Management of plaque related periodontal conditions

A clinical studying the assessment and management of plaque-related periodontal conditions of patients by the practitioners at a general dental practice in Hertfordshire in 2013

Abstract:

Undiagnosed and unmanaged periodontal conditions are fast becoming one of the biggest areas of litigation and complaints within the dental field. Thorugh periodontal assessment is vital for diagnosis, treatment planning and monitoring the progression of periodontal disease. This is a report of a clinical audit that studied the periodontal assessment carried out at a general dental practice in Stevenage, Herts. This audit was conducted over a seven month period, analysing 50 patients for each audit cycle. A new protocol for periodontal assessment using the guidelines of the British Society of Periodontology was introduced. The results demonstrate a marked improvement in assessing the periodontal condition of patients in this general dental practice.

Clinical relevance:

Regular periodontal assessment is required to aid diagnosis, treatment planning and monitoring of disease. Without such assessment, it is possible to misdiagnose, develop incorrect treatment plans and prevent objective assessment of disease progression. With the periodontium being the scaffolding for all other restorative techniques performed by dentists, this is an essential area which must not be overlooked or under managed.

Null Hypotheses:
The five dental practitioners being audited would not exceed the expected percentage of 50 per cent of patients being provided with Gold Standard treatment with regards to periodontal monitoring and management.

The five dental practitioners being audited would not exceed the expected percentage of less than 10 per cent of patients being provided with Unacceptable treatment with regards to periodontal monitoring and management.

The aims of this audit are to assess periodontal screening and subsequent non-surgical periodontal treatment for patients with plaque-related periodontal conditions at the practice compared to that suggested in guidance documents.

Aim:
The aim of this audit is to assess periodontal screening and subsequent non-surgical periodontal treatment for patients with plaque-related periodontal conditions at the practice compared to that suggested in guidance documents.

The main objective for the audit is to investigate the standard of screening and treatment patients are receiving with regards to their periodontal condition. This will be achieved by ensuring that the number of ‘Unacceptable’ treatments provided is minimal, meaning the majority of patients seen at the practice receive at least an ‘Acceptable’ level of treatment, if not the ‘Gold Standard’ level. In this way, the audit aims to disprove the first null hypothesis.

A secondary objective is that, as long as the first objective is achieved, the majority of the patients receive the ‘Gold Standard’ of screening and treatment with regard to surgical periodontal therapy. Specific risk factors for patients were not included, such as smoking status and medical conditions. Ten patients were chosen at random from each of the GDP’s day lists. These patients had been seen within four weeks of 17th December 2012; the start date for the audit.

Inclusion criteria for the patients were as follows:

- The patient must have been seen for an exam within the four weeks prior to the audit start date. This ruled out the possibility that the patient had attended for an emergency appointment in the last four weeks, where a full exam including a periodontal screening may not have been carried out.
- The patients must have been over 18 at the time of their most recent exam and any edentulous patients were excluded. This meant that an exam was not carried out.

Ref 1.0 Flowchart constructed in order to grade patients notes with regards to their periodontal screening and management.
include a full periodontal screening, which may not have been done for children and adolescents, or patients without their natural teeth remaining.

A flow-chart was constructed which was followed during the auditing process in order to score each set of notes based on whether sufficient periodontal screening had been carried out and whether the correct subsequent non-surgical management was recommended or carried out based on the results of the screening.

Each of the sets of notes were studied and the flowchart followed in order to grade the overall process of the monitoring and managing plaque-related periodontal disease. The flowchart is shown in Ref 1.0.

By following the flowchart, each patient’s screening and management was given a score according to the number of correct steps completed. If any step had not been correctly completed this was reflected in the scoring system and lead to a lower overall score for the patient’s treatment.

A standard BPE was accepted as an appropriate screening of periodontal health during a patient’s exam.

If a patient had been offered the correct treatment (i.e. it was recommended) according to the findings of their screening, but had refused to accept or failed to attend for treatment suggested by the GDP, the practitioner was scored according to the steps taken up to that point in the management of the patient. This was considered acceptable treatment delivered by the GDP as it was the patient’s choice not to undergo suggested procedures.

