INDICES

Introduction

- An index is an expression of clinical observations in numeric values. it is used to describe the status of the individual or group with respect to a condition being measured.
- The use of a numeric scale and a standardized method for interpreting the observations of a condition results in an index score that is more consistent and less subjective
- Indices using various criteria have been developed to compare the extent and severity of disease.

Definition of index

- An index has been defined as a numerical value describing the relative status of a population on a graduated scale with definite upper and lower limits, which is designed to permit and facilitate comparison with other populations classified by the same criteria and methods.

--by A.L.Russel

Ideal requisites of an index

1. Clarity, Simplicity and Objectivity
2. Validity
3. Reliability
4. Quantifiability
5. Sensitivity
6. Acceptability

Classification of index

1. Irreversible index
2. Reversible index

1. Full mouth index
2. Simplified index

1. Simple index
2. Cumulative index

1. Disease index
2. Symptom index
3. Treatment index

Plaque indices

Different plaque indices

1) Silness and loe index (plaque index)
2) Turesky –gilmore- glickman modification of the quigley- hein plaque index
3) Glass index
4) Shick and ash modification of plaque criteria
5) Navy plaque index
6) O leary index
7) DMPI index
8) Bonded bracket index

Plaque index

- Given by silness and loe h in 1964
- This is unique among the plaque indices because it ignores the coronal extent of plaque and considers only the thickness at gingival area.
- Good validity and reliability
- One criticism is the subjectivity in estimating plaque.

Method

- Scoring done on entire dentition or on selected teeth.
- Surfaces examined are four gingival areas of the tooth i.e. disto facial,mesio facial, facial and lingual.
- Mouth mirror and explorer are used
- Six index teeth are 16,12,24,36,32,44.

Scoring criteria

Score	Criteria
0	No plaque
1	A film of plaque adhering to the free gingival margin and adjacent area of the tooth
2	Moderate accumulation of soft deposits with in the gingival pocket, or the tooth and gingival margin seen with naked eye.
3	Abundance of soft matter within the gingival pocket and/or on the tooth and gingival margin

Calculation

- PII for area;

  Each area (disto facial, facial,mesio facial, lingual) is assigned a score from 0-3.this is plaque index for area.

- PII for tooth;

  The scores from the four areas of the tooth are added and divided by 4

Calculation

- PII for groups of teeth;

  the scores for individual teeth may be grouped and totaled and divided by number of teeth.

- PII for individual;

  the indices for each of the teeth are added and then divided by the total number of teeth examined.

Nominal scale for patient evaluation

Scores	Rating
0	Excellent
0.1-0.9	Good
1-1.9	Fair
2-3	Poor

Modification of plaque index

- In 1967 loe detailed the sequence of the examination procedure and slightly modified the criteria to include the entire dentition instead of six teeth.
- Same methods and criteria was followed.

Uses

- A reliable technique for evaluating both mechanical anti-plaque procedures and chemical agents
- Used in longitudinal and clinical trials.

