



Module plan

Topic : Oral Survey procedures in
Dentistry

Subject : Public Health Dentistry

- Target Group : Undergraduate Students
- o Mode : PowerPoint Presentation
- o Platform : Institutional LMS
- Presenter : Dr. Dhaman Gupta

Introduction

Non- experiment type of research.

 The purpose of most surveys is to collect information that provide a basis for action. whether immediate or long term



Definition:

Survey is defined negatively as a "non – experimental investigation". It is an investigation in which information is systematically collected but in which there is no active intervention by the investigator.



Different types of survey:





A descriptive survey:

A descriptive survey sets out to describe a situation.

Example-The distribution of a disease in a population in relation to age, sex and other characteristics.



Analytical survey:

 Analytical survey tries to explain the situation (why these diseases occur in these persons??) Surveys, whether descriptive, analytic or mixed Can be longitudinal or cross sectional depending on the time period covered by the observations.

Cross sectional – Exists at a single time.

 Longitudinal – changes during a period of time





Monitoring trends in oral health & disease

Policy development

• Program evaluation

Assessment of dental needs

Providing visibility for dental tissue



Monitoring trends in oral health & disease

 When national surveys are repeated periodically under general similar condition - oral health trends and sampling design can be estimated.



Policy development

 Survey data can be used to establish oral health strategies.

 Example - Scotland has successfully used survey data to develop oral health policy.



Program evaluation

Survey data used – evaluate programs.

 Association does not show cause and effect needs .

Assessment of dental needs

- Survey data used assessment of needs.
- There is a clear gap between criteria used in surveys and those applied for individual care.
- Example Criteria for caries
- Survey Based on cavitation
- > Where as dentist Intervene at an early stage of carious process



Providing visibility for dental issues

National survey provide visibility for dental issues .

 May be the most important of all uses of survey data.



METHOD OF DATA COLECTION

 Health interview survey: (face-toface survey)

Health examination survey

Health record survey

Questionnaire survey

Health interview survey (face – toface survey)-

 Invaluable method of measuring subjective phenomena.

- Such as perceived morbidity, disability and impairment etc.
- Data may not be reliable because of the limitation of the interview method.



Health examination survey:-

 The information obtained through this method is more valid than health interview survey

 Carried out by teams consisting of Doctor and Auxillaries.



DISADVANTAGE:-

 Expensive & cannot be carried out on an extensive scale.

 Method requires consideration of providing treatment to people found suffering from certain disease.



Health record survey:-

 Involves the collection of data from health service records.

o Most Economic.



DISADVANTAGE:-

• Data is not population based.

• Reliability is open to Question.

 Lack of uniform procedure and standardization in the recording the data.



Questionnaire Survey:-

 Standard method of data collection in clinical, epidemiological, psychological and demographic research.

 It recorded either in fixed protocol or taken as an open- ended interviews.

Types

 Mailed questionnaires – require literate, low cost and high rate of non-response.

 Telephone – easy to conduct in urban areas but miss those without a telephone or those at work.

 Face to face interview – trained interviewer required.

Face to face format allow

- Clarification of questions
- Probing for answers
- Use of visual aids
- High response rate
- Short time in filling out the questionnaire.

The questions may be of 2 types

- 1. Open ended questions
- 2. Close ended questions



Open ended questions

- Subject answer in his own words
- Difficulty in interpreting the response
- Useful in anthropological and medical surveys
- Allow respondent to talk free and at length but may deviate from the subject
- Requires special coding thus lengthening the time for analysis.

Close ended question

Answer by choosing from fixed alternative responses.

Greater uniformity and simplicity

- Example how many cigarette do you smoke per day?
- 1. upto 10
- 2. 10 -20
- 3. 20 30
- 4. More than 30

Advantages

• Easy to administer.

 Focused and pertinent to the study objectives.

o Uniform.

• Easy to analyze.

Analyzed in a short time.



2 types of scales

1.Likert scale-

 Commonly used to quantify attitude and behaviour.

 Respondents are asked to select a response that best represent the rank or degree of their answer. Example- Respondents are asked to indicate whether he agrees, neither, disagree with the statement.

 Each response is assigned a number and point of each item is added.

2. Guttman scale-

• The respondent is asked to agree or disagree with each statement.

• The respondents score is the total no. of items with which he agrees or disagrees.

Language and wording style

- Questionnaire are translated from the original language in to the local language.
- They are then translated back to the original language.
- This will avoid any possible misunderstanding
- Avoid leading questions
- Avoid professional jargon and abbreviations.

Sequencing of questions

A .Introduction- should be Clear and concise but relevant.

Indicates the purpose of the questionnaire.

