

Research Methods in Health Promotion
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Week 11
Lecture 54: Analysis of Qualitative data

So, hello and welcome back. So, in this lecture we will talk about the Analysis of Qualitative Data. So, the basic things and basic concepts of qualitative data analysis has been covered by Professor Dr. Madhumita Dobe madam in week 5. Now, here we will discuss in more details, how to interpret, how to represent. So, let us start and in this lecture we will first cover the steps in data analysis process, then different types of codes, then what is using predetermined codes, then coding visual images and interpretation in qualitative research.

So, the first step in data analysis process is we have to organize and prepare the data for analysis. Now, see you have conducted data collection, be it your interview or focus group discussion whatever. So, you have done with your data collection. Now, the next step is you have to first organize the data, right, then only you can analyze.

So, the in the first step what we are doing first we are transcribing interviews, we are generating transcripts. Then optically scanning material, the materials which you have to scan, then you have to type all the field notes, whatever field notes you have collected as a researcher that also should be included. Then you have to cataloging all of the visual material, whatever visual material you have collected in your research that should be catalogued and sorting and arranging the data into different types depending on the source of information. Now, in your research it might happen that you have done you know in your research study you have done focus group discussion with certain participants and the interviews, in depth interviews with another group of participants. So, whatever you have done that should be arranged depending on the source of information which methods you have applied you know who are the source of all those information and everything that should be arranged very properly.

If you do not arrange your data properly then what will happen while you know analysis, analysis it will become very difficult for you. So, in step 2 what we have to do we have to read or look at all the data. Now, this is for the you know once you have to go through the entire transcripts or entire whatever you have collected at one go at least you have to go. Now, it is not necessary that only once you will go through the transcripts because in this step the important thing is you should have a general idea or you can say you should have a general understanding of the entire you know whatever you have collected the information's you know the transcripts you should have an general understanding. Now, here what you will do once, twice, thrice it depend on you there you know there is no hard and fast rule, but here it is always you know said that if you go only once it is not that much clear you know the things will not be clear.

So, always at least you should go twice or thrice. Now, this first step it provides a general sense of the information. So, just now I was just talking about that for general understanding for just getting a general idea of the information. So, you have to go through and an opportunity to reflect on it is overall meaning. Now, as you know qualitative researcher you can have your own thinking you can have your own views and interpretations you know your reflect you can reflect in your own way.

So, that reflexivity is also important. So, this first step it provides a general sense of the information and an opportunity to reflect on it is overall meaning. What happen know be it you know the family planning topic or regarding you know the hygiene practices whatever you know that this is your research topic. Now, in your hand you have so many information, so many you know ideas and concepts you can see in your transcripts. Now, once you go through then what happens some you know particular some particular ideas or you know you start developing from your own views that here these are the things which are important these are the some salient points which are coming up.

So, what general ideas are participants saying. So, what you are getting from the participants their views the general ideas what is the tone of the ideas, what is the impression of the overall depth credibility and use of the impression information sorry. Sometimes qualitative researchers write notes in margins of transcripts or observational field notes or start recording general thoughts about the data at this stage only. So, sometimes what happen the qualitative researcher they write you know short notes according to them. So, what happen you have your transcript.

So, for example, in your in a word document you have prepared the transcript and just at the extreme right you can you know write small notes you can write your ideas if you feel here these things are important or in observational field notes also that can be done or start recording general thoughts about the data at this stage only. So, at this stage only what happen they start recording what are the thoughts what are the ideas which are coming up. Now, for visual data sketch book of ideas can begin to take shape in visual materials know we discuss about various visual materials in our previous lecture. So, that is also important here also what you can do you can have you know 1, 2, 3 or you know a sketch book of different ideas from those particular visual materials. Then after this an important step is coding.

So, the basic thing basic concept of coding by now you know because madam has already discussed. So, first of all look here. Now, in a very simple term coding is the process of labeling and organizing your qualitative data to identify different themes and the relationships between them. So, what happen you have the different transcripts of the participants now you have to label it first. Then you organize your entire data.