Oral hygiene indices

Indices for oral hygiene assessment

- Oral hygiene index
- Simplified oral hygiene index

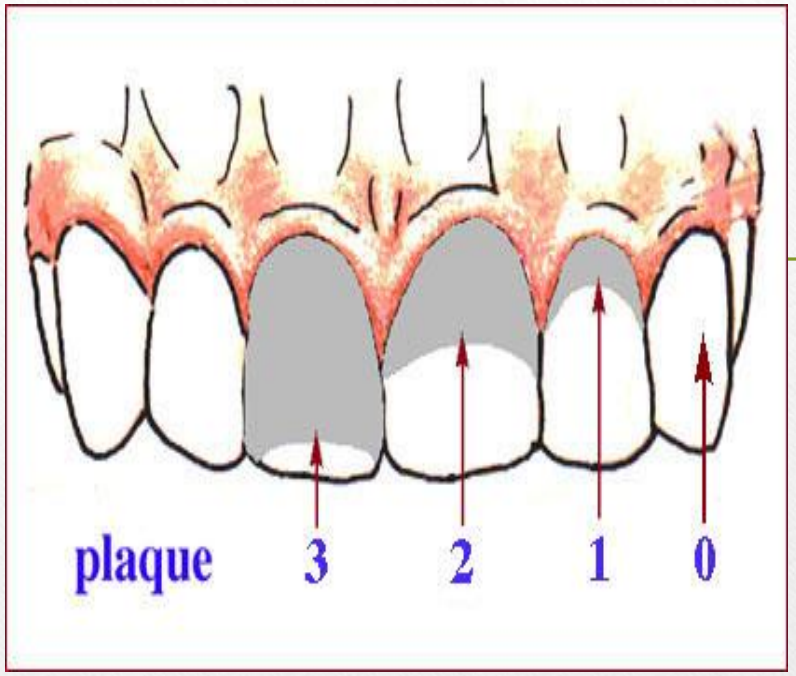
Oral hygiene index

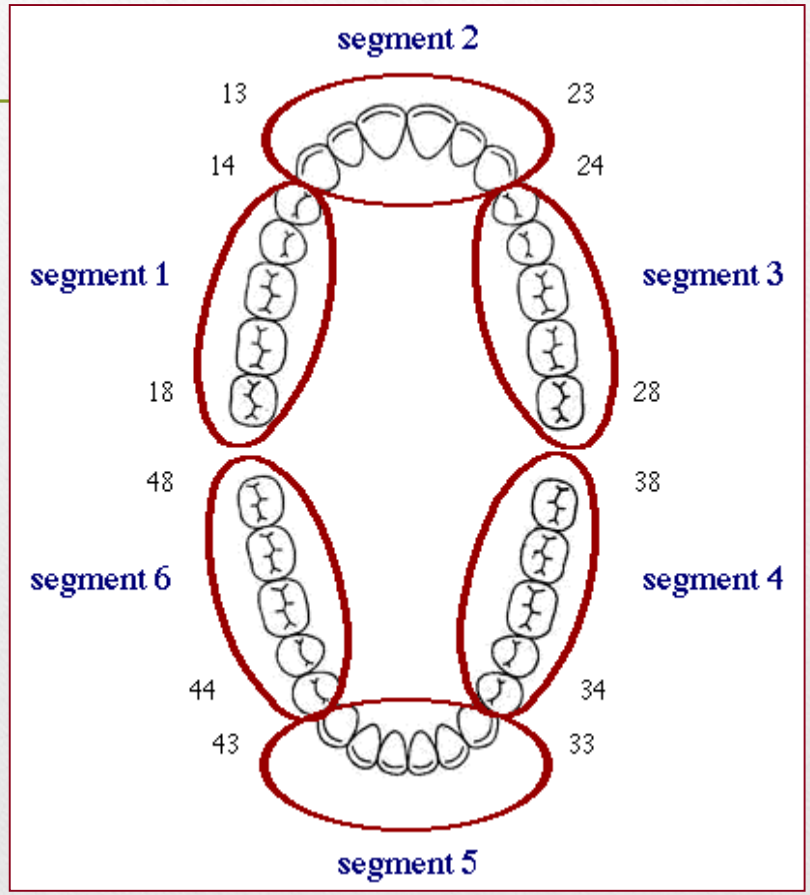
- John C.Greene and Jack R.Vermillion in 1960
- Greene and vermillion introduced this index, while they were developing a plan to study variations in gingival inflammation in relation to the degree of mental retardation in children, as it became apparent that it would be necessary to separate out the effects of variation in oral cleanliness

- OHI was depicted as a sensitive, simple method for assessing group or individual oral hygiene quantitatively.
- OHI is simple rapid and sensitive measure.

Method

- The Oral Hygiene Index is composed of the combined Debris Index and Calculus index, each of these index is in turn based on 12 numerical determinations representing the amount of debris or calculus found on the buccal and lingual surfaces of each of three segments of each dental arch, namely


plaque
3
2
1
0


segment 2
13
23
14
24
segment 1
segment 3
18
28
48
38
segment 6
segment 4
44
34
43
33
segment 5

Method

- Each segment is examined for debris or calculus. From each segment one tooth is used for calculating the individual index, for that particular segment. The tooth used for the calculation must have the greatest area covered by either debris or calculus.
- The method for scoring calculus is the same as that applied to debris, but additional provisions are made for recording sub gingival deposits.

Rules of OHI

- Only fully erupted teeth is considered
- Third molars and incompletely erupted teeth not considered.

Debris index

Scores	Criteria
0	No debris or stain present
1	Soft debris covering not more than one third of the tooth surface, or presence of extrinsic stains without other debris regardless of surface area covered
2	Soft debris covering more than one third, but not more than two thirds, of the exposed tooth surface.
3	Soft debris covering more than two thirds of the exposed tooth surface

Calculus index

Scores	Criteria
0	No calculus present
1	Supragingival calculus covering not more than third of the exposed tooth surface
2	Supragingival calculus covering more than one third but not more than two thirds of the exposed tooth surface or the presence of individual flecks of subgingival calculus around the cervical portion of the tooth or both.
3	Supragingival calculus covering more than two third of the exposed tooth surface or a continuous heavy band of subgingival calculus around the cervical portion of the tooth or both

Calculation

- Debris index = $\frac{\text{Total scores}}{\text{Number of segments scored}}$
- Calculus index = $\frac{\text{Total scores}}{\text{Number of segments scored}}$
- OHI = DI + CI

