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CLINICAL AUDIT, A VALUABLE TOOL TO IMPROVE THE QUALITY OF DENTAL CARE – A REVIEW

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ABSTRACT Evaluation and improvement of quality of care provided to the patients are of crucial importance in the daily clinical practice and in the health policy planning and financing. Different tools have been developed, including incident analysis, health technology assessment and clinical audit. The clinical audit consist of measuring a clinical outcome or a process, against well defined standards set on the principles of evidence based medicine in order to identify the changes needed to improve the quality of care. The purpose of audits is to generate findings that will benefit patients and their programmes of care. Audits should be regularly carried out in a systematic manner as patient welfare is at the heart of any audit process. Audit process should maintain professional and ethical perspectives also. However, clinical audits are often poorly carried out and consequently have minimal effect on improving patient care. Health care organizations should encourage clinicians to participate in regular clinical audit. Thus the aim of this document is to support healthcare staff in understanding the concept and processes of clinical audit, to support best practice in clinical audit and improve awareness of clinical audit as an essential and integral component of clinical practice.

KEYWORDS : Audit, Health Care, Quality, Clinical practice

INTRODUCTION:

"Audit" is a Latin word, and the verb audio ('hear') indicates both active listening and the action of investigation and interrogation of the judiciary. Transferred to the English vocabulary "audit" takes on a meaning of "an official inspection of an organization's accounts, typically by an independent body" [1]. The term is now a days widely used in different settings (economic, business, etc.) referring to procedures aiming to ensure that the activities carried out for a purpose are consistent and effective for the achievement of objectives. Clinical (or medical) audits are part of the continuous quality improvement process that focus on specific issues or aspects of health care and clinical practice. The term 'clinical audit' is used to describe a process of assessing clinical practice against standards. The Commission on Patient Safety and Quality Assurance defined clinical audit as *'a clinically led, quality improvement process that seeks to improve patient care and outcomes though the systematic review of care against explicit criteria and to act to improve care when standards are not met.'*[2] Clinical audit is a tool which can be used to discover how well clinical care is being provided and to learn if there are opportunities for improvement. Clinical audit may be used to improve aspects of care in a wide variety of topics. It can also be used in association with changes in care provision or to confirm that current practice meets the expected level of performance. There are many reasons to undertake clinical audit:

- Clinical audit offers a way to assess and improve patient care, to uphold professional standards and 'do the right thing'.
- Through clinical audit, healthcare staff may identify and measure areas of risk within their service.
- Regular audit activity helps to create a culture of quality improvement in the clinical setting.
- Clinical audit is educational for the participants. It involves being up to date with evidence based good practice.
- It offers an opportunity for increased job satisfaction.
- It is increasingly seen as an essential component of professional practice.
- It can improve the quality and effectiveness of healthcare [3].

Clinical audit had an uneven impact on practice since its introduction to routine clinical work about ten years ago. There is still considerable uncertainty and confusion regarding its role and how to conduct effective and important audit projects. Clinical audit can be described as a cycle or a spiral. Within the cycle there are stages that follow a systematic process of establishing best practice, measuring care against criteria, taking action to improve care, and monitoring to sustain improvement. The spiral suggests that as the process continues, each cycle aspires to a higher level of quality. Thus the aim of this document is to support healthcare staff in understanding the concept and processes of clinical audit, to support best practice in clinical audit and improve awareness of clinical audit as an essential and integral component of clinical practice.

HISTORY:

Florence Nightingale one of the earliest pioneers of clinical audit appalled at the conditions of patients experienced at the barracks hospital in Scutari in 1854 and kept meticulous records of the mortality rates among the wounded patients. She applied strict standards of hygiene for the hospital and its equipment and was able to demonstrate a fall in mortality rates from 40% to 2%. Clinical audit was further developed by Ernest Codman who frequently quoted for the remark ***"collect information on all cases to determine whether treatment has been successful, and then to inquire 'if not, why not (sic)'".*** Despite the successes of Florence Nightingale and Ernest Codman, clinical audit was slow to catch on. Only a small minority of healthcare staff embraced the process as a means of measuring the quality of care delivered to patients for the next 130 years [4]. It was formally introduced into the National Health Service (NHS) as medical audit in 1993. Medical audit later evolved into clinical audit and a revised definition was announced by the NHS Executive: 'Clinical audit is the systematic critical analysis of the quality of healthcare, including the procedures used for diagnosis, treatment and care, the use of resources and the resulting outcome and quality of life for the patient' [2].

TYPES OF AUDIT

Standards-based audit – A cycle which involves defining standards, collecting data to measure current practice against those standards, and implementing any changes deemed necessary.