So, that you know the different themes that can come up some emerging things will come and also some interrelationship between the different themes. So, coding is a process of organizing the data by bracketing chunks of text or image and writing a word representing a category in the margins. So, what happens you know in 2 or 3 ways they are different ways it always depends on the feasibility and user friendly. How much that particular researcher/analyst is basically or analyst/data analyst is comfortable. So, what happens in the transcript either you can have you know different shades of colors.

So, for example, in your mind it comes that here the normative influencer these are the people just for an example for the vaccine uptake or for the vaccine hesitancy. So, you see that different influencers are coming up be it in the positive note or in the negative note whatever. So, what you do you decide that by red color I will just label it I will just mark it in my transcript. So, it can be the health care worker you know it can be your friends, your peers, the doctors. So, it depends what kind of you know influencing things are coming up.

So, in that case you have to just mark it up apart from that the different barriers for example, you want to know what are the different barriers for that particular vaccine uptake. So, in that case you find that your distance of the vaccination site from home then the cost you know cost it can be a barrier time maybe you do not have time that you will go and take a vaccine due to certain reasons. So, these are just for you know examples you can have different examples I mean in your as a researcher you can have your own research question of qualitative research. So, what you do you just either you can just highlight you can put brackets and in brackets you know above you can put some word like a b c d, but the thing is you also have to maintain you know a document where it should be mentioned that a denotes this, b denotes this for example, a denotes facilitators, b denotes influencer, c denotes barriers just for an example. Most of the time what happens we use color as I said red for influencer or green for facilitators you know light blue or some color you can put for barriers depending on your information/research information that you are getting.

So, then it involves taking text data or pictures gathered during data collection segmenting sentences or images into categories and labeling those categories. So, just now I mentioned 3 categories influencer, then you know some barriers, some facilitators of access or if you take some other example utilization of healthcare service. So, what are the different barriers or utilization of that particular health service. So, whatever in a paragraph form you have some sentences you can also have images some visual materials also. So, now you need to label and categorize those things and it is said often it should be based in the actual language of the participant that is why it is known as in vivo term.

So, as the participant has said. So, as much as possible in the actual language of the particular participant. So, you have to label now in the entire transcript you see that yeah I have labeled all those things these are the different categories these are the different things which are

coming up. Now then what you will do you are done with coding part. So, next is that now you have to generate themes and description.

So, basically thematic analysis first look at here the thematic analysis a method for analyzing qualitative data that involves reading through a set of data and looking for patterns in the meaning of the data to find themes. So, it is one of the way of qualitative data analysis. Now see apart from thematic analysis you know that we have narrative in a story format. Now what happens you know the participant they share their experiences and you just analyze and represent in a story like format. We also have the content analysis you have different qualitative data you can quantify that also.

So, we have narrative analysis, we have content analysis, we have thematic analysis. So, thematic analysis is basically analyzing qualitative data that involves reading through a set of data. You know that we are just reading we are going through those data twice, thrice depending on the particular researcher or who is analyzing the data. So, what happens now sometimes you know I have seen there are some researcher they are quite satisfied after two times only. So, they know that these are the things which are coming up.

Sometimes I have seen that they are going through the transcript four times, five times. So, fine if they think that yeah according to them you know if they feel that here now I think these are the things which are coming up I am clear with the entire transcript I am clear with the entire information then it is ok. So, involve reading through a set of data and we live look for patterns you know where the things are going that is very important ok. So, be it utilization of healthcare services vaccine uptake or you know in healthy dietary habits among the school going children. So, any topic you have to see that where the things are moving where the things are going on.

So, you look for different patterns what are the important themes you know which are coming up. Then the meaning of the data to find themes. Now, you have the data based on the meaning of those data you look for patterns and finally, you see that these are the themes which are coming up ok. So, we use the coding process to generate a description and themes. Now see we generate a description of the setting of people.

