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Drug Utilisation Research: QUALITATIVE RESEARCH METHODOLOGY

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WORKSHOP OBJECTIVES

- **Distinction between quantitative and qualitative drug utilisation research (DUR) methodologies**
- **Overview of qualitative DUR methods**
  - Interviews
    - Semi-structured
    - Unstructured/in-depth
  - Focus group discussions
  - Observations
  - Delphi & nominal group techniques
  - Consensus development
  - Content analysis
- **Practical examples of qualitative DUR methods**

DRUG UTILISATION STUDIES

Distribution, marketing, prescription, use and dispensing of medicines in a society - with specific emphasis on social, medical and economic consequences

↓

Ultimate goal:

To assess whether medicine therapy is rational or not

DRUG UTILISATION METHODOLOGIES

Two research methodologies:

Quantitative ***(mostly used and widely accepted)***

- Majority of DUR studies
- Examples of studies:
  - To quantify the current state of drug use
  - Drug use cost
  - Drug use trends
  - Time course of drug use at various levels

Qualitative research methods

- Derived from social sciences
- Increased awareness since 1980s
- Increasingly used in drug utilisation research, especially in understanding patient & prescriber perspectives
- Main focus is exploration of a given phenomenon to get a wider understanding of why and how it appears
- Build on various theoretical underpinnings/ schools of thought

Definition of qualitative research

Can be defined by 4 characteristics:

- **Purpose:** Understanding the meaning of individuals' experiences
- **Primary instrument:** Data collected and analysed by the researcher him/herself
- **Inductive process:** Researchers use qualitative studies to gather evidence to develop theories & hypotheses
- **Product:** Descriptive data (words or pictures); not numbers

What is qualitative research?

It is an inquiry process in which the researcher:

- Explores one key concept
- Asks participants general, broad questions
- Obtains participants' views in words/images
- Conducts analysis and codes data for themes
- Themes used to describe participants' views
- Interprets meaning by focusing on personal reflection & past research

Qualitative versus quantitative

Qualitative	Quantitative
Multiple realities	Single reality
Reality is social & contextual	Reality is objective & context-free
Holistic	Reductionistic
Inductive reasoning	Deductive & inductive reasoning
Discovery of meaning → basis of knowledge	Basis of knowledge → cause & effect relationships
Develops theory	Tests theory

Qualitative versus quantitative (continued)

Qualitative	Quantitative
Meaning of concepts	Measurement of variables
Process orientated	Outcome orientated
Basic element of analysis = words	Basic element of analysis = numbers
Unique	Generalisation
Trustworthiness of findings	Control of error

Commonly used traditions/types of qualitative research

Basic qualitative research	• To understand individuals' meanings of their experiences • Collect data by document analysis/ observations/interviews /focus groups
Ethnography	• Study of culture & society • Researcher forms part of culture/society
Phenomenology	• Studying conscious experiences of people in their "life-world"
Grounded Theory	• Builds theories based on changes occurring over time with a certain phenomena

When should qualitative research be used?

(1) Exploring peoples' **experiences or views** of something

For example:

- Peoples' experiences towards taking certain drug therapies
- Consumers' perceptions of pharmaceutical advertisements


Panado
MedSip Honey and Lemon

(2) Exploring **“new areas”** where its issues are not understood or identified

For example:

- Studies where questionnaire surveys are required

(3) Assessing if a new service can be implemented

For example:

- Discussing the value of a drug abuse awareness campaign at university

- Focusing on the context of something
- Sensitive topics in which flexibility will reduce distress
- Questions that cannot be answered by measuring or counting something

Common methods in basic qualitative research

- **Interviews**
  - Semi-structured
  - Unstructured/in-depth
  - Also: Informal, open-ended, guided approach, closed-fixed response, telephonic

- **Focus group discussions**
- **Observation**
- **Delphi & nominal group techniques**
- **Consensus development**
- **Content analysis**

Interviews

Digital voice recorders

Analysis of the discussion & recording of data

- Discussion recorded by means of voice recorder (preferably 2)
- Researcher needs to listen to recorded data at least twice within a 24 hour period
- Capture recorded data verbatim (word for word, including sounds made)
- Conduct thematic analysis based on Tesch's technique of descriptive analysis
- Descriptive statements used to discuss the findings - quoting excerpts from the raw data

When you move into your own home, you're alone. There is no bustle of people around the house. I miss having someone to chat to when I get home. I put the TV or some music so there's some background noise, the silence makes me feel so alone. Sometimes I will be sat watching trash TV and thinking I should be out doing something rather than watching this rubbish. I read a lot but sometimes I am too tired and just want to veg out. But it's been good to move out of mum and dads as it's not healthy to rely on them as they won't last forever. I become independent and made my own decisions. It's good they still there when I need them. It's good to have some distance as when I was at home I was arguing a lot with my dad and that was made me decide it was time to go.

