

Dental Insights – How can we improve biofilm control and oral hygiene behavior in patients?

1. How to improve supragingival interdental biofilm control

12% adult use floss
46% use wood sticks

Rubber interdental cleaner is not the same as interdental brush.

Manual toothbrushing reduce plaque scores with 42%.
Powered toothbrush reduce plaque scores with 46%.
Professional manual toothbrushing 2 minutes reduce plaque scores with 67%.
Professional powered toothbrushing 2 minutes reduce plaque scores with 85%.

There's a high certainty for a small effect of a powered toothbrush over a manual toothbrush.
"The efficacy of powered toothbrushes" Tomassen et al 2021.

Patients who used a powered toothbrush spent more time on toothbrushing.
"Change in oral hygiene behaviour after non-surgical periodontal therapy" Elkerbout et al 2022.

2. How to modify the patient behavior in oral hygiene practices

Oral hygiene behavior has to be adapted to the specific patient need.

Oral hygiene efficacy depends on:

- Patient's skills and dexterity
- Patient's adherence and acceptance to self-care instructions
- Patient's motivation long-term

Plaque is a risk factor for periodontitis. It's a really tough task in patients with periodontitis. The patients maybe need 10 minutes to clean their mouth properly.

The key factor for treatment succes is a trustful patient-doctor relationship:

- Listen
- Explain, inform, educate
- Motivate to lifestyle change and risk factor control
- Reinforce good behavior

Most important areas of improvement:

- Improve care professionals attitude so as not to look down on patients.
- Avoid tunnel vision on one condition and neglecting other medical problems or symptoms.
- To care for patients holistically and not just for his/her organs.
- Patient-centered communication style

Behavioral therapies and techniques.

Motivational interviewing.

Cognitive-behavioral interventions.

Open questions for patient education and motivation:

- Who
- What
- How
- When
- How often
- How many repetitions

Management and treatment of a chronic disease is complex and requires multiple sessions and well-trained health personnel.

Patient motivation is key for success.

Good sources:

"Jönsson et al 2020"

"Gunpinar & Meraci 2022"

"Holloway et al 2021"

"Araujo et al 2019"

"Promoting behavioural changes to improve oral hygiene in patients with periodontal diseases"

"Carra et al 2020"

"Treatment of stage 1I-III periodontitis- The EFP S3 level clinical practice guideline, Sanz et al 2020"

Example from diabetes "Bilgin et al, Patient education and counselling, 2022"

"Priorities to improve the care for chronic conditions and multimorbidity: a survey of patients and stakeholders nested within the ComPaRe e-cohort" BMJ

3. Chemical biofilm control

Biofilm locations:

Soft surfaces: mucosa, palate, tongue

Hard surfaces: teeth, implants, restorations

Biosis vs Dysbiosis (caries, periodontal diseases, peri-implant diseases).

Dental biofilm control is key!

Chemical biofilm control is always an adjunctive to mechanical biofilm control.

Chemical biofilm control:

- Antimicrobial agents
- Plaque-reducing/inhibitory agents
- Antiplaque agents
- Antigingivitis

They affect either biofilm or gingival inflammation.

Mouthrinses or dentrifices?

Conclusive recommendations:

Essential oils and chlorhexidine showed the best results.

Be aware of the different grades of recommendation, and strength of the consensus.

- Most effective dentrifices: CHW, tric-cop, SnF with SHMP
- Most effective mouthrinses: CHX, EEEO, CPC

Discussion:

There are many new products that are more oral microbiome friendly (not antiseptic but recreating biosis), fx NaOCl, but we don't have enough scientific evidence yet.

There can be side effects in mouthrinses that can increase blood pressure. CHW has many side effects.

There are not many studies on apps used in treatment of periodontitis. One study used text messages to periodontitis patients.

We should use technology much more for reinforcing good oral health behaviors in our patients!
Powered toothbrushes can also be more effective in children.
Interdental cleaning should also be considered earlier in children, but if the child doesn't like it, it can have an adverse effect.

Natural ingredients as active agents are new products, but we don't have enough scientific evidence yet.

Good sources:

"Serrano et al 2015"

2017 Workshop between European and American Federation of Periodontology

2019 Stage I-III EFP S3 Level Clinical Practice Guideline

Top 3 Dental Insights – Key Take Aways

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Sources

EuroPerio10, EFP, 15.-18.06.2022

That was Dental Insights. Thank you for being here. ♥

Dental love, Anne Mette