)

• Gap between low and high income populations in the region in terms of health status is growing.

• For example: Inverse relationship between socioeconomic status (SES) and morbidity in diabetic patients in Trinidad and Tobago (Gulliford and Mahabir 1998)
Oral health inequalities

• Social gradient in oral health has been demonstrated in a wide variety of populations and diverse countries and at different points in the life-course (Watt and Sheiham 2012)

• Even in high income countries where poverty is rare, there is a graduated pattern of inequality in health across the social spectrum.

• Lower socio-economic status (SES) associated with higher prevalence of acute caries related conditions among adults. (UK Department of Health 2009)

• Higher caries experience in preschool children from deprived areas in major cities. (McMahon et al 2010, Marcenes et al 2013)
Unmet dental need

• Dental concerns and unmet dental treatment needs, especially among vulnerable populations, are not well addressed in oral health policies. (Fisher-Owens et al 2008)

• Access to healthcare is a global concern:

“Countries should invest in local health research in order to develop a system of universal health coverage so that citizens can obtain the health services they need without incurring financial hardship”

(WHO World Health Report 2013)
Access to dental care

• Social gradient in oral health care utilization:

  – Children from lower SES groups more frequent users of publicly funded paediatric emergency care in Trinidad (Naidu et al 2005).

  – Problems with access to dental care associated with higher prevalence of ECC among preschool children in Trinidad (Naidu, Nunn and Kelly 2013).

• If similar findings in other Caribbean nations - indicates a need for policy on improving / enabling access to oral healthcare in the region.
Unmet dental needs

- Disadvantaged population groups often cannot advocate for better oral healthcare and improved access to dental services.

- This increases vulnerability to oral health and general health problems.

  - 45% of Special Olympics Athletes in Trinidad in need of urgent oral health care (Naidu et al 2006)
Social determinants of oral health

• Health behaviours alone (including dental visiting) do not fully explain health inequalities.

• Need for greater focus on the social determinants of oral disease. (Watt and Sheiham 2012)

• Oral health inequalities can only be reduced in the long term by effective oral health policy that address the underlying causes of oral disease.
Oral health promotion

– Need for development of oral health promotion strategies appropriate for Caribbean populations.

“enabling people to take control of the determinants of health and thereby improve their health” (WHO 1986)

1. Build Healthy Public Policy.
2. Create supportive Environments.
4. Develop personal skills.
5. Re-orientate Health Services.
Children’s oral health

• Despite significant global reductions in dental caries it still remains a problem for many children in developing countries (Peterson 2003).

• *Dental disease in children is largely determined by social and environmental factors and should be totally preventable*” (Chestnutt 2013).
Children’s oral health in the Caribbean

• Evidence of a downward trend in dental caries in the Caribbean over last three decades. (Cleaton-Jones, Patti and Bonecker 2006).

• Based on international trends this is unlikely to be reflected across the entire social spectrum.

• Prevention and oral health promotion should include community-based interventions that address the child’s context through policy at local / national levels.
Higher disease burden in young children
Early Childhood Caries (ECC)
Dental caries and fluoridation

• Good evidence that water fluoridation has been effective in reducing inequalities in oral health among children. (British Dental Association 2008).

• Low feasibility in Caribbean countries:
  – Outdated infrastructure / inadequate pipe-water distribution
  – Rural areas
  – Technical aspects.
  – Consumer issues.
  – Political / policy issues and funding

• Alternative fluoride strategies required.
Salt fluoridation

• Considered an effective alternative to water fluoridation for prevention of caries in children.
  
  
  – (250mg F / kg).

• Successfully implemented in several countries in Latin America / Caribbean

• Evaluation of Salt fluoridation in Jamaica (1987-1995) :
  
  – Dramatic fall in caries levels among 12 year-old children over 8 year period following introduction, with negligible enamel fluorosis (Baez *et al* 2010)
Topical Fluorides

- Topical fluorides (*toothpaste, gels, varnish, mouthwashes*) – strong evidence for effectiveness of caries prevention
  - (Marinho 2009) Cochrane Database Systematic Reviews

- Fluoride toothpaste also effective in primary dentition
  Systematic review and meta-analysis (Santos *et al* 2012).

- Preventive effect of fluoride toothpaste increases:
  - When initial caries experience is higher.
  - With increasing concentration of fluoride (1000ppm +)
  - With greater frequency of application.
  - When another topical F-product combined with toothpaste.
  - When tooth brushing supervised.
  - (Marinho 2008)
Community-Based Programs

- **ChildSmile (UK)** preschool-based oral health strategy
  - fluoride varnish / supervised brushing with fluoride toothpaste
  - effective at reducing prevalence of ECC in children living in socio-economically deprived communities (Macpherson *et al* 2013)

- **Caries Free Communities (PAHO)**
  - Community-based preventive strategy - Latin America and Caribbean.
  - school-based fluoride varnish / toothpaste / sealants / oral health education.

- **Colgate Bright Smiles Bright Futures ®**
  - oral health education for children, parents, teachers in preschools/primary schools
  - dental screenings / toothpaste distribution
  - Involvement of Dental Therapists
Common risk factors and oral health promotion

• Oral and general diseases have common risk factors.

