Communication and compliance: how to create behaviour change

Tim Newton

Aim

•To introduce participants to models of behaviour change and to identify effective techniques to encourage behaviour change.

Objectives

By the end of the session participants will be able to:

•Describe models of health related behaviour.

•Cite published evidence of the ability of the models to predict oral health related behaviours.

•Identify possible targets for interventions to enhance oral health related behaviour.

Overview

- Targets for oral health behaviour
- A little theory …
  - Capability
  - Opportunity
  - Motivation

Targets for behaviour change in Dentistry

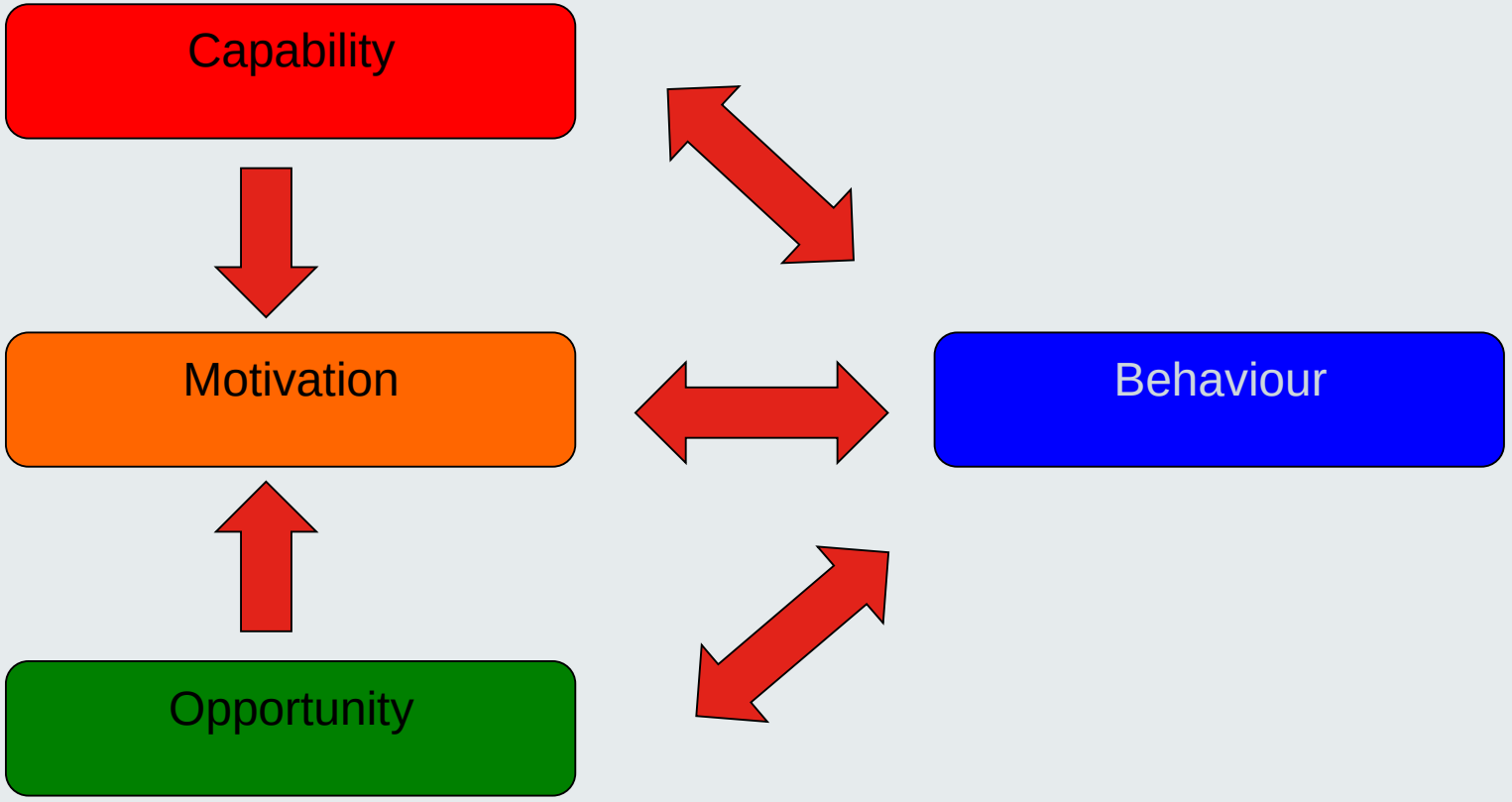
Regular daily tooth-brushing with a fluoride containing toothpaste.
Regular attendance at the dentist (at least once every two years or more often on the basis of their risk of developing oral disease).
Refrain from tobacco use or quit tobacco use if the individual currently uses tobacco products.
Reduction in the frequency of sugar containing foodstuffs, particularly sugar containing snacks between meals.