Eight patients included in the first cycle and one patient in the second cycle of audit declined treatment which was recommended to them. Two patients in the first cycle were found to be edentulous when examining the notes and so were re-selected; none were found to be edentulous in the second cycle.

Since the default recall time for patients attending this practice is six monthly, this was accepted as the intended follow-up time for a patient where no specific recall period was stated in the notes. If the patient needed to be seen before this time, it should be written in the patient’s notes e.g. ‘Follow-up 5.4 months’, or modified on the computer system, which was also checked at time of audit. This would be appropriate for any patients with a BPE of 5, 4, or with pockets ≥4mm, who had undergone plaque-related periodontal treatment for this, in order to monitor healing and observe where further treatment may be necessary. Therefore if, for these patients, a recall period was not stated in their notes or modified on the computer system following treatment, this was seen as inappropriate follow-up.

The type of follow-up treatment was not included as part of this audit. This was due to the fact that not enough time would have passed between the start of the audit and the allocated four week period prior to this, from which patients were chosen, in order for the follow-up treatments to have been carried out.

‘Appropriate’ management of the periodontal condition included further investigations and treatment based on the BPE and was decided upon by amalgamating information from three different sources. A chart was drawn up which indicates the correct management for each particular finding of the BPE screening. This is shown in Table 1.0; the sources are also quoted below the table.

This audit included whether a diagnosis was made relating to the periodontal condition. The accuracy of diagnosis in relation to the BPE findings was not investigated as this is outside the scope of the audit.

Each grading which was given to a patients periodontal treatment according to the flowchart was then put into one of three categories: Gold Standard, Acceptable and Unacceptable. This reflected the standard of treatment delivered to each patient. The scores included in each category and explanations are as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold Standard</td>
<td>Represents patients who had not received an appropriate screening at examination, had no diagnosis made or treatment recommended and hadn’t received correct management for their plaque-related periodontal condition indicated by the screening process. This was deemed an unacceptable level of treatment.</td>
</tr>
<tr>
<td>Acceptable</td>
<td>Represents patients who had an appropriate screening carried out during their exam and the correct treatment was delivered according to this screening. The ‘Gold Standard’ level was not given to these as some steps along the flowchart had not been followed e.g. diagnosis or follow-up wasn’t included. However this was not deemed as negligent on behalf of the GDP as screening and appropriate treatment was still carried out for the patient, and the ultimate goal of diagnosing and managing the patient’s plaque-related periodontal condition was reached.</td>
</tr>
<tr>
<td>Unacceptable</td>
<td>Represents patients who received completely correct screening and management from their GDP according to the flowchart.</td>
</tr>
</tbody>
</table>

The percentage of the overall patient population included in each category made up was then calculated and this was compared to the expected percentages set out at the start of the audit.
Features of the complete drugs kit

- Supplied in a bespoke bag for easy storage and transport²
- Supplied with algorithms on management of medical emergencies
- Items can be bought individually or as part of a combination³
- No intravenous access required for the drugs

¹ All drugs are only available to prescribing medical professionals
² Bag is an optional extra and will incur a charge
³ Only applies to certain products
Periodontal disease is becoming increasingly prevalent amongst today’s population due to, amongst other factors, people living for longer and maintaining their natural teeth later into life. For this reason it is essential to identify and manage any periodontal conditions as early as possible in the disease process in order to delay the deleterious effects of the condition and prevent it progressing further. In order to do this, we as dental professionals must have simple and effective methods of recording periodontal screenings and diagnoses so that we may recommend and deliver appropriate treatment to patients for these periodontal conditions.

As demonstrated by the implementation of a simple pro-forma during a patient examination, in this case in the form of a sticker, periodontal screening and management can be greatly improved. This template quickly and effectively allows the practitioner to cover all relevant areas of periodontal screening and management and means it is less likely that any essential components will be omitted from the process. With a reliable and reproducible procedure such as this in place, the periodontal condition of patients attending the practice is more likely to remain healthier for longer. This will subsequently improve the prognosis of all other denal procedures delivered by the GDP, giving the patients a better quality of care overall.