B .Cover sheet-

- Name of the survey and organization.
- Code for the respondent.
- Name of the interviewer and date of interview.

C.- Donot start with threatening questions such as income and other sensitive issues.

 Always start questionnaire with warm question

 D.- Transition from one section to other should be smooth.

 E.- Body of questionnaire should be made of standards formats



F. Requirement of questions :

Must have face validity.

 Respondents can be expected to know the answer

- Must be clear and unambigous
- Must not be offensive.
- Must be fair.

G.- Instructions-

- A separate instruction manual may be used.
- Instructions may be included in the questionnaire itself.



Reliability of questionnaires –

 Achieved by repeating certain questions, rephrasing the second inquiry while maintaining the same or comparable response codes.

Validity –

- Certain items in a questionnaire may be validated in special surveys.
- Another type of validity check is the consistency check or cross check.
Auxillary activities

- 1. Pretesting the questionnaire-
- Try out of the questionnaire (small no. of people)
- 2. Training of interviewers-
- Must be carefully selected and properly trained.(acts as back bone)
- Interviewers should always be supervised.

3.Call backs – call backs or repeat visits to non- respondents are most helpful in minimizing the response rate.

 2- 3 call backs to non-respondents are enough. 4. Editing and Coding- questionnaire should be checked by supervisors at the end of each day for incomplete answer or omissions etc.

 Responses are then carefully coded with verification.

STEPS IN SURVEYING

- **1. Establishing the objective**
- 2. Designing the investigation
- **3. Selecting the sample**
- 4. Conducting the examination
- **5. Analyzing the data**
- 6. Drawing conclusions
- **7. Publishing the reports**

1. Establishing the objective

The investigator must be clear about the objective of the investigation.

- The objective can either be stated in the form of a hypothesis which is to be tested or the objectives may be stated by describing what is to be measured.
- Example There is no difference in the periodontal status of male & female aged 35-44 yr. in Mangalore. The objective of the study is then to test this hypothesis.



2. Designing the investigation

Survey Protocol:- It is an important to prepare a written protocol for the survey, which should contain-

- Main objective and purpose of the survey.
- A description of the type of information to be collected and of the method of used.
- A description of the sampling method to be used.



- Personal & physical arrangements.
- Statistical method to be used in analyzing data.
- A provisional data.
- A provisional time-table of main activities & responsible staff.

 Obtaining approval from authorities – if school population are to be examined permission should be obtained from parents and school authorities.

 Budgeting – should be prepared which include all the resources required to carry out survey.

• Emergency care and referral.



3. Selecting the sample

- It is usually to impossible to examine every individual in the population under investigation.
- For this reason, a sample must be chosen from the population.
- A sample is a part of population called the "universe", "reference" or "parent" population.





Errors are of three types –

- Observer error may be subjective or objective.
- Instrumental error due to faulty instrument.
- Sampling error- sample must be representative of the whole population. Too small or non – random sample results in sampling error.

4. Conducting the examination

SCHEDULING:-

 The schedule should allow for some flexibility so that unexpected delays do not cause major upsets in the survey time-table.

 Since fatigue contributes significantly to inaccuracy & inconsistency.

- Although no rules can be laid down in this matter, 2 principle should be considered-
 - The examination should be as automatic as possible to obviate excessive intrusion of subjective thought. Therefore it should be performed quickly
 - The object of epidemiological survey is to examine subjective in fairly large numbers. Excessive time spent on each individual necessitates a reduction in no. of individual seen.

INSTRUMENTS & SUPPLIES:Plane mouth mirror- 30 per examine

• Periodontal probe- 30 per examine

• Several pair of Tweezer

Containers & concentrated sterilizing solution.

• A wash basin

• Cloth or paper hand towel

o qauze



INFECTION CONTROL:-

Infection control & waste disposal.

Use of disposal marks & gloves.

• Wearing of protective glasses.

EXAMINATION AREA:-

- A correct chair position.
- A source of illumination.
- Method of cleaning teeth to remove loose debris where necessary.
- An adequate supply of assessment form.
- A recorder, live or tape.
- Also desire to have an organizing clerk.



TRAINING & CALIBRATING EXAMINERS:-

 When an epidemiological survey is undertaken by a team, it is essential that the participating examiners be trained to make consistent clinical judgement.

o kappa statics:-

Used to calculate intra & inter examiner reproducibility.



KAPPA VALUE	INTERPRETATION Total Agreement	
1		
>0.8	Good Agreement	
0.6-0.8	Substantial Agreement	
0.4-0.6	Moderate Agreement	

CLASSIFICATION OF TYPE OF INSPECTION & EXAMINATION:-

The ADA has standardized 4 main type of examination & inspection.