Simplified oral hygiene index

- John C.Greene and Jack R.Vermillion in 1964
- OHIS differs from OHI in the number of tooth surfaces scored, the method of selecting the surfaces to be scored, and the scores, which can be obtained
- Criteria for scoring is same are same as those used for OHI

Importance of OHIS

- It is extensively used throughout the world
- Evaluates an individual's level of oral cleanliness
- Easy to use
- High reproducibility
- Used in national surveys, epidemiological surveys, health education programme and clinical trials

Gingival indices

Different gingival indices

- Sulcus Bleeding Index
- Modified Sulcular Bleeding Index
- Gingival Bleeding Index
- Papillary Bleeding Index
- Ainamo and Bay Bleeding Index
- Modified Papillary Bleeding Index
- Interdental Bleeding Index
- Bleeding Points Index
- Gingival Status Index
- Gingival Crevicular Fluid Index

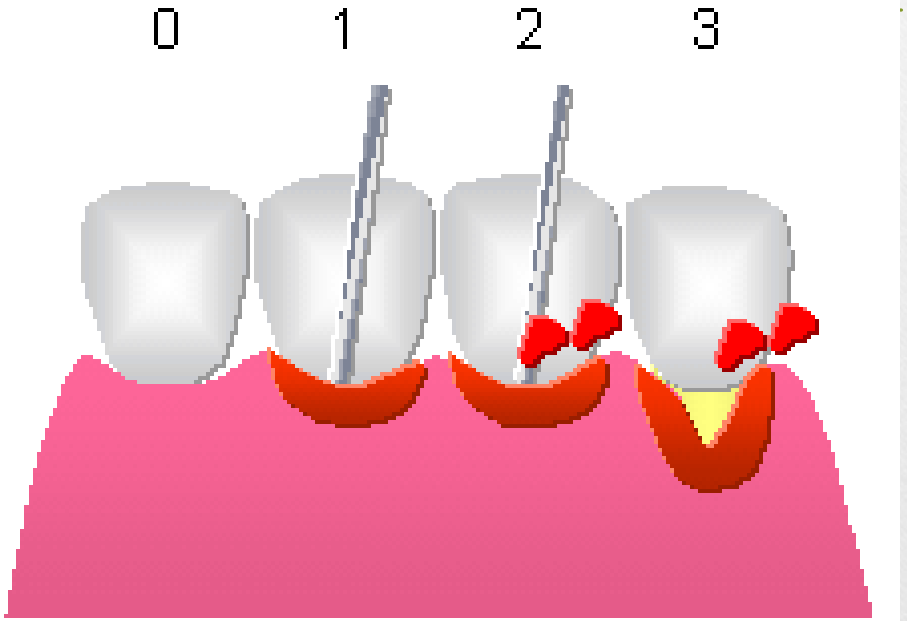
Gingival Index

- Used extensively for research and patient instruction and motivation
- Loe and Silness J in 1963.
- Index teeth - 16,12,24,36,32 and 44
- Tissue surrounding the teeth are divided into : distal-facial papilla, facial margin, mesial facial papilla and lingual gingival margin

Scoring criteria

0	Absence of inflammation / Normal gingiva
1	Mild inflammation, slight change in color, slight edema; no bleeding on probing.
2	Moderate inflammation; moderate glazing, redness, edema and hypertrophy. Bleeding on probing
3	Severe inflammation; marked redness and hypertrophy ulceration. Tendency to spontaneous bleeding.


頬側
近心
遠心
舌側


0
1
2
3

Calculation

- Totaling the scores around each tooth - Gingival index score for the area
- Totaling the scores around each tooth and dividing by 4 – Gingival index score for the tooth.
- Totaling all of the scores per tooth and dividing by the number of teeth examined provides the Gingival index score per person.

Scoring Criteria

Gingival scores	Condition
0.1-1.0	Mild gingivitis
1.1-2.0	Moderate gingivitis
2.1-3.0	Severe gingivitis

Modifications of Gingival Index

- 1967- Loe detailed the sequence of the examination procedure and slightly modified the procedure to include the entire dentition.
- Upper right 2nd molar Upper left 2nd molar Lower left 2nd molar Lower right 2nd molar
- Left side- Distal, Buccal/Labial and Mesial
- Right side- Mesial, Buccal/Labial and Distal
- Lingual beginning with Left second molar.

Periodontal indices

Different periodontal indices

- Periodontal index
- Periodontal disease index
- Gingival periodontal index
- Gingival bone count index
- CPITN index
- Community periodontal index

PERIODONTAL INDEX

- Developed by Russell.A.L. in 1956.
- It is a composite index.
- All of the gingival tissue circumscribing each tooth is assessed for gingival inflammation and periodontal involvement.