• Risk factors – lifestyle related

• To be effective, oral health promotion strategies must consider common risk factors in the context of wider social determinants of health.

(Watt 2012)
The common risk factor approach (adapted from Petersen, 2003)

- Health system and oral health services
- Use of oral health services
  - Risk behaviour:
    - Oral hygiene
    - Diet
    - Tobacco
    - Alcohol
- Outcome:
  - Oral health status
  - General health
  - Quality of life

- Socio-economic and cultural risk factors
- Environmental risk factors
Smoking and oral health

“Tobacco use is one of the most important causes of ill health and health inequalities in the world”
(UK Department of Health 2005)

Increases risk for cardiovascular disease, respiratory disease, cancers

• Effects on oral health:
  • Poor aesthetics
  • Halitosis
  • Altered taste
  • Periodontal disease
  • Poor wound healing
  • Implant failure
  • Malignancy
Oral cancer / pre-cancer

(Images courtesy HF Al-Bayaty - UWI School of Dentistry)
Smoking policy and oral health promotion

Trinidad and Tobago - smoking prevalence (27%) - highest in English-Speaking Caribbean (PAHO 2012).

Health promotion:

- Tobacco Control Policy (T&T Ministry of Health 2009)
- Smoking banned in public places and workplaces + advertising control.

Oral health promotion:

- Oral health professionals effective in helping people to quit smoking (Carr 2006)- Cochrane Database Systematic Review
- Majority of patients in Trinidad health centres happy to receive smoking advice from their dentist (Al-Bayaty et al 2011)
- Smoking cessation training for dental students in Trinidad - 5 A’s approach (Naidu, Roopnarine and Ramroop 2012)
Diabetes and oral health

“NCDs pose an enormous challenge for every country’s socio-economic development – inter-sectoral alliances and combining resources and competencies must be part of the solution” (UN 2011)

• Diabetes and periodontal disease = bi-directional relationship

• 3 to 4 X greater risk of PD with diabetes

• Little data in Caribbean populations:

• Preliminary data in Trinidad shows high prevalence of moderate to severe periodontal disease in diabetic patients (Balkaran et al 2010)
Clinical guidelines

• Evidence-based guidelines on managing diabetes in the Caribbean (CARPHA)
  – Multidisciplinary approach.
  – Physical examination of diabetic patient should include an oral examination

“Oral health teams have unexploited potential to be important advocates, for oral and general health”

(Williams, Sheiham and Watt 2013)
HIV / AIDS in the Caribbean region.

- Latin America / Caribbean – 109,000 new cases 2001-2009 (PAHO 2012)

- Vulnerable group with respect to health / oral healthcare needs.

- Oral lesions associated with HIV / AIDS sometimes the first markers of the disease.

- Dental professionals should be part of the multidisciplinary approach required for care of people living with HIV/ AIDS (Prabhu 2006)
Oral lesions associated with HIV/AIDS

(Images courtesy Dr. HF Al-Bayaty UWI School of Dentistry)
Oral Health Related Quality of Life (OHRQoL)

• Caribbean has little data using subjective measures of oral health.

• Poor oral health affects well-being and daily life.

• Oral conditions can cause: pain, loss of function, poor aesthetics → low self esteem / social exclusion

• Impact of oral disease at population level (Locker 1992).
  = increased sick days, work loss

• Several measures of OHRQoL available for adults and children (OHIP, OIDP, DIDL etc)

• Studies reporting data on OHRQoL can aid in understanding impact and identify priority groups.
Strategies for addressing oral health inequalities in the Caribbean

• Shifting strategic focus from treatment towards prevention / oral health promotion.

• Building research capacity and strengthening oral health networks (WHO 2010).

• Increasing support for research on effectiveness of interventions and oral health outcomes.
Regional Oral Health Policy

- Oral health policy should be based on findings from high quality research (Evidence-based)

- Some Caribbean islands have developed national oral health policy / strategic frameworks: e.g. Trinidad and Tobago – Oral Health Policy and Plan (2010)

- Need for sharing of ideas and good practice.

- Development and implementation of regional oral health policy (PAHO 2005)
Strategic aims

• Conduct situation analyses to assess oral disease burden and priority population groups.
• Develop and strengthen programs for oral health promotion and prevention.
• Integrate oral health programs with other health programs.
• Use a common risk factor approach and consider the social determinants of oral health.
• Establish surveillance systems for oral health.
• Ensure regular evaluation of oral health programs.
• Support for research in oral health promotion and prevention of oral diseases.

(WHO 2008)
Conclusion

• Oral health promotion strategies need to consider the social determinants of oral diseases.

• Systems to increase access to dental care for vulnerable and disadvantaged groups should be explored.

• Strategic planning should involve all main stakeholders from academic institutions, private sector, government, non-government organisations and community groups from across the region.

• A Caribbean regional oral health policy and research agenda should be developed.

• High quality oral health research should be used to inform evidence-based strategies and interventions, appropriate to health needs of Caribbean people.
Thank you