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Oral health education

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Oral health education/ promotion can be carried out in a variety of settings such as nurseries, schools, colleges, the workplace and in general practice. However, the principles of planning, delivery and evaluation are relevant in all settings.

Before targeting any oral health promotion activities it is important to consider the ways in which people learn, levels of understanding and the skills they will need to carry out any behavioural changes.

Types of learning

There are three types of learning:
- **Cognitive:** Learning which takes place in the head and deals with thinking skills
- **Affective:** Learning which comes from the heart and deals with attitudes and behaviours
- **Psychomotor:** Learning which involves the hands and deals with physical and practical skills.

When asking a patient to make changes in their or their child's lifestyle it is necessary to consider the depths of learning that this change requires. Different depths of learning will have the effect of using different verbs to measure the levels of knowledge required.

This can be illustrated by using an example such as toothbrushing. When asking a patient to list or state a fact you are relating only to *rote learning* which only involves the memory, therefore you have no assurance that someone can actually explain what something means.

It is important to measure a patient's level of understanding before they leave to ensure they know why they are carrying out a particular task or purchasing a specific type of toothbrush. This type of activity can be measured using verbs like *explain* and *describe* and on this occasion both memory and understanding are being used. When asking a patient to select an appropriate toothbrush and demonstrate their toothbrushing technique you are now able to measure all three levels.

Aims and objectives

Once the level of knowledge required has been established it is necessary to have specific aims and objectives in order to measure the effectiveness of any activity. Aims and objectives help to identify what someone is hoping to do and how they are going to achieve it.

An **aim** is a general statement of intent. Examples might be:
- To promote oral hygiene
- To promote safer snacks.

'It is important to measure a patient's level of understanding before they leave to ensure they know why they are carrying out a particular task.'

Umbrella statements like these are useful as they help to give a broad overall view before specialising in introducing objectives. There are, however, limitations in solely using aims as one is never certain whether aims have been achieved and therefore they are of no use without objectives.

Objectives are what one is trying to achieve, reach or capture and are much more specific than aims and therefore can be identified as a means of achieving an aim. Objectives will always contain a key verb which will give evidence of behavioural change having taken place.

Objectives should be **SMART**:

Specific
Measurable
Achievable
Realistic
Time-related.

Examples of objectives are:
- To **state** the reason for flossing regularly
- To **list** four sugar-free snacks
- To brush teeth and gums effectively
- To **identify** three types of sugar on food labels
- To **select** the correct fluoride supplement for their child
- To **describe** the early carious lesion.

It is necessary to consider carefully what is being asked of someone and whether it is achievable. Using the checklist illustrated in Figure 1 can help in this process.

As well as setting aims and objectives it is necessary to identify the target group. If a dental care professional is invited to speak to a local group about oral health it is necessary to consider the following points:
- How much do you know about your target group?
- How many will be in your target group?
- What is the age range of the group?
- What sex/race are they?
- How will their culture, social or environmental background affect the way they will understand your presentation?
- What will they expect from your presentation?
- What do they already know about your topic?
- What misconceptions might you have to correct?

Planning an oral health education session

To assist in the delivery of oral health education (OHE) a formal lesson/session plan should be written. Before this can be done the following questions need to be answered:

Information required before a lesson/session

- **Number in group:** This will determine the number of resources required, eg toothbrushes, leaflets etc
- **Age and ability:** This will influence the type of activity and resources that can be used, eg games, disclosing tablets or solutions etc
- **Any previous instruction or prior knowledge:** This prevents duplication. New information will maintain interest
- **Location:** Size of the room, access and availability of the location, eg church hall
- **Time of lesson:** This may be, eg before or

Fig. 1 Aims & objectives checklist

- What are your aims?
- Are they clear and understandable to other people?
- Do your objectives agree with your aims?
- Are your aims and objectives consistent with what your target group might want to learn about?
- Have you checked with your colleagues that these aims make sense?
- Have you set realistic targets for your aims and objectives?