What is description? Now description it involves a detailed rendering of information about people settings places or events ok. Now, we definitely try to find out themes, but also descriptions are important. So, that we have a very rigorous and we have a very clear picture and clear idea or what happened ok, where are the things going. So, here what we do we focus on first description which is basically a detailed rendering of information in detail only about the participants ok. Then the places, the events, what events, what circumstances.

So, these are the things you will have in details. Now, apart from description we will have some categories or theme for analysis. Now before I go to theme and categories you know in details let me tell you one thing. Different literatures you will see that they have mentioned theme, categories, theme, domain, themes, sub themes. Now it depends that how you are actually interpreting and representing your entire qualitative study ok.

But the important crux of the qualitative you know data is the theme. Now those theme now you can have 5 to 7 themes you can put those in different categories, you can have different domain ok. So, under barriers under a broad domain of barriers you can have 3 or 4 themes ok. A normative influencer you can have 2 or 3 normative influencer. So, that depends on that particular researcher that how he or she is going to represent and interpret.

So, we find out the categories or themes for analysis. So, researchers can generate codes for this description. So, you can have different codes now these are the participants, these are the details of the participants. So, there also you can put some code the age groups, gender, if you think that the occupation is also relevant for this particular study then definitely you should also have the details of the occupation of those participants etcetera. Now use the coding as well for generating a small number of themes or categories.

So, perhaps 5 to 7 themes for research study, but then I will I would like to tell you that here it is mentioned that 5 to 7 themes, but it is not always necessary you can have more than 7 themes 8, 9, 10, 12 depending on the entire you know as a researcher you can have your own research objectives. So, then these themes are the ones that appear as major findings in qualitative study. So, in qualitative study the major crux or the major finding is the themes and are often used as headings in the finding sections of studies. So, what are the findings of this particular study? So, these are the first theme in most of the literature you will see that they have only mentioned theme and for that particular theme they have some supporting quotes ok. Now quotes are basically the phrases or sentences ok, what exactly a particular participant has said during that situation ok, during the interview and that particular theme for example, in normative influencer you have.

So, for example, somebody has said that here for me the health care professional he or she can say that here they are my important influencer, they motivated me to go and take vaccine just for an example. So, in their own you know word in their own language in their own word you can have some quotes. And the theme you that theme should be supported by some quotes. So, this is all about that how you find out the themes and descriptions ok. Then next what happened multiple perspectives from individuals should be displayed and be supported by diverse quotation just now I was saying that yeah you have your theme in your hand now, but after that theme you know the different perspectives from individuals there should be shown and should be supported by diverse or different quotations, quotable different quotes.

Then beyond identifying the themes during the coding process qualitative researchers can do much with themes to build additional layers of complex analysis. Now, it depends that what kind of qualitative research approach you have chosen ok. For example, as I was talking about the narratives in a patient share the different experience and you know represent you find out the themes and represent in a story like format. In a grounded theory in grounded theory what happens the theories are basically grounded they are actually into the data. So, from those data different theories can come up and theoretical model you can develop ok.

Then themes are analyzed for each individual case and across different cases in case studies what you can do in case studies that you can have different themes and you can analyze for each individual case and across different cases also you can have 10, 12. So, you in that these are done in case studies or in phenomenology what we do in phenomenology that in that particular circumstances situation or in phenomenon how the participants experience those phenomenon, how they experience those situation or events. So, you have your themes and description, but these are the important points you have to keep in mind while you generate your description and themes. Now, it is about you know the inter coded agreement is also important while you code it is not that only single person will code there should be another person he or she will also code. So, that you can if there are some discrepancy you can there should be a third person who can come to a conclusion these are the codes ok.

So, for just for maintaining uniformity these things are done. Then the next step is you have to represent. So, representing the description and themes, now advance how the description and themes will be represented in the qualitative narrative. The most popular approach is to use a narrative passage to convey the findings of the analysis. Now, what happen it depends on the researcher what is his own interest or if he or she feels that here this is the best way by how we can represent and feasibility is also important.