Adverse occurrence screening and critical incident monitoring –

This is often used to peer-review cases which have caused concern or from which there was an unexpected outcome. The multidisciplinary team discusses individual, anonymous cases to reflect upon the way the team functioned and to learn for the future. In the primary care setting, this is described as a 'significant event audit'.

Peer review – 'An assessment of the quality of care provided by a clinical team with a view to improving clinical care'. Individual cases are discussed by peers to determine, with the benefit of hindsight, whether the best care was given.

Patient surveys and focus groups – These are methods used to obtain users views about the quality of care they have received. Surveys carried out for their own sake are often meaningless, but when they are undertaken to collect data they can be extremely productive [5].

THE FIVE STAGE APPROACH TO CLINICAL AUDIT:

Clinical audit is a cyclical process which can be outlined in five stages:

STAGE 1 - Planning for audit
STAGE 2 - Standard/criteria selection
STAGE 3 - Measuring performance
STAGE 4 - Making improvements
STAGE 5 - Sustaining improvements

Each stage of the clinical audit cycle must be undertaken to ensure that an audit is systematic and successful.

CYCLE 1 - THE CLINICAL AUDIT CYCLE

STAGE 1 – PLANNING FOR AUDIT

If a clinical audit is to be successful in identifying areas of excellence or areas for improvement, it requires effective planning and preparation. The amount of planning and preparation will depend on the specific circumstances of each audit. Planning for audit can be described in three main steps:

- **STEP 1**: Involving stakeholders. anyone involved in providing or receiving care can be considered a stakeholder in clinical audit.
- **STEP 2**: Determining the audit topic
- **STEP 3**: Planning the delivery of audit fieldwork

Any topic which is selected for clinical audit – perhaps an investigation, treatment or procedure – should be chosen on the basis of its relevance to improve the patient outcomes and not to satisfy the personal curiosity. The topics may be selected from the reports of adverse incidents, activities which are identified as high risk, expensive treatments or perhaps, evidence-based interventions. Senior topics like the awareness about the brushing habits, dental caries, priodontitis, and antibiotics for dental infection can be useful for a better health care management. The examples of some topics are Patient or general complaints, Personal details. Poor patient care or compliance, Medical history recording. Issues involving patient safety, Dental examination (hard tissues).Systems that are unused or ineffective, Dental examination (soft tissues).Lesions with Poor documentation, Periodontal examination. Missing data on certain diseases, Radiographs. National guidelines, Record of review of radiographs, Drug trials, Note-writing [6].

STAGE 2 – STANDARD AND CRITERIA SELECTION

When the audit topic has been selected, the next essential step is to review the available evidence to identify the standards and audit criteria against which the audit will be conducted. A standard describes and defines the quality of care to be achieved. Each standard has a title, which summarises the area on which that standard focuses.

Standards should be 'robust' and evidence based (Potter, Fuller & Ferris, 2010).

- Standard title - Summarises the area on which that standard focuses.
- Standard statement - Explains the level of performance to be achieved.
- Standard criteria - Provides the detail of what needs to be achieved for the standard to be reached.

The use of the terms 'criteria' and 'standards' in a clinical audit is often misunderstood. The audit criteria will provide a statement on what should be happening and the standards will set the minimum acceptable performance for those criteria. The criteria and standards must be specific and measurable. In selecting the criteria, one should carefully consider exactly what he/she wants the audit team to achieve. It may be helpful to phrase the aim as a question which is to be answered, or a statement about how the topic should be. A common understanding among the team will support the quality of the audit. Simplicity is important – bear in mind the acronym KISS ('Keep It Simple, Stupid'). Remember that the standards may need to be revised, to reflect a new evidence for an intervention or an activity. Some criteria and standards are so important that 100% achievement is required, but this is likely to be unusual [7].

STAGE 3 – MEASURING PERFORMANCE

This stage may be described in steps as follows:

Step 1: Data collection
Step 2: Data analysis
Step 3: Drawing conclusions
Step 4: Presentation of results

DATA COLLECTION	DATA ANALYSIS	DRAWING CONCLUSION	PRESENTATION OF RESULTS
•Collection of relevant data about current practice in order to facilitate comparison.	•Convert a collection of facts (data) into useful information in order to identify the level of compliance with the agreed standard.	•Identify the reasons why the standard was not met.	•Maximise the impact of the clinical audit on the audience in order to generate discussion and to stimulate and support action planning.

Patient Data: Caldicott Principles

In March 1996, The Caldicott Committee was established for the protection and the use of patient information, The Caldicott principles for using patient information are:

- Justify the purpose
- Don't use patient-identifiable information unless it is absolutely necessary
- Use the minimum necessary patient-identifiable information
- The access to the patient-identifiable information should be on a strict need-to-know basis
- Everyone should be aware of their responsibilities
- Understand and comply with the law [8].