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after lunch. Children react differently at different times of the day
- **Length of time available:** This will reflect in the objectives set – SMART (see Aims and objectives)
- **Power supply available:** This is necessary when using additional resources
- **Use of additional resources:** These may be overhead projector (OHP), screen, sink, video recorder. These are all useful resources to maintain interest with groups and expand activity, eg sinks are needed when disclosing with individuals
- **Blackout facilities:** Necessary when using slides or OHP
- **Chalkboard:** Particularly important if no electrical supply is available.

Why have a lesson plan?
A lesson plan makes it possible to:
- **Provide an analysis:** A structured lesson plan allows each section of the lesson or session to be reflected upon and any alterations made for the future
- **Establish realistic achievable objectives:** In considering the age, ability, resources and the methodology it will become apparent if the objectives set are achievable
- **Establish what has to be taught:** Defining the topic will assist in formulating the lesson/session
- **When and to whom methodology:** This information ensures the lesson/session is pitched at the correct level
- **Establish a logical sequence invoking the principles of learning:** Introduction and developments incorporate different levels of activities aimed at the individual or group. The summary and conclusion brings the lesson/session to a natural closure
- **Determine resources/materials required:** It enables the resources to be clearly identified indicating when and where they will be used
- **Avoid teaching from memory since this is not dependable:** A written lesson/session plan will assist on returning to the right section if you are disturbed or interrupted.

It should always be remembered, however, that a plan is a plan and not a straitjacket and should be altered accordingly.

Information to be included in a lesson plan:
- Aims and objectives
- Target group
- Topic and duration
- Time and evaluation process.

A sample lesson plan template is shown in Figure 2. An example of how a lesson plan

Fig. 2 Completed example of a lesson plan

Location	Surgery 1			
Date	23/11/09			
Duration	30 mins.			
Aim	Highlight the importance of effective oral hygiene			
Objectives	The patient will be able to: 1. Understand the role of plaque in gum disease 2. Identify signs of poor oral hygiene 3. Highlight areas of plaque accumulation using disclosing solution 4. Brush teeth and gums effectively			
Educator's name	Jill Smith			
Introduction	**Time**	**Key Words**	**Content**	**Method**	**Aids**

Introduction	Time	Key Words	Content	Method		Aids
	3 mins.	Introduction	Reason for visit	Friendly informal welcome		Name badge
Development 1	7 mins.	Plaque	Describe plaque Relate to photos 1-3 on flip chart	OHE activity	Patient activity	Flip chart Pages 1-3 Stages of plaque formation Bacteria involved
				Demonstrate	Observation	
				Discussion Q & A		
Development 2	8 mins.	Healthy gums Inflamed gums	Relate to page 4: photo: pink, firm, healthy gums Bleeding, shiny gums. Relate to patient's mouth	Teacher activity	Student Activity	Flip chart pages 4-6 Healthy gums Inflamed gums Mirror
				Discussion Q & A		
				Demonstrate	Observation	
				Demonstration Q & A		
Development 3	10 mins.	Disclosing tabs. Effective brushing	Explain role of disclosing solution. Use disclosing tabs. Systematic approach to brushing on models Pt. brushes own teeth and gums	Teacher activity	Student activity	Flip chart Page 7 Disclosing tabs. Mirror Vaseline Models Toothbrush & paste
				Observation	Practical	
				Discussion Q & A		
				Demonstrate	Observation	
				Observation	Practical	
				Q & A		
Conclusion	2 mins.	Consolidation of objectives Positive reinforcement with patient				
Self-evaluation	Forward planning assisted in positive feedback from patient Objectives 1-4 achieved. However, need for reinforcement at future visits if necessary.					

might be completed for a typical lesson is shown in Figure 3.