THIS FRIDGE IS FOR TODAY'S FOOD AND MILK ONLY !
Please do not store your food and clean any spillages


Please!
If you **really** need to use a lot of toilet paper, please flush the toilet before you have blocked it with too much paper, then flush it again at the end.
Similarly, if you put paper on the seat to supposedly protect yourself from the seat, then put that paper in the toilet and flush it away. Do not leave it on the seat or on the floor.
Others should not have to clear up after you.


PLEASE DO NOT LOCK THIS DOOR WITH THE KEY
THANK YOU!
BORGLOCKS.COM

COM-B model



Michie, van Stralen and West (2011 p.4)

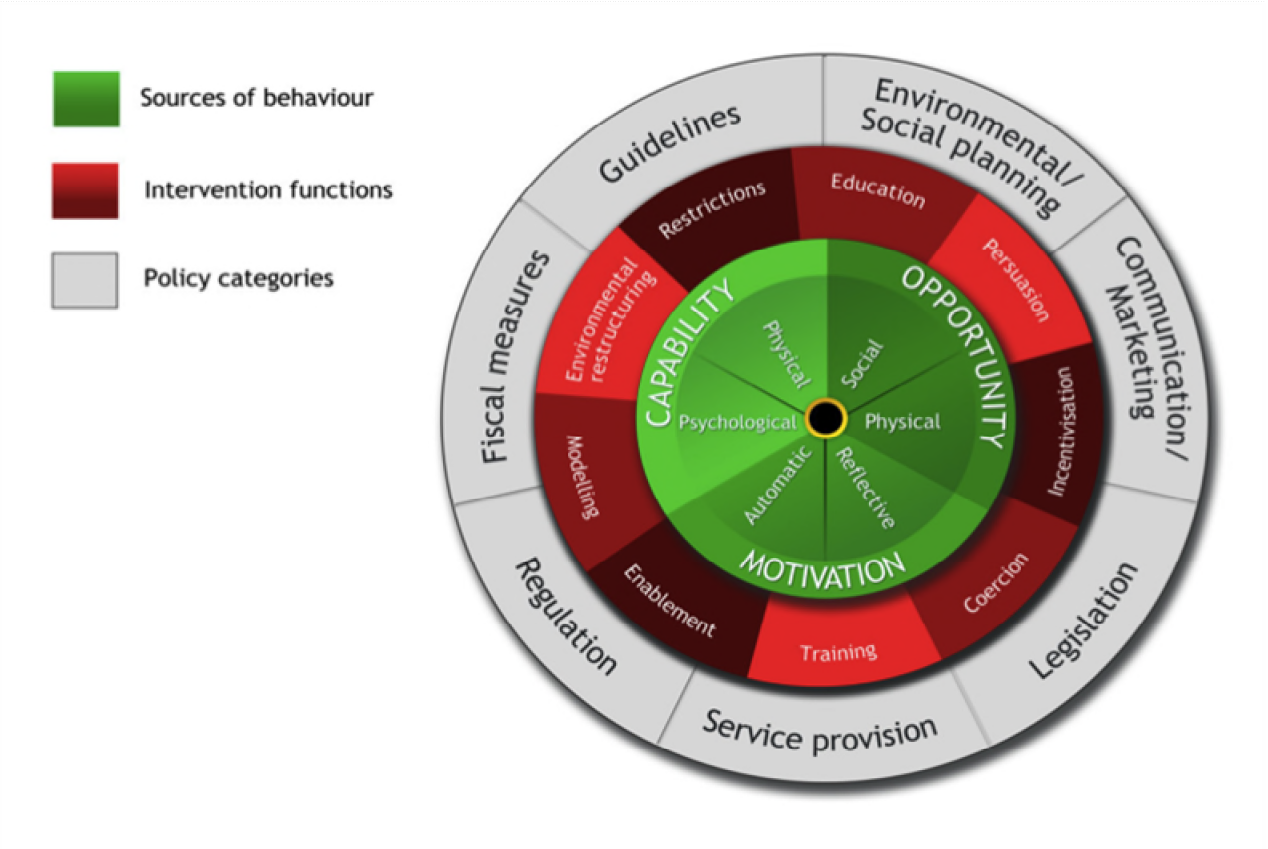
COM-B model

•*Capability* **(C)** i.e. the person having the *physical* (e.g. strength) and *psychological* (e.g. knowledge) skills to perform the behaviour

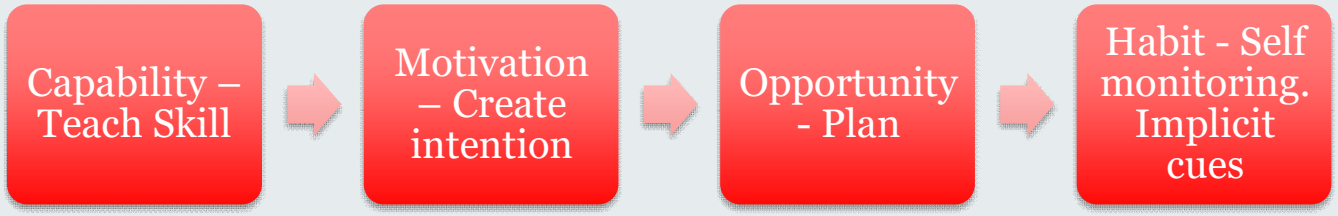
•*Opportunity* **(O**), i.e. the *physical* (e.g. access) and *social environment* (e.g. exposure to ideas) are such that the person feels able to undertake the new behaviour

•*Motivation* **(M**) refers to the person's *conscious* (e.g. planning and decision making) and *automatic* (e.g. innate drives, emotional reactions, habits) processes said to underline the emission of any behaviour.

The Behaviour Change Wheel



(Michie and West 2013, p.12)


Capability – Teach Skill
Motivation – Create intention
Opportunity - Plan
Habit - Self monitoring. Implicit cues

Capability

Skill

Knowledge

Self Efficacy

Skill

Rectifying skill deficiencies

- Written information
- Demonstration
- Observation and feedback
- Prompting

Knowledge

Knowledge

- Patients often do not know the meaning of words used by clinicians
- Patients have their own ideas about illness and these often differ from accepted orthodox ideas
- Messages given by clinicians are interpreted in terms of the patients' understanding
- Patients often fail to understand what they are told by health care professionals
- Patients are often reluctant to ask for further information even when they would like it.
- Patients recall of information from the consultation differs from the recall of healthcare professionals

How to improve knowledge

- Explore the patient's understanding of their illness. Not only health beliefs and knowledge, but beliefs about efficacy, intention, perceived barriers and 'norms' within their social groups
- Use the patient's framework to explain the need for change
- Use the primacy effect (may increase recall 36%)
- Use specific rather than general statements (may increase recall by 35%)
- State exactly what you want someone to do. "For example brush your teeth twice a day, once after breakfast and once last thing at night"
- Stress which information is important (may increase recall by 13%)

- Repeat information (may increase recall by 14%)
- Use shorter words and shorter sentences (may increase recall by 13%)
- Categorise information in an explicit manner (may increase recall by 9 to 18%)
- Telephone and mail reminders for appointments may improve attendance by up to 17%
- Use written materials to support advice