STAGE 4 – MAKING IMPROVEMENTS

The purpose of performing clinical audit is to assess the degree to which the clinical services offered comply with the accepted evidence based practice standard.

Clinical audit results may show areas of excellent or 'notable practice' and this should be acknowledged. For such audits there should be an explicit statement saying 'no further action required' in the audit summary report and a rationale why re-audit is not required. Clinical audit results may also identify 'areas for improvement' where the required standards are not being met.

The clinical audit group should interpret and discuss the findings in order to clarify the areas where action is required so as to improve the quality of clinical care and its outcomes. Where audit has shown that there are serious concerns regarding the practice of an individual, these should be conveyed immediately to the audit sponsor, who should inform the manager of the service for urgent action [6].

STAGE 5 – SUSTAINING IMPROVEMENTS

The audit cycle is a continuous process. According to Ashmore, Ruthven and Hazelwood 'A complete audit cycle ideally involves two data collections and a comparison of one with the other, following implementation of change after the first data collection, in order to determine whether the desired improvements have been made. Further cycles may be necessary if performance still fails to attain the levels set at the outset of the audit. At this stage there may be justification for adjusting the desired performance levels in the light of the results

obtained.' Where quality improvement plans are put in place, monitoring should be performed to ensure plans are implemented as agreed and within the agreed time frame. Clinical leads/or managers who agree to implement quality improvement plans are accountable for the delivery of quality improvement plans and sustaining quality improvement. A summary report of progress should be submitted through the appropriate lines of responsibility at regular intervals [9].

PERFORMANCE INDICATORS:

Performance indicators can be used to monitor improvements as a result of quality improvement activities. A small number of key performance indicators may be developed for each quality improvement programme to monitor implementation of the improvement plans[10].

EVALUATING AUDIT QUALITY:

It is recommended that the quality of an audit programme is evaluated as part of the wider quality and risk management agenda (NICE, 2002). Service providers should assess their structures, processes, outcomes and resources for audit activities. All clinical audits should be conducted in a manner that complies with legislation, guidance and service provider policies relating to confidentiality and data protection [11].

DISSEMINATION AND CELEBRATING SUCCESS:

Completion of an audit cycle will usually result in improvements in practice. This should be communicated to all stakeholders.

A successful audit in one service may be transferable to other parts of the service. Completed audits should be shared locally via the most appropriate mechanisms, including department quality and safety meetings, journal club meetings, the internet, newsletters and local conferences and seminars. Consideration should also be given to sharing clinical audit work regionally and nationally through relevant journals, conferences and other media [10].

REMEMBER TO CLOSE THE LOOP BY RE-AUDITING:

Audit is a continuous cycle. If following an initial audit it is found that desired performance levels are not being reached, and a programme of change activity has been put in place, then the audit should be repeated to show whether the changes implemented have improved care or whether further changes are required. This cycle is repeated until the desired performance levels are being achieved [12].

KEY POINTS IN AN AUDIT

Make the audit ***"S.M.A.R.T."***
S - SPECIFIC
M - MEASURABLE
A - ACHIEVABLE
R - REALISTIC
T - TIME

SCORING & EXAMPLES

In answering the questions, award two points for a 'Yes', one point for a 'Not Sure' and no points for a 'No'. Audits that score five or less are unlikely to succeed, those that score six or seven are worth considering, and those that score eight or more will usually succeed.

In the Indian scenario, for example, whether the prescription of antibiotics for the patients by the doctors is correct or not, can be adited. First, select the topic i.e. antibiotic prescription by the doctor. The next step is to have the best practice. For example, the drugs which are prescribed, their dosage, strength and duration; whether there is a set criteria as to whether the drugs were prescribed in their correct dosages and their strength and whether or not their correct duration is being followed or not, should be evaluated. Collect the data which were followed for the drug prescription at regular intervals. The collected data should be analyzed for their efficacy in the process of the clinical audit. If there are any shortfalls in the process that should be corrected, then necessary changes should be implemented. Again the data should be analyzed and the report of the findings should be formulated, as to whether the audit has met the set criteria or not. These findings should be implemented for a better outcoming the clinical practice.

In a study which was conducted by ***Andrew and Alan***, the audits on clinical record-keeping standards were performed by using the 7 domains of the case history, which are, Personal details, History recording, Dental Examination, Periodontal examination, Radiographs, Record of the review of the radiographs and Note writing. The audits revealed a wide variation between the dentists in clinical record-keeping. The recording of the soft tissues (36%),periodontal status (30%), radiographical review (27%), and note taking (25%), all fell below the standards that had been set [13].