Evaluation

Evaluation is needed to assess results, determine whether objectives have been met and find out if the methods used were appropriate and efficient. It should be carried out for the following reasons:
- To assess what has been achieved. Did the intervention have its intended effects? (**efficiency**)
- To measure its impact and whether it was worthwhile (**effectiveness**)

- To judge its cost effectiveness and whether the time, money and labour were well-spent (**economy**)
- To inform future decisions and plans
- To justify decisions to others perhaps for funding or future support
- Evaluation of health programmes is usually concerned with identifying their effects. The effects of an intervention may be evaluated according to its:
  - **Impact:** Immediate effects such as increased knowledge or shifts of attitudes
  - **Outcome:** The longer-term effects such as changes in lifestyle.

Outcome evaluation

What is assessed and how it is assessed depends on the aims, objectives and methods of the programme. As has previously been described, any objective should be **SMART** (see Aims and objectives).

Changes in **knowledge** can be assessed by:
- Interviews and discussions
- Pre- and post-questionnaires
- Short answer tests.

Changes in **attitudes** can be assessed by:
- Pre- and post-questionnaires with a rating scale.

Fig. 3 Here a dental care professional is educating a patient using a model. The use of visual aids is invaluable in putting a message across

Changes in **behaviour** can be assessed by:
- Pre- and post-questionnaires
- Records of behaviour, eg diet sheets.

Changes in **skills** can be assessed by:
- Pre- and post-clinical examination, eg plaque scores and gingival indices.

Process evaluation

This is concerned with assessing the process of the programme/session implementation. It addresses the participants' perceptions and reactions to the intervention and identifies the factors which support or limit these activities. Process evaluation is therefore a useful tool to assess the appropriateness and acceptability of the intervention.

The following methods may be used in the evaluation process:

Self evaluation/reflective practice: This should always be done to assess positively what was well done and what could be improved. Self-evaluation can be undertaken as an ongoing process for reflective practice. It may, however, be carried out at a specific point in time immediately after the event or days or weeks later. Some useful questions to ask are:

Prior to presentation:
- Who is your intended target group?
- How will you decide what should be evaluated?
- How will you carry out the evaluation, eg questionnaires, demonstrations etc?

After the presentation:

- How happy are you with its effectiveness?
- What have you learned from giving the presentation?
- What would you most like to change?
- How durable is your presentation; will you or could you use it again?

Peer evaluation: Feedback should be obtained from a colleague who has observed or participated in the lesson. An observer may have a different, more independent,

'Evaluation is only worthwhile if it will make a difference. This means that the results of the evaluation need to be interpreted.'

less emotionally involved perception of the presentation. They can observe the presenter's body language, speech pattern and how the audience behaves when eye contact is not made with them. They can concentrate on the content and presentation of the session without the distraction of having to deliver it.

Target group evaluation: This can be assessed by:
- Verbal and non-verbal feedback
- Active participation
- Questionnaires, rating methods
- Reviewing the content and presentation of the programme.

It may be carried out immediately after the event or deferred for days or weeks. Deferred evaluation can result in a poor response or inaccuracies due to memory loss of the participants but provides an opportunity to assess any long-term changes in knowledge, attitudes or behaviour.

Questionnaires are very powerful evaluation tools but require great skill to design if they are to be useful or effective. All questionnaires should first be piloted using a small number of respondents who are not going to participate in the final evaluation. This will help to eliminate simple design errors. The types of questions used reflect the quality of data obtained. Closed questions are easy to analyse but give limited information. Open questions allow great variation in the answers but make analysis more difficult and can be a disincentive since they take longer to complete. Some common faults are spelling errors, poor grammar, poor layout, illogical ordering of questions and making the questionnaire too lengthy. Generally speaking, anonymous questionnaires will result in a greater response rate and will probably provide more honest answers.

Cost effectiveness
- Time spent
- Number of staff employed in activity
- Cost of resources, eg room hire, equipment, materials etc.

Evaluation is only worthwhile if it will make a difference. This means that the results of the evaluation need to be interpreted and fed back to the relevant parties. An indication in advance that this is going to take place will often improve the response rate of the participants.

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