(Newton 2013)

Mind Mapping to improve memory

Thickett & Newton (2006) RCT

30 Orthodontic patients

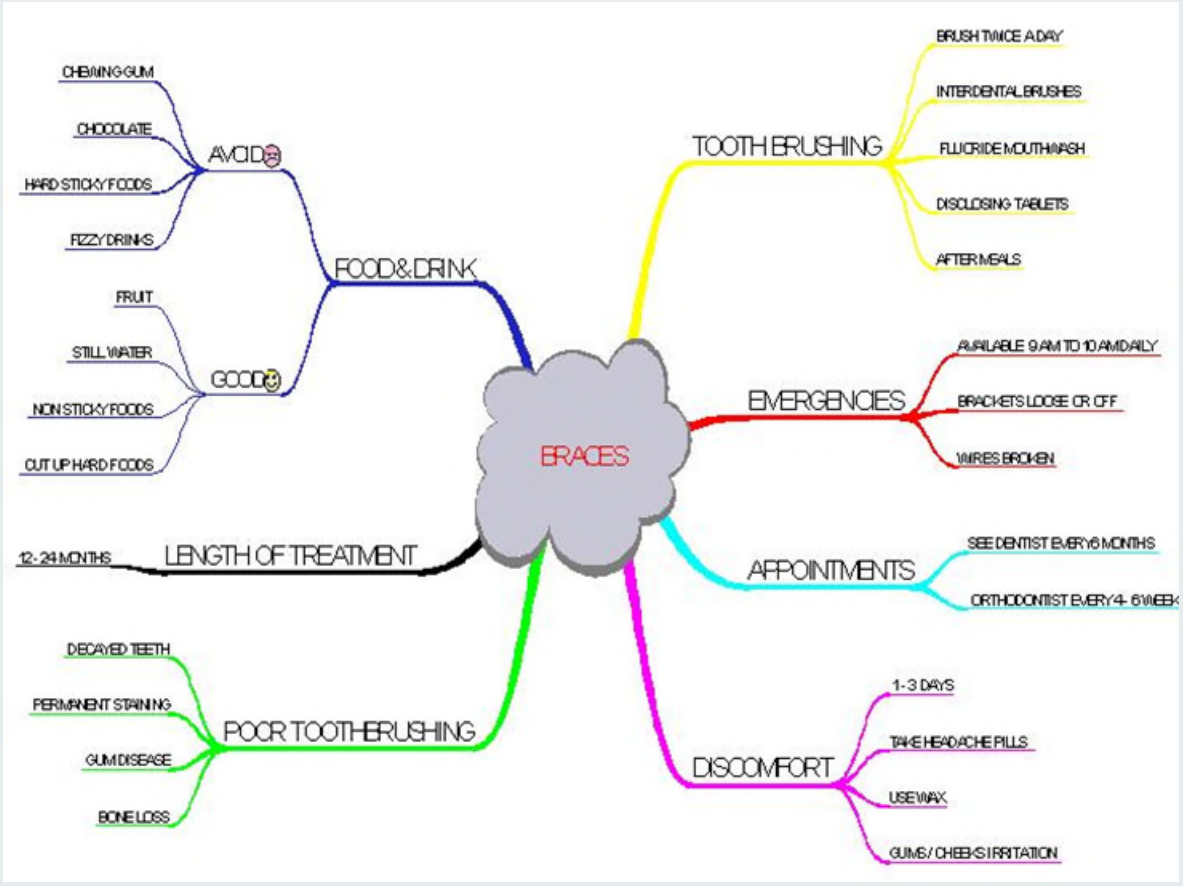
Written information

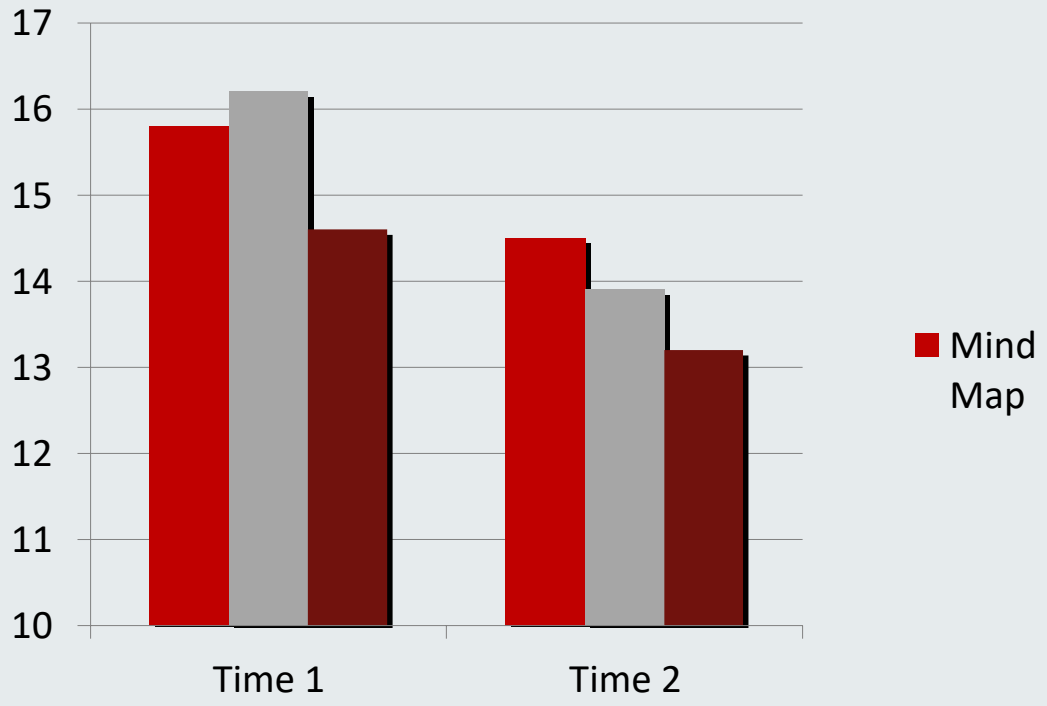
Mind Map

Acronym

Immediate recall and 6 week recall assessed

B	Brush twice a day and after meals, use floss and a fluoride mouthwash
R	Reduce fizzy drinks to zero
A	Aching of teeth and ulceration of cheeks and gums.
	Use the wax and headache tablets if necessary.
C	Cut out all sticky foods eg chewing gum, toffee, sweets etc
E	Emergencies for breakages attend clinic between 9 –10 am
S	See your own dentist for routine checks 6 monthly
	See orthodontist every 4 – 6 weeks.


BRACES
TOOTH BRUSHING
BRUSH TWICE A DAY
INTERDENTAL BRUSHES
FLUORIDE MOUTHWASH
DISCLOSING TABLETS
AFTER MEALS
EMERGENCIES
AVAILABLE 9 AM TO 10 AM DAILY
BRACKETS LOOSE OR OFF
WIRES BROKEN
APPOINTMENTS
SEE DENTIST EVERY 6 MONTHS
ORTHODONTIST EVERY 4- 6 WEEK
DISCOMFORT
1-3 DAYS
TAKE HEADACHE PILLS
USE WAX
GUMS / CHEEKS IRRITATION
POOR TOOTHBRUSHING
DECAYED TEETH
PERMANENT STAINING
GUM DISEASE
BONE LOSS
LENGTH OF TREATMENT
12- 24 MONTHS
FOOD&DRINK
AVOID
CHEWING GUM
CHOCOLATE
HARD STICKY FOODS
FIZZY DRINKS
GOOD
FRUIT
STILL WATER
NON STICKY FOODS
CUT UP HARD FOODS