TEN TIPS FOR SUCCESSFUL AUDITS

- Start small clinical audit projects.
- Involve the team members. Audits are most effective when they are carried out by teams. All the staff should be asked to suggest suitable topics and they should be told about the results.
- Distinguish between research and clinical audits. Remember that research is undertaken to find out what the best practice should be; audits are undertaken to find out whether the best practice is taking place.
- Learn from the completed projects of others. .
- Select audit topics that relate to the current work.
- Gather support. The local support for the clinical audits varies, but some trusts have audit teams. Plan the audits properly.
- Pilot the audits. A small number of data collection forms should be tested to make sure that they are providing all the information that is required.
- Re-audit is vital. Without undertaking re-audit, there is no way of knowing whether the changes that have been made have improved the patient care or the service delivery.
- Get the most out of clinical audits. Although audits deal with the identification of the weaknesses and the improvement of the patient care, they can also be used as an example to improve the teamwork or communication [14].

RESOURCES REQUIRED TO SUPPORT CLINICAL AUDIT

For clinical audit to be effective it requires commitment and support throughout the service including senior management. Clinical audit should be seen to be recognised as a valued activity and should be included as a priority in service planning**.**

- Clinical audit committee with members who can provide expertise and experience with clinical audit.
- Clinical audit support staff who can provide advice and training and refer to other available resources.
- Clinical and educational leads.
- Healthcare records manager and staff who can facilitate access to service user records.
- Information systems access and advice.
- Training available related to the clinical audit process and how to design and carry out clinical audits.
- Advice on how to handle ethical issues related to clinical audits.
- Templates for planning and reporting on clinical audits.
- Advice on the technical aspects of carrying out a clinical audit.
- Access to reference materials on clinical audit.
- Technical support for clinical audit including a database of clinical audits.

CONCLUSION

In developed countries, within strategic health authorities, clinical audits take place under a supportive organisation. Clinical audit lead is responsible for clinical audit strategies, arranging and implementing audit programmes at local level. Clinical audit lead coordinates formation of Clinical audit committee, which is responsible for overseeing audit programmes and dissemination of results of audits performed.

Clinicians involved in delivery of care play a main role in monitoring data collection. Routine clinical audit programmes should be essential components of good professional practice. All individuals and professional bodies involved in patient care and the government should be committed to introduce a systematic mechanism to integrate regular clinical audit programmes in health care service of our country.

REFERENCES:

1. Oxford Dictionary definition of "Audit" [Internet]. Available from: URL: http://www.oxforddictionaries.com/definition/ english/audit.
2. National Institute for Clinical Excellence, CHI, Royal College of Nursing, University of Leicester. Principles for Best Practice in Clinical Audit. Oxon, UK: Radcliffe Medical Press Ltd, 2002: 1-9.
3. Ashmore S, Ruthven T, Hazelwood L. Stage 1: Preparation, planning and organisation of clinical audit. NEW Principles of best practice in clinical audit. Oxon: Radcliffe Publishing Ltd. 2011:23-58.
4. Burgess R, Moorhead J. New principles of best practice in clinical audit. Radcliffe Publishing; 2011.
5. Copeland G (2005) A Practical Handbook for Clinical Audit. NHS Clinical Governance

SupportTeam.http://www.cgsupport.nhs.uk/ downloads/ Practical Clinical_ Audit_Handbook_v1_1.pdf
6. Erasmus R T, A E Zemlin. Clinical audit in the laboratory J Clin Pathol 2009;62:593–597.
7. Lohr KN, Field MJ, editors. Guidelines for clinical practice: from development to use. National Academies Press; 1992 Feb 1.
8. Kraszewski, Sarah. Clinical audit in general practice. Practice Nurse 2005: 30(10):51-55
9. Buttery Y. Implementing evidence through clinical audit. Evidence-based healthcare. Oxford: Butterworth-Heinemann. 1998:182-207.
10. Cate FH. The EU data protection directive, information privacy, and the public interest. Iowa L. Rev.. 1994;80:431.
11. Madden D. Building a culture of patient safety. Report of the commission on patient safety and quality assurance. Dublin: Department of Health and Children. 2008 Nov.
12. Dixon N. Getting clinical audit right to benefit patients. Getting Clinical Audit Right; 2007.
13. Andrew Cole and Alan McMichael. Audit of Dental Practice Record-Keeping: A PCT-Coordinated Clinical Audit by Worcestershire Dentists.Primary Dental Care 2009;16(3):85-93.
14. Donabedian A. Evaluating the quality of medical care. The Milbank memorial fund quarterly. 1966 Jul 1;44(3):166-206.