So, in narrative format you can represent in the passage format you can write that these are the things which came up these are the category these are the themes. Now, this might be a discussion that mentions a chronology of events that this happens first then the next step these things happens the detailed discussion of several themes. So, you will write you know that you have to just mention and you have to have a very detailed discussion of the several themes which you got and also discussion with interconnecting themes. So, you should also have the interconnecting themes what happen if you put some interconnecting themes you know it becomes more interesting and you know it becomes more meaningful also that you know sometimes I mean just for an example for you know for a woman to go for the cervical cancer screening barriers. Now, what happen or if he if you know in a family a woman when she has some you know health problem.

So, you know in most of the family still in remoter area you will see that the health of a woman is not given that importance. So, what happen as a participant you know that woman will say that here actually nobody takes me to the hospital there is also and you will find that

some you know money problem in the sense cost of you know going to the hospital or taking treatment. So, you can interconnect those themes in the same place what happens when a male is suffering from any health problem then these are not the barriers. So, even what happen if there is some issue of money or some cost is the problem still just because the importance of you know men's health is more than what happens you can just interconnect those themes that here cost was the problem, but another theme which came up was that she was in that particular family or you know in that particular household the importance of women's health was not there. So, what happens you can also interconnect some themes.

So, you can have depending on your objectives you can have different themes and you can connect those themes and what happen when you interpret you have to just write it down interpretation then you represent. So, what happen things get very clear and meaningful these are the things which happens the short of you know the differences. So, likewise you can connect the different themes also. Now many qualitative researchers also use visuals figures or tables at and junk to the discussions. Now, what happen I can develop a framework I can also represent my findings in a tabular form I can represent my findings in some figure in pictorial form even I am writing the things in you know text after that also I am representing those things in tabular or graphical form.

Now they present a process model again you know just we were talking about that as in grounded theory we have to develop some theoretical model because theories comes up from those data. Advance a drawing of the specific research site as in ethnography you know the in some particular place what is the cultural issues what are the cultural things in case of ethnography or convey descriptive information about each participant in a table as in case of different studies or case studies or in ethnographies. Now this is a figure just to you know recapitulate that we have the raw data transcripts field notes and images. So, you have to start from here at the below you see then the arrows are just going up. So, you organizing and preparing data for analysis then after you organize and prepared your data you have to go through the data you have to do you know twice or thrice you have to just read that particular data.

Then coding now see what happens we can you also use computer software there are some software available and we can also go for manual that is hand code technique. So, it depends on the researcher whether he or she will go for the hand code technique or he or she will go for some software computer software. Then what happens after coding we have some themes and we have some description we discussed it then inter relating themes or description like for case study what approach actually you are going to adopt. Now based on that you know just one example grounded theory we can develop some theoretical model in case study we can have some thematic analysis of the different cases or in the phenomenology or in the narratives. So, we can have inter relating themes or descriptions based on the approach which we have adopted.

Then interpreting this was inter relating then interpreting the meaning of themes and descriptions. So, after you have analyze and you have the things in your hand your own interpretation is also very important that what are the main you know concepts what are the main issues which came up from the entire study because you explored. So, now, you have you know an in depth understanding you have an in depth information about a certain research topic or a problem. So, in that case as a researcher you will start interpreting that these things came up these were the inter relating themes.

So, as a researcher you can have your own interpretation. Now these things is see to from organizing and preparing data for analysis till the interpretation what happened we have to validate and validating the accuracy of the information. So, accuracy of the findings that is very important the credibility or the accuracy of the findings. Now types of codes. So, see these are expected codes surprising codes or codes of unusual or of conceptual interest. Now expected codes we have code on topics that are expected the readers would expect to find based on the literature and common sense.

So, you have gone through different literatures and something you know it comes from our own sense whatever we see and we hear. So, we know that these are the things which will come up. What a surprising codes these are code on findings that are surprising and could not be anticipated. So, you cannot predict or anticipate these codes that is why it is known as surprising codes. So, code on findings that are surprising and could not be anticipated before the study began.