17
16
15
14
13
12
11
10
Time 1
Time 2
Mind Map

Self efficacy

Self-efficacy

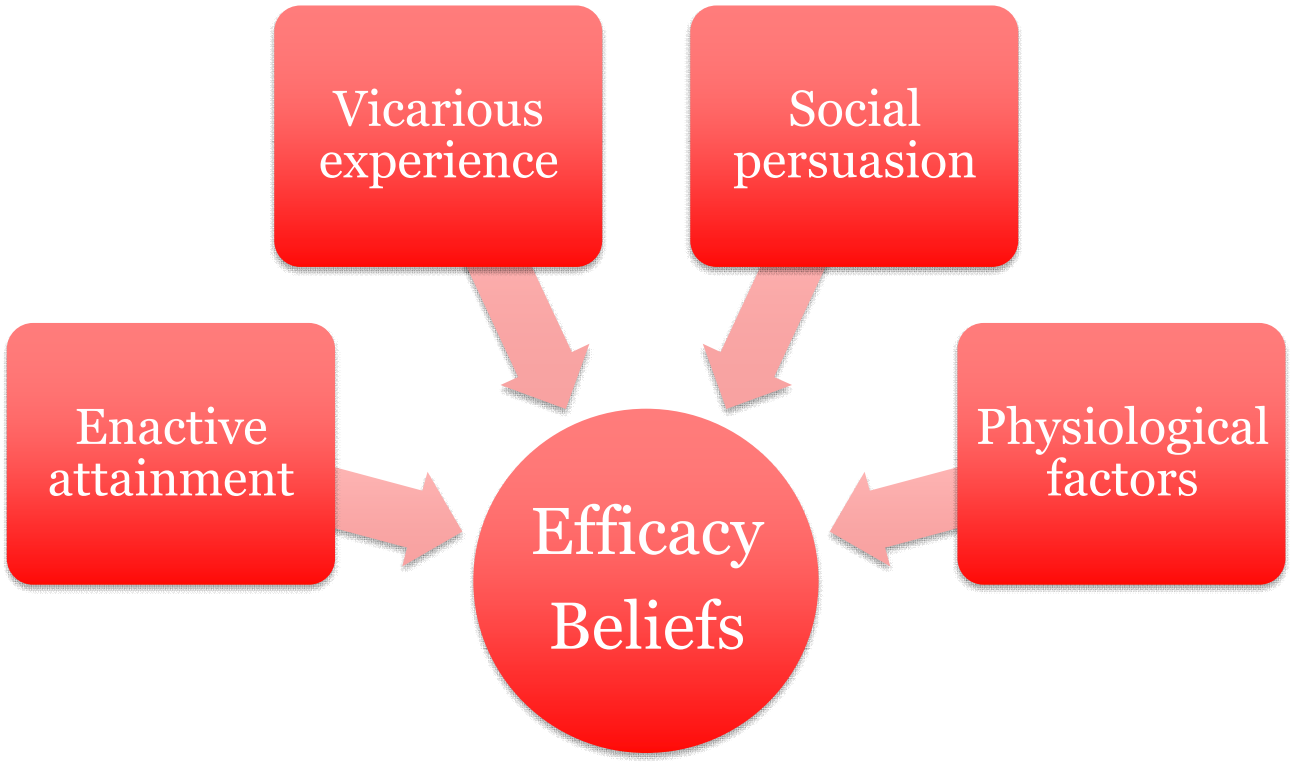
Repeatedly shown to predict compliance:

Knecht, Syrjala, Laukkanen & Knuuttila (1999) Self efficacy predicted dental visiting.

Persson, Persson, Powell & Kiyak (1998) Self efficacy was the best predictor of periodontal disease progression in older patients

Some suggestion that dental self efficacy beliefs are lower than self efficacy beliefs for general health.

Determinants of self efficacy



(Bandura 1977)

- Enactive attainment. Improvements in self-efficacy through actual achievement
- Vicarious experience. Observing the success of others
- Social persuasion. Encouragement
- Physiological factors. Physiological arousal (eg ‘butterflies in stomach’) may be taken as a negative indication

Techniques to improve self-efficacy

- Encourage small changes
- Modelling and feedback
- Empowering statements
- Encourage restatement of physiological states.