SCORE	CRITERIA FOR FIELD STUDIES	CRITERIA FOR CLINICAL STUDIES
0	Negative: There is neither overt inflammation in the investing tissues nor loss of function due to destruction of supporting tissues	Radiographic appearance is essentially normal
1	Mild gingivitis: An overt area of inflammation in the free gingiva does not circumscribe the tooth.	
2	Gingivitis : Inflammation completely circumscribes the tooth, but there is no apparent break in the epithelial attachment.	
4	Used only when radiographs are available	There is early notch like resorption of alveolar crest
6	Gingivitis with pocket formation: The epithelial attachment has been broken and there is pocket(not merely a deepened gingival crevice due to swelling in the free gingivae). There is no interference with normal masticatory function; the tooth is firm in its socket and has not drifted.	There is horizontal bone loss involving the entire alveolar crest, upto half of the length of the tooth root.
8	Advanced destruction with loss of masticatory function: The tooth may be loose, may have drifted, may sound dull on percussion with metallic instrument, or may be depressible in its socket.	There is advanced bone loss involving more than half of the tooth root, or a definite infra-bony pocket with widening of periodontal ligament. There may be root resorption or rarefaction at the apex.

CALCULATION OF THE INDEX

- RUSSELL'S RULE:

"When in doubt assign the lower score"

- PI score per person= Sum of individual scores

  Number of teeth present

PERIODONTAL SCORES

Most people with	Scores in the range of
Clinically normal supportive tissue	0-0.2
Simple gingivitis	0.3-0.9
Beginning destructive periodontal disease	0.7-1.9
Established destructive periodontal disease	1.6-5.0
Terminal disease	3.8-8.0

USES

- Epidemiological studies
- When it is necessary to distinguish between population with mild, modern and advanced chronic destructive disease.

ADVANTAGES

- Easy,quick and reproducible.
- Simple and practicable under field conditions.
- It measures both reversible and irreversible aspects of periodontal disease.
- Application and uses of this index has led to the development of better understanding of periodontal health status.

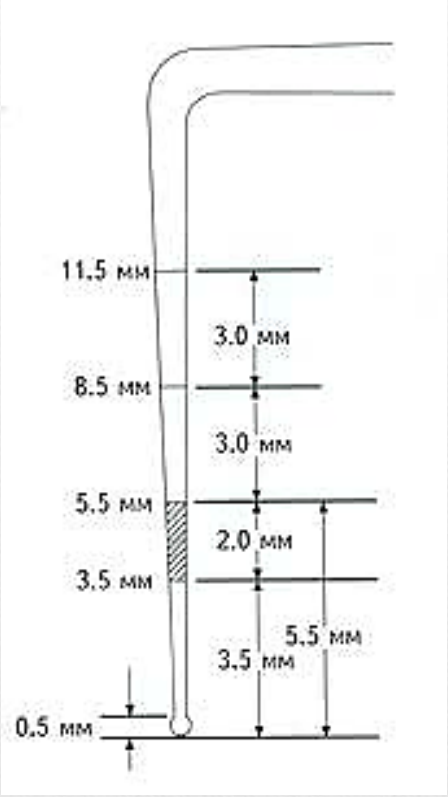
DISADVANTAGES

- In field carrying radiographic facilities is impracticable.
- It is time consuming.
- It is not sensitive to minor changes in periodontium.
- Does not give past periodontal disease experience.
- No standardized probes are used.

COMMUNITY PERIODONTAL INDEX OF TREATMENT NEEDS

- Advocated by Jukka Ainamo,David Barmes, George Beagrie,Terry Cutress,Jean Martin, and Jennifer Sardo-infirri in 1982.
- It was developed for the “joint working committee” of the WHO and FDI.

CPITN PROBE



Method of examination

- The dentition is divided into 6 sextants consisting of teeth 17-14,13-23,24-27,37-34,33-43,44-47.
- Highest score in each sextant is identified after examining all teeth.

INDEX TEETH

- For adults aged 20 years or more only 10 index teeth are examined.

  17 16 11 26 27

  47 46 31 36 47

- For young people upto 19 years only 6 index teeth are examined.

  16 11 26

  46 31 36

Substitution for excluded index teeth

- A sextant is examined only if there are two or more teeth present and not indicated for extraction.
- If in a posterior sextant one of the index teeth is missing then the recording is based on the remaining index tooth.

Substitution for excluded index teeth contd…

- If both index teeth are absent then the remaining teeth are examined and the highest score is recorded.
- In the anterior sextant if 11 is excluded substitute 21. If both are excluded then identify the worst score.