feelings

Living alone

New relationship with parents

Independence

Old relationship with parents

Argument with Dad

Relation with father

I: Yeah, I said… what I haven't talked about and things I haven't mentioned to you is things like the visits they do and things like how they can maximise the value of some of the things… because it's starting with them. So, if they go on a visit and they want to record things or recognise what they're learning in some ways… then they are…

R: I totally understand what you're saying, you know… perhaps the next thing to do, might be, if it would fit in with you, would be for us to sit in on some planning activities, so maybe a visit somewhere, I don't know… and to be part of that planning process but for us to be thinking about how we might talk to you about technology things, or things that technology might do because it fits in with what you might want to achieve with that activity, do you see what I mean?

I: T's organising a London Planetarium visit, so that's another… we haven't got a date for that, I don't think.

R: Yeah, that's fine, what's the best way of us working with you and thinking of these activities. That's really… when do you plan them, how do you plan them…?

I: Community meeting. So, you could come in, we could agree on a community meeting that you could come to where we plan the planetarium and the college visit.

R: Yeah, that would probably… because it needs to be part of your normal process and…

I: Yeah. So, T… when do you think you want to go to the planetarium?

T: I don't know.

I: When should we plan it… should we do something early next week, plan a visit to the planetarium.

T: Yeah, I think we should definitely go sometime in March.

[ ] Mentor identified Focus of Attention … "How can they maximise the value…"
[ ] Learner confirmation of gap… "I don't know"
[ ] Researcher illustrating participatory focus of activity "if it would fit in with you"
[ ] Mentor highlighting learner-centred activity "T's (T is the learner) organising…"
[ ] Mentor confirming participatory nature of activity "we could agree…"
[ ] Mentor acting as a Form of Assistance for Learner (in response to "I don't know" remark)

Themes and thematic headings identified in each topic

	THEMATIC HEADINGS	THEMES
EMOTIONAL ADVERTISING	**Emotional impact**	Attention
		Desperation and death
MISLEADING ADVERTISEMENTS		**Irrelevant and false issues**
COMPREHENSION OF PHARMACEUTICAL ADVERTISEMENTS	**Understanding pharmaceutical advertisements**	Degree of understanding
		Information provided
AESTHETICS	**Appeal**	Attraction
		Comprehensibility
BUYING PHARMACEUTICAL PRODUCTS OR SERVICES ADVERTISED		**Buying experiences**
ADVERTISING PRESCRIPTION MEDICINES	**Prescription medicine advertised to the general public**	Quantities and addiction
		Professionals and the pharmaceutical industry

Analysis of transcription

- By hand
- Computer software
  - Atlas.ti
  - NVivo
  - Other software packages

Usually use an independent coder and reach consensus

i. Degree of understanding

Female three stated that pharmaceutical advertisements in print form are not always clearly understood. She said: *"...that ones are very, very difficult to understand..."*. Male one agreed but reasoned that a proper explanation cannot be given due to limited space. He stated: *"...because they don't always have the space...it's normally short and sweet...just enough to get your attention"*.

ii. Information provided

Male two felt that many consumers are unaware of what is advertised. He said: *"You don't know what it is or what does it do, what it is for..."* Male three agreed and used Benylin® advertisements as an example: *"...you get to the pharmacy, and it's Benylin this and Benylin that"*. Female two agreed and said: *"Ja, then there's a whole range"*.

Female three believed that pharmaceutical advertisements led consumers into buying certain products for certain conditions and symptoms. She used the treatment of sinusitis as an example and said: *"You have a sneeze – Sinutab!...Of wat is daai goed se naam? (Or what is the name of that stuff?) Sinumax!...so, that actually says that you must ask for Sinumax when you have a sinus headache..."*. Male one agreed and was of the opinion that consumers believe everything stated in pharmaceutical advertisements. He

Rigour in thematic analysis

- General principles to which qualitative research have to adhere to
- “Good practice guidelines”
- Will add credibility, reliability, and validity of the results
- *Green and Thorogood* or *Lincoln and Guba’s* criteria

= Statistics in quantitative studies

Measurement to ensure trustworthiness and authenticity of a study

Trustworthiness: Degree of confidence qualitative researchers has in their data, assessed by using:

- Credibility
- Transferability
- Dependability
- Confirmability
- Authenticity

Trustworthiness is also establishing ***validity*** & ***reliability*** of qualitative research

Qualitative research is trustworthy when it accurately represents the experiences of the study participants