Motivation

Social cognitions

beliefs, thoughts and attitudes concerning behaviours, which are believed to relate to whether or not a person undertakes a particular behaviour.

(Connor & Norman 2005)

What cognitions are associated with oral hygiene behaviours ?

(Newton & Asimakopoulou, 2015)

Systematic review of correlation between social cognitions and oral hygiene:

- Benefits of behaviour change
- Perceived susceptibility to periodontal disease

The benefits of behaviour change

Identify the patients’ goals and values

Emphasise the benefit of behaviour change, using the patients’ values and goals as a framework. For example, “You mentioned that the you would like at the moment you feel embarrassed by the way your teeth look, as part of regular treatment we will aim to help you feel confident again about the way your teeth look”

Providing information on the patients' susceptibility to disease

Computerised systems

Red, Amber, Green colour coding

Provide visual points of comparison to indicate risk

Opportunity

Implementation Intentions

Planning:

- When
- Where
- How

… will the behaviour occur

Applications of Implementation Intentions

Gollwitzer & Sheeran (2006) meta analytic review of 26 studies and 93 outcomes

Schutz et al (2006), planning was the only significant predictor of adherence to a daily regime of flossing in 157 university dental students.

Sniehotta et al (2007), asking participants to plan where and when they would floss their teeth improved the proportion of participants who were flossing three times a week or more.

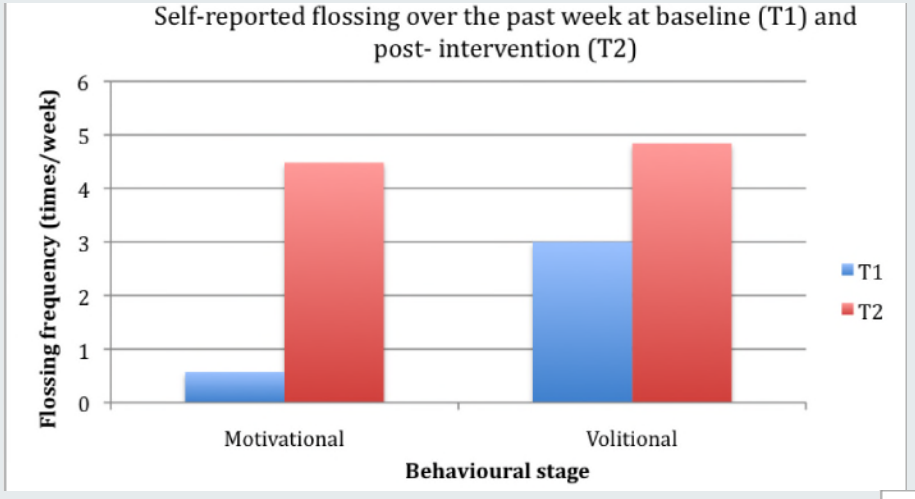
Suresh et al (2012)