Substitution for excluded index teeth contd…

- If all teeth in a sextant are missing or only one functional tooth remains the sextant is coded as missing.
- When only one tooth is present in a sextant it is included in the adjacent sextant.

SCORING CRITERIA

Code X- When only one tooth or no functional teeth are present in a sextant.

Code 1-Bleeding observed during or after probing .

Code 2-Supra or sub gingival calculus seen or felt during probing.

Code 3-Pathological pocket of 4-5mm, i.e. the black area of the CPITN probe is at the gingival margin.

Code 4-Pathological pocket of 6mm or more, i.e. the black area of the CPITN probe is not visible.

FOR TREATMENT NEEDS

- TN 0- A recording of code0-no treatment.
- TN I- A code of 1 indicates a need for improving the personal oral hygiene of that individual-I
- TN II-A code of 2 and 3 indicates need for professional cleaning, root planning and removal of plaque retentive factors. In addition oral hygiene instructions-II+I
- TN III-Code of 4 requires complex treatment which involves deep scaling, root planning and more complex surgical procedures-III+II+I

ADVANTAGES

1. It is simple and more objective in its choice of clinical criteria and methodology.
2. Data offers rapid appreciation of periodontal condition,and their treatment needs
3. International uniformity.
4. Indicates the level of complexity of care needed.

LIMITATIONS

1. Does not assess and excludes important signs of past periodontal breakdown.
2. No difference between supra and subgingival calculus.

LIMITATIONS

4. Absence of any marker of disease activity or susceptibility.

5. It measures pockets rather than loss of periodontal attachment.

6. It is not a research tool but rather a measure of treatment need.

COMMUNITY PERIODONTAL INDEX

- The modification is done by the inclusion of measurement of “loss of attachment” and elimination of “Treatment needs” category.
- The mouth is divided into sextants as in the case of CPITN.
- A sextant is included only if there are two or more teeth present which are not indicated for extraction.

- The two molars in each sextant are paired for recording and if one is missing, there is no replacement.
- If no index teeth or tooth are present in a sextant, all the remaining teeth in the sextant are examined and the highest score is recorded.

LOSS OF ATTACHMENT

- It estimates the lifetime accumulated destruction of periodontal attachment.
- The highest score of CPI and loss of attachment may not be necessarily found on the same tooth.
- Loss of attachment should not be recorded for children under 15.

SCORING CRITERIA

SCORE	CRITERIA
0	Loss of attachment 0-3mm(CEJ not visible and CPI score 0-3)
If the CEJ is not visible and the CPI score is 4,or if the CEJ is visible	
1	Loss of attachment 4-5mm(CEJ within the black band)
2	Loss of attachment 6-8mm(CEJ between the upper limit of the black band and the 8.5mm ring)
3	Loss of attachment 9-12mm(CEJ between the 8.5mm and the 11.5mm rings)
4	Loss of attachment 12mm or more(CEJ beyond the 11.5mm rings)
X	Excluded sextant
9	Not recorded

ADVANTAGES

- Comprehensive measurement of periodontal diseases.
- Severity of the disease can be recorded.

DISADVANTAGES

- Time consuming.
- Calibration is difficult as it involves many criteria.

Caries indices

DECAYED, MISSING, FILLED CARIES INDEX (DMF INDEX)

- Henry Klein, Carrole E.Palmer, and Knutson in 1938. Hagerstown, Maryland
- DMF an irreversible index, is applied only to permanent teeth.
- D -Decayed teeth;
- M- Teeth missing due to caries;
- F- Teeth that had been previously filled.

DMFT

- Purpose: To determine total dental caries experience, past and present
- Instrument: No 3 plain mirror, fine pointed pig tail explorer
- The DMF score for any one individual can range from 0 to 28

Selection of teeth

- Not included
- Third molars
- Unerupted teeth
- Congenitally missing ,supernumerary teeth
- Teeth missing for other reasons
- Teeth restored for other reasons
- Primary tooth retained with permanent successor erupted.

Rules in recording

- No tooth should be counted more than once for decayed, missing, filled or sound and the recording is done separately.
- Restorations with recurrent decay, should be included as decayed separately.
- Teeth lost only due to dental caries should be listed as missing and also those teeth which are indicated for extraction.

Rules in recording

- Unerupted teeth, missing due to accident, congenitally missing teeth, tooth extracted for orthodontic reasons are not counted as missing.
- A tooth having several restorations is counted as one tooth only while recording dt and depending on the number of surfaces filled the DS is recorded.
- A tooth with one occlusal pit decayed and another occlusal pit filled is considered as decayed

Contd..