Now, the third one is codes of unusual or of conceptual interest. Now this code you know this code unusual things or unusual ideas and those that are in of and of themselves a conceptual interest to the readers. Now, related to predetermined codes see another issue about coding is whether the researcher should develop codes only on the basis of the emerging information collected from participants like you have collected data and some emerging information ok. The codes you can develop from that or you can have some predetermined codes and then you can fit the data to them it also can be done or see is the third one is that you can have the combination. Now, what happened in the combination now you have some predetermined codes. So, you know that these are the codes I can just fit the data to those particular codes and along with that some codes are emerging some codes are coming up which you do not know no anticipation was there.

So, these are the three things. Now what happened the traditional approach in the social science is to allow the codes to emerge during the data analysis. So, if you see in social science it is mostly the emerging one no predetermined no anticipation. So, what happened they allow let the codes new codes emerge from the information from the participants, but in the health sciences a popular approach is to use some predetermined codes I am not saying always, but most of the times now on the theory being examined. Now, in this case what happened the

researcher they can develop a qualitative code book. So, what is qualitative code book it is a table that contains a list of predetermined codes.

So, you can just you know as a researcher you can have your own qualitative code book and you can just write down I mean you can just prepare a list of predetermined codes that you can use for coding the data. Now coding visual images now see the thing is the basic things are same, but what happens most of the time we have the text materials text information, but there are some you know researcher who go for visual images visual materials. So, you should also have an idea that how can we code the visual images. Now step 1 is prepare your data. Now if hand coding print each image with a wide margin or effects it to a large piece of paper.

So, if it is hand coding you have the printed materials printed image and you can just effects it. Now, you can allow space to assign the code labels you have to assign some code labels. If using a computer import all images into the application now if you use computer then you should have all the soft copy of the images. Now, code the image by tagging areas of the image in assigning code labels some codes might involve you know more details like the angle in the camera angle and etcetera. So, what you do you have an image and you code the image and you assign some labels that these are the things this image you know gives me this kind of idea.

So, you can just put a code. Now compile all the codes for the images on a separate paper in a separate sheet what you can do you can just compile all the codes. Now then you should also review the codes to eliminate redundancy and overlap you know repeatable things some overlap things you can just remove it. Now this step also begins to reduce the codes to potential themes. Now in your hand you have only the important things not the redundant themes.

So, redundant codes. So, you have all the important and useful codes. So, what happened now you can just think that you can bring some potential themes out of all those codes. Now group codes into themes that represent a common idea. Now this is just you know you now you have a basic understanding there from codes how can we develop themes. So, next step is group codes into themes that represent a common idea. Then you have to assign the codes or themes to 3 groups like just now we read the expected codes are surprising or unusual.

So, this step helps to ensure the qualitative findings will represent diverse perspectives. So, you can have a diverse perspectives if you just assign these codes or themes into different groups then array the codes or themes into a conceptual map which shows the flow of ideas in the finding section. So, you can develop a conceptual map and you can see that these are the different ideas which are coming up. So, the flow of ideas in the finding sections in finding section you have to write all those things you have to mention. The flow might represent presenting the themes from a more general to a more specific picture.

So, you are getting now more specific then write the narrative for each theme you have to write it for each theme that you have got that will go into the finding section of the study in finding section you have to mention all the details and narration of the theme or for a general summary that will go into the discussion section. Now, it also depends on the researcher the author then finding section in the discussion section how he or she is going to represent you know how or she is going to interpret those things. Now, finally, you have the overall findings in the study. Now, interpretation in qualitative research it involves several procedures that is summarizing the overall findings you know comparing the findings to the relevant literatures which exist discussing a personal view of the findings and stating the limitations and the scope for future research. Now, in terms of overall findings the question what were the lessons learned this is very important.

Now, this is the final thing that what were the lessons learned it captures the essence of this idea. Now, conclusion so, we know that coding is a process of labeling and organizing your qualitative data to identify different themes and the relationships between them. Now, interpretation in qualitative research it involves several procedures just now we read summarizing then comparing the findings to the literature discussing in your own personal view of the findings we have to state the limitations and the future scope of this particular research. These are the learning resources just go through all the learning resources. Thank you.