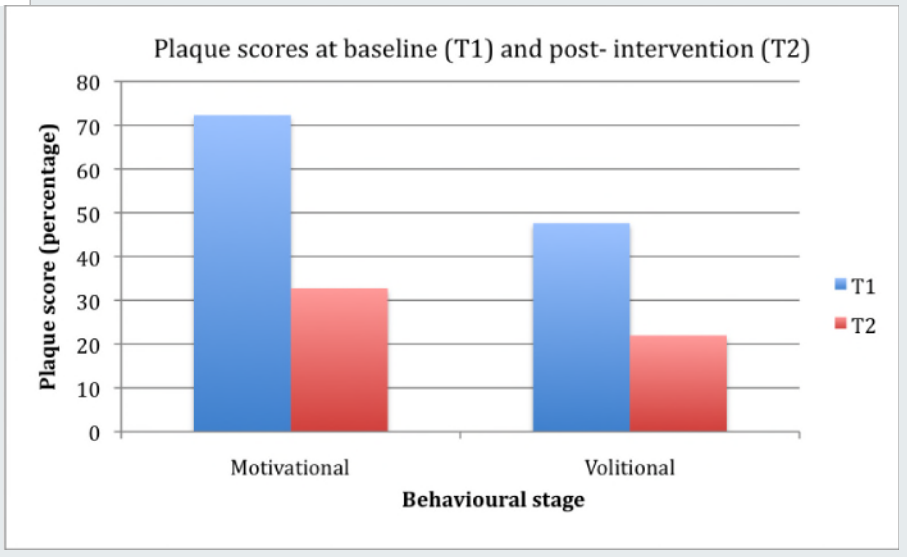
73 patients with periodontal disease

Intervention: Diary record of flossing behaviour

Outcomes: Self-reported flossing, plaque index, bleeding score

Suresh et al (2012)





Asimkaopoulou et al (2015)

Aim:

To compare the effects of a routine periodontal assessment consultation vs. a routine consultation + individualised risk assessment communication intervention on patient thoughts and emotions about periodontal disease

Two arm RCT

Control: TAU

Intervention: TAU + Provision of risk of periodontal disease using Previser software.

102 patients attending secondary care facility with moderate / severe periodontitis

Pre- and post- consultation assessment of psychological constructs

In summary

An individualized risk communication intervention led to patients perceiving:

i) Periodontal disease treatment as more effective than they did pre-consultation ($p < 0.001$),

ii) Greater self efficacy to follow treatment recommendations

iii) Higher intentions to adhere to periodontal management

Asimakopoulou et al (2019)

The effect of three different types of periodontal assessment consultation:

- TAU
- Risk communication
- GPS

Periodontal disease clinical outcomes, self reported oral health behaviours and psychological constructs at 4 and 12 weeks

Findings

- Significant reductions for both intervention groups compared to control for Plaque, bleeding but NOT pocket depths
- Self reported interdental cleaning improved in GPS group compared to controls and Risk only
- Equivalent changes across all three groups in perceived: seriousness, treatment effectiveness, fear, self efficacy
- Both intervention groups had lowered sense of susceptibility in comparison to TAU
- No change in any group in intention to adhere to behaviour

Forming a habit

Encourage persistence

Self-monitoring

Implicit cues

(Kwasnicka et al 2016)

Self-monitoring

Methods for self-monitoring

Diary

Phone APPs

Customised paperwork (designed with patient)

Tim’s Top Tips

1. Think more than simply giving knowledge
2. Enhance self-efficacy through
   a. Identifying previous success
   b. Creating small changes that accumulate
3. Encourage planning
4. Use media to provide demonstrations

What to do?

Oral Hygiene

Toothbrushing

Very little intervention required in terms of skill, opportunity or motivation (research suggests this is generally a well developed habit)

Possibly target toothpaste choice – use of free samples to engage in choice, emphasise importance of specific ingredients for specific problems, Encourage persistence

Flossing

Capability – provide modeling, also observation and feedback

Motivation – Enhance beliefs in the efficacy of flossing to improve health

Opportunity - encourage planning where, when and how to floss

Oral Hygiene

Mouthwash

Capability –Probably not needed

Motivation – Enhance beliefs in the efficacy of mouthwash to improve health and produce benefits valued by the patient

Opportunity - encourage planning where, when and how to use mouthwash

Attendance

Capability – Knowledge, skill and self-efficacy unlikely to be problems

Opportunity – Create triggers to action such as reminder letters, text messages. Identify barriers such as cost, and fear. Tackle barriers through creative interventions such as flexible payment plans, providing a friendly and welcoming environment etc

Motivation – Encourage patients to use reminders and planning for attendance.

Smoking cessation

Capability – Specialist cessation services can provide this help

Opportunity – Refer patients to specialist services

Motivation – Ask, and ask again.

Diet change

Capability – Identify common links between diet and valued goals (including oral health, fitness, appearance)

Motivation – Enhance beliefs in ability to make a change

Opportunity - encourage planning where, when and how to change. Use substitution where possible.

Thank you for your time and attention