- While recording DMFS – if anterior tooth is missing due to caries, four surfaces are considered as missing and if posterior tooth is missing five surface are considered as missing.
- A tooth is considered to be present even though the crown has been destroyed due to caries and only the roots are left.

WHO modifications(1986)

- All third molars included
- Temporary restorations considered as D
- Only carious teeth considered as decay chalky spots, stained fissures are not considered as D

Coding criteria

Code	Criteria
E	Excluded tooth
1	sound
2	Filled tooth
3	Decayed tooth
0	Missing tooth
X	Extracted

Calculation

- Maximum score; 28-32
- Individual DMFT;

  Total each component,i.e D,M,F
- Group average:

  Total DMF/total no of subjects

Limitations

- DMF values are not related to the number of teeth at risk.
- The DMF index can be invalid in older adults because teeth can become lost for reasons other than caries.
- The DMF index can be misleading in children whose teeth have been extracted for orthodontic reasons.

Contd..

- The DMF index can overestimate caries experience in teeth with "Preventive restorations" or where treatment services are intense.
- DMF cannot be used for root caries.
- DMF cannot account for sealed teeth.

Contd..

- Tooth scores exactly the same under extremes of clinical conditions
- Wide range of possible values and have larger standard deviation and standard error
- There is no way of finding out the efficacy of treatment in controlling disease.
- Fails to compensate for prosthetic replacement and arrested caries without defects.

DMFS INDEX

- To assess individual surface of each tooth rather than tooth as whole its termed as DMFS.
- Principles,rules,criteria for DMFS index is same as DMFT
- Merits: More sensitive & precise

  Gives true status of caries attack

Demerits

- Takes long time
- May require radiographs
- Prevalence is expressed as percentage of population showing any evidence of caries& this measure is useful when caries is low.

DMFS INDEX

- Posterior teeth: Each tooth has five surfaces examined and recorded Facial, lingual, mesial, distal and occlusal.
- Anterior teeth: Each tooth has four surfaces for evaluation, facial, lingual, mesial and distal.
- Tooth surface count for a DMFS : Surface of 28 teeth, 16 are posterior (16 x 5 = 80) and 12 are anterior (12 x 4=48).

MODIFIED DMFT INDEX

- The modified DMFT index is proposed by Joseph Z. Anaise in 1984.
- The DMFT index is one of the simplest and most commonly used indices, is valuable for use in clinical studies or epidemiologic surveys to measure differences in caries experience among different group of people or in the same group at different times.
- It quantifies dental health status based on the number of carious missing and filled teeth.

Contd..

- The modified DMFT index is a simple epidemiologic tooth that enables one to obtain a more measure of caries experience and avoids the loss of information such as the extent of restorations in teeth having carious lesions.
- Basically, the modified DMFT follows the same operational procedures used when applying the common DMFT index. 'D' component into four separate categories.

Contd..

- 'C' – Unfilled teeth that are carious
- 'CF' – Restored teeth that are either secondarily carious around the margins of restorations or primary on a tooth surface other than the restored one.

Contd..

- 'LX' – Carious teeth either filled or unfilled that in the examiners opinion are indicated for extraction
- 'IRC' – Carious teeth either filled or unfilled that in the examiner's opinion are indicated for pulp treatment or root canal treatment

Contd..

- In addition to these four categories of decayed teeth, the remaining two categories of the DMFT index (F-filled teeth with no decay and M-missing teeth) are recorded as usual according to the criteria.
- The DMFT score is then the summation of all six categories, and the calculation of the individual components as well as the sum remain essentially the same as the original DMFT index.

MEASURING DENTAL CARIES FOR PRIMARY DENTITION.

- Grubbel in 1944.
- As defined by Grubbel, 'd' stands for decayed teeth, 'e' means indicated for extraction and 'f' stands for filled teeth.
- To determine the dental caries experience as shown by the primary teeth present in the oral cavity.

Teeth not counted

- Missing teeth including unerupted and congenitally missing.
- Supernumerary teeth
- Teeth restored for reasons other than dental caries are not counted as f.

Modification of the def Index

- dmf for use in children before ages of exfoliation
- dmf applied only to the primary molar teeth, and
- For children over 7 (seven) years and upto 11 or 12 the decayed, missing and filled primary molars and canines have been used to determine a dmft or dmfs when the surfaces are counted.

Modification of the def Index

- *df* index:

  Missing tooth is ignored.

- This can be applied to the whole tooth as the decayed-filled-tooth or *dfs*

Dentition status and treatment need

- The examination for dental caries should be conducted with a plane mirror.
- Radiography for detection of approximal caries is not recommended because of the impractibility of using the equipment in all situations
- Likewise the use of fiber optics is not recommended.
- Although it is realized that both these diagnostic aids will reduce the underestimation of the need for restorative care, the extra complication and frequent objection to exposure to radiation outweigh the gains to be expected

Contd..