 <u>TYPE-I (Complete Examination)</u>:- using mouth mirror & explorer, illumination, radiographs, pulp testing and lab. Tests.

o Seldom use in public health work .

 <u>TYPE-II (Limited Examination)</u> :- mouth mirror, explorer, illumination, posterior bitewing radiographs & periapical radiographs.Method is used where time and money permit.

- <u>TYPE-III (Inspection)</u> :- Only mouth mirror explorer , illumination
- <u>TYPE-IV (Screening)</u> :- This is a screening procedure only using a tongue depressor & available illumination.



5. ANALYZING THE DATA

 Once the examination procedures of a survey have been completed, the work of assembling the material and interpreting it begins.

• The analysis of finding has 2 components:-

- Data processing (statistical analysis)
- > Interpretation of result
- To drive full value from the study, it is not enough to 'make sense' of the finding. The investigator should also give thought to their broader "significance".

Drawing the conclusions & Publishing the results

- The final step in a survey procedure should be the construction of a report with or without a set of recommendations.
- Clearness & simplicity should be sought.
- The WHO outline for a formal written report is :-
- statement of the purpose of the survey.
- Material & methods.
 - Description of area & population served.
 - Type of information collected.
 - Method of collecting data.

Sampling method

- Examiner personnel & equipment.
- Statistical analysis & computational procedure.
- cost analysis
- Reliability & reproducibility of result.
- Result :- they should be tabulated & illustrated appropriately.
- Discussion & conclusion
- o Summary

BASIC ORAL HEALTH SURVEY

 Oral health survey is defined as survey to collect the basic information about oral disease status and treatment needs, that is needed for planning or monitoring oral health care.

-WHO



CLASSIFICATION:-

Depending on the number & type of sampling site & age group include.

Pilot survey

National pathfinder survey

 Includes only the most important subgroups in the population & only 1 or 2 index ages usually 12 yrs or one another age group.

- This survey provide minimum amount of data needed to commence planning .
- Additional data has to be collected in order to provide a baseline for the implementation & monitoring of services.



NATIONAL PATHFINDER SURVEY:-

- Incorporates sufficient examination sets to cover all important subgroups of the population that may have differing disease levels or treatment needs & at least 3 of the age groups or index ages.
- This type of survey is suitable for the collection of data for the planning & monitoring of services.



INDEX AGE & AGE GROUPS:-

Recommended ages are-

- > 5 year for primary dentition
- 12,15,35-44 & 65-74 for permanent dentition
- <u>5th year</u>- in relation to levels of caries in the primary dentition which may exhibit over a shorter time span.

- <u>12th year</u>-age at which children leave primary school therefore it is last age at which reliable sample may be obtained easily through the school system.
- All permanent teeth have erupted except 3rd molars- for this reason it has been chosen as "Global Monitoring Age" for caries for international comparisons & monitoring of disease trends.

- <u>15th year</u>-at this age the permanent teeth have been exposed to the oral environment for 3-9 years.
- <u>35-44 years</u>-standard monitoring group for health conditions of adults. Full effect of caries , periodontal disease involvement & general effects of the care provided can be monitored using data for this age group.
- 65-74 years-data for this group is necessary for planning appropriate care for the elderly& for monitoring the overall effects of oral care services in a population.

- Number of subjects. The standard number of subjects in each index age group to be examined ranges from 25 to 50 for each cluster or sampling point, depending on the expected prevalence and severity of oral disease.
- An eg.. Of sample design for a national pathfinder survey for each index age or age group is as follows..

Ourban; 4 sites in the capital city or metropolitan area(4 x 25 = 100)

2 sites in each of 2 large towns
(2 x 2 x 25 = 100)

 Rural; 1 site in each of 4 villages in different regions(4 x 25 = 100)

- Total 12 sites x 25 subjects = 300
- Applying this cluster distribution to the entire population (all index ages and age groups) the total sample is 4x300 = 1200

Oral health assessment form

- The standard form for oral health assessment is designed for collection of all the information needed for planning oral care services and thorough monitoring and replanning of existing care services. The form included the following sections:
- Survey identification information;
- General information;
- Extra-oral examination;
- Temporomandibular joint assessment;
- Oral mucosa;



- Dental fluorosis;
- CPI (periodontal status, formerly called Community Periodontal Index of Treatment Needs or CPITN);
- Loss of attachment;
- Dentition status and treatment need;



- Prosthetic need;
- Dentofacial anomalies;
- Need for immediate care and referral;

The who oral health assessment form (1997)

 Universally accepted and used recording methodology for oral health surveys.



World Health Organization Oral Health Assessment Form for Adults, 2013

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