- Examiners should adopt a systematic approach to the assessment of dentition status and treatment needs
- The examination should proceed in an orderly manner from one tooth or tooth space to the adjacent tooth or tooth space.
- A tooth should be considered present in the mouth when any part of it is visible.
- If a permanent and primary tooth occupy the same tooth space the status of the permanent tooth only should be recorded

Contd..

- Both letters and numbers are used for recording dentition status
- Boxes 66-97 are used for upper teeth and boxes 114-145 for lower teeth.
- The same boxes are used for recording both primary teeth and their permanent successors.
- Any entry must be made in every box pertaining to coronal and root status
- In the case of surveys of children, where the root status is not assessed code 9 should be entered in the box pertaining to root status

Dentition status and treatment need

- 0(A) Sound crown
- A crown is recorded as sound if it showed no evidence of treated or untreated clinical caries.
- The stages of caries that precede cavitation, as well as other conditions similar to the early stages of caries were excluded because they cannot be reliably diagnosed.
- Thus a crown with the following defects in the absence of other positive criteria should be coded as sound
  - White chalky spots
  - Discolored or rough spots that are not soft to touch with metal CPI probe

Dentition status and treatment need

- Stained pits and fissures in the enamel, or softening of the floor or walls detectable with CPI probe
- Dark shiny hard pitted areas of enamel in a tooth showing signs of moderate to severe fluorosis
- Lesions that on the basis of their distribution or history or visual tactile examination appear to be due to abrasion

- Sound root
- A root is recorded as sound when it is exposed and shows no evidence of treated or untreated clinical caries

Dentition status and treatment need

- 1(B) Decayed crown:
- Caries is recorded as present when a lesion in a pit or fissure, or on a smooth tooth surface has an unmistakable cavity, undermined enamel or a detectably softened floor or wall.
- A tooth with a temporary filling or one which is sealed but also decayed, should also be included in this category
- In cases where the crown has been destroyed by caries and only the root is left , the caries is judged to have originated on the crown and therefore scored as crown caries only

Dentition status and treatment need

- The CPI probe should be used to confirm visual evidence of caries on the occlusal, buccal and lingual surfaces
- Where any doubt exists, caries should not be recorded as present.

- Decayed root
- Caries is recorded as present when a lesion feels soft or leathery to probing with the CPI probe.
- If root caries is discrete from the crown and will require a separate treatment, it should be recorded as root caries

Dentition status and treatment need

- For single carious lesion affecting both the crown and the root, the likely site of origin of the lesion should be recorded as decayed
- When it is not possible to judge the site of origin , both the crown and the root should be recorded as decayed

Dentition status and treatment need

- 2(C)Filled crown with decay
- A crown is considered filled, with decay when it has one or more permanent restorations and one or more areas that are decayed.
- No distinction is made between primary caries and secondary caries

- Filled root with decay
- A root is considered filled with decay when it has one or more permanent restorations and one or more areas that are decayed
- No distinction is made between primary and secondary caries

Dentition status and treatment need

- In the case of fillings involving both the crown and the root judgment of the site of origin is more difficult
- For any restoration involving both the crown and the root with secondary caries, the most likely site of the primary carious lesion is recorded as filled, with decay
- When it is not possible to judge the site of origin of the primary carious lesion both crown and root should be recorded as filled with decay

Dentition status and treatment need

- 3(D) Filled crown with no decay:
- A crown is considered filled, without decay, when one or more permanent restorations were present and there was no caries any where on the crown.
- A tooth that has been crowned because of previous decay should recorded in this category.

Dentition status and treatment need

- Filled root with no decay
- A root is considered filled without decay when one or more permanent restorations are present and there is no caries anywhere on the root.
- In the case of filling involving both crown and the root judgment of the site of origin is more difficult
- For any restoration involving both the crown and the root, the most likely site of the primary carious lesion is recorded as filled
- When it is not possible to judge the site of origin , both crown and root should be recorded filled

Dentition status and treatment need

- 4(E) Missing tooth, as a result of caries:
- This code is used for permanent or primary teeth that had been extracted because of caries and is recorded under coronal status.
- For missing primary teeth this score is used only if the subject was at an age when normal exfoliation would not be a sufficient explanation for absence.
- The root status of the tooth that has been scored as missing because of caries should be coded as 7 or 9

Dentition status and treatment need

- In some age groups it may be difficult to distinguish between unerupted teeth and missing teeth
- Basic knowledge of tooth eruption patterns, the appearance of the alveolar ridge in the area of the tooth space in question and the caries status of other teeth in the mouth may provide helpful clues in making a differential diagnosis between unerupted and extracted teeth.
- Code 4 should not be used for teeth judged to be missing due to any reason other than caries
- For convenience in fully edentulous arches a single 4 is placed in boxes 66 and 81 and/or 114 and 129, and the respective pair of numbers linked with straight lines

Dentition status and treatment need

- 5(-) Permanent tooth missing due to any other reason:
- This code is used for permanent teeth judged to be absent congenitally or extracted for orthodontic reasons or because of periodontal disease, trauma etc.
- As for code 4 two entries of code 5 can be linked by a line in cases of fully edentulous arches
- The root status should be recorded as 7 or 9d

Dentition status and treatment need

- 6(F) Fissure sealant:
- This code is used for teeth in which a fissure sealant had been placed on the occlusal surface or for teeth in which the occlusal fissure had been enlarged with a rounded or "flame-shaped" bur and a composite material placed.
- If a tooth with a sealant has decay it is recorded as 1 or B

Dentition status and treatment need

- 7(G) Bridge abutment special crown or veneer:
- This code is used to indicate that a tooth forms part of a fixed bridge i.e. is a bridge abutment.
- This code is also used for crowns placed for reasons other than caries and for veneers or laminates covering the labial surface of a tooth on which there was no evidence of caries or a restoration.
- Missing teeth replaced by bridge pontics are coded as 4 or 5 under coronal status and 9 for root status
- Implant
- This is used under root status to indicate that an implant has been placed as an abutment

Dentition status and treatment need

- 8(-) Unerupted crown:
- This classification is restricted to permanent teeth and used only for a tooth space with an unerupted permanent tooth but without a primary tooth.
- Teeth scored as unerupted are excluded from all calculations concerning dental caries
- This category does not include congenitally missing teeth or teeth lost as a result of trauma
- Unexposed root
- This code indicates that the root surface is not exposed i.e. there is no gingival recession

Dentition status and treatment need

- T(T) Trauma (fracture):
- A crown is scored as fractured when some of its surface was missing as a result of trauma and there is no evidence of caries

Dentition status and treatment need

- 9(-) Not recorded:
- This code is used for any erupted permanent tooth that could not be examined for any reason
- e.g. because of orthodontic bands, severe hypoplasias etc
- This code is used under root status to indicate either that the tooth has been extracted or that calculus is present to such an extent that a root examination is not possible

Treatment Needs

- The codes and criteria used were.

0 - None (no treatment)

- This code was recorded if a crown and root are both sound or of it is decided that a tooth should not receive any treatment.

P - Preventive caries – arresting care

F - Fissure sealant

Treatment Needs

1 - One surface filling

2 - Two or more surface fillings

- One of the codes P, F, 1 or 2 is used to indicate the treatment required to
  - Treat initial, primary or secondary caries
  - Treat discoloration of a tooth or a developmental defect
  - Treat lesions due to trauma, abrasion, erosion or attrition.
  - Replace unsatisfactory fillings or sealant.

Treatment Needs

- A sealant is considered unsatisfactory if partial loss has extended to exposure of a fissure, pit or junction or surface of that dentine which in examiners opinion requires resealing
- A filling is considered unsatisfactory if one or more of the following conditions exist

Treatment Needs

- A deficient margin to an existing restoration that has leaked or is likely to permit leakage into dentine. This decision as to whether a margin is deficient should be based on the examiners clinical judgment on evidenc gained from the insertion of CPI probe at the margin or on presence of severe staining of tooth structure

Treatment Needs

- An overhanging margin of an existing restoration that causes obvious local irritation to the gingiva and cannot be removed by contouring of the restoration
- A fracture of an existing restoration that either causes it to be loose or permits leakage into dentine
- Discoloration

Treatment Needs

3 - Crown for any reason

4 - Veneer or laminate (may be recommended for aesthetic purposes)

5 - Pulp care and restoration

- This code is used to indicate that a tooth probably needed pulp care prior to restoration with a filling or crown because of deep and extensive caries, or because of tooth mutilation or trauma.

Treatment Needs

6 - Extraction: a tooth is recorded as "indicated for extraction" depending on the treatment possibilities available when

- Caries has so destroyed the tooth that if could not be restored.
- Periodontal disease has progressed so far that the tooth is loose, painful or function less and in the clinical judgment of the examiner could not be restored to a functional state.

Treatment Needs

- A tooth needed to be extracted to make way for a prosthesis or
- Extraction was required for orthodontic or cosmetic reasons or because of impaction.

Treatment Needs

7/8 Need for other care-

- The examiner should specify the types of care for which codes 7 and 8 are used
- The use of these codes should be kept to minimum

9 - Not recorded

Thank You