Ethical considerations

- **Confidentiality**: No names of participants may be published; any names in recordings must be written as a ‘code reference’
- Inform participants that focus group is **voluntary** and that they can **withdraw at any moment**
- Inform participants beforehand about **voice recorders**
- Invite by means of a **preamble** & **consent form must be signed** by each before focus group (**also verbal**)
- Humans involved – requires **ethical clearance** from a research committee

Content analysis

- Components of quantitative and qualitative methodology
- Research method that provides a systematic and objective means to make valid inferences from verbal, visual or written data to describe and quantify specific phenomena
- Analysis of contents of communication, e.g. textbooks, newspapers, essays, magazines, articles, speeches, advertisements & pictures

QUALITATIVE RESEARCH IN DUR

Types of DUR studies

- ***Appropriateness*** of drug utilisation
- Prescription data linked with ***drug indications***

Uses of qualitative studies in DUR

- Study appropriateness of drug usage in terms of indications, dosage & duration
- Assess clinical efficacy of drugs
- Assist in understanding barriers to using evidence-based medicine, and its limitations in informing decisions about treatment

Other advantages of qualitative research

- Effective in mixed-method methodologies → qualitative & quantitative methods

- Focus groups → themes identified can be used to develop questions/statements to conduct unique surveys, e.g. consumer surveys and health professional surveys

Focus groups

- Term “focus group” was coined in 1956
- Activity where an interviewer/facilitator asks participants specific questions about a topic
- Qualitative data collection procedure consists of a planned group discussion of a main topic of interest
- Aim: to obtain diverse ideas & perceptions of the topic; aim is not to achieve consensus
- Conducted in relaxed environment to foster participation

Activities necessary to conduct focus groups

Three phases:

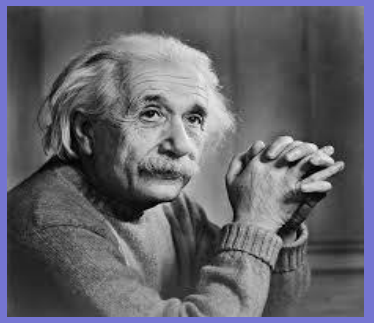
- **Phase 1:** Conceptualisation
- **Phase 2:** Group discussion
- **Phase 3:** Analysing and reporting

… to continue

CONCLUSION

- Need to give DUR a “human perspective”
- Qualitative methods should be encouraged in drug utilisation research

“*Everything that can be counted does not always count; everything that counts cannot always be counted*”



Albert Einstein

REFERENCES

Bricki, N & Green, J. 2007. A guide to using qualitative research methodology. Medicines SANS Frontieres. [Web:]

http://fieldresearch.msf.org/msf/bitstream/10144/84230/1/Qualitative%20research%20methodology.pdf [Date of access: 18 June 2015].

Cresswell, JW & Plano Clark, VH. 2004. Principles of Qualitative Research: Designing a qualitative study. [Web:]

https://www.andrews.edu/leaderpart/RoundTable/2004/workshops/2b/AU-Qual-071504-jwc-vpc.pdf [Date of access: 18 June 2015].

Dyas, J & Ockleford, L. N.d. Basics of qualitative research design. National Institute for Health Research. [Web:]

http://obssr.od.nih.gov/pdf/qualitative.pdf [Date of access: 22 June 2015].

Flick, U. 1999. *An Introduction to Qualitative Research*. London: SAGE Publication. 293p.

Green, J & Britten, N. 1998. Qualitative research and evidence based medicine. *British Medicines Journal*. Vol 316, p1230.

Green, J & Thorogood, N. 2005. *Qualitative research methods for Health Research*. London: SAGE Publications Ltd. 262p.

Lewis, M. 1995. Focus group interviews in qualitative research: A review of the literature. [Web:]

http://scu.edu.au/schools/gcm/ar/arr/arow/rlewis.html [Date of access: 25 June 2007].

Mahmood, K. N.d. Managing Qualitative Research. [Web:] www.paklag.org/Khalid-Qualitative% 20research% 20 workshop.ppt [Date of access: 20 June 2015].

Marczak, M & Sewell, M. 1994. Using focus groups for education. [Web:] http://ag.arizona.edu/fcs/cyfernet/cyfer/focus.htm [Date of access: 25 June 2007].

McNamara, C. N.d. Basis of conducting focus groups. [Web:] www.adrc-tae.acl.gov/tiki-download_file.php?fileId=27128 [Date of access: 20 June 2015].

Salas, M. 2012. Drug Utilisation Studies. [Web:] http://www.pharmacoepi.org/pub/1c22e0d8-2354-d714-51fe-68590802a0ae [Date of access: 20 June 2015].

Phase 1: Conceptualisation

- Purpose
- Whom to study
- Planning

Purpose & whom to study

- What do you want to achieve with the focus group? Type of information?
- From whom can you get this information?
- Ties in with the aim and objectives of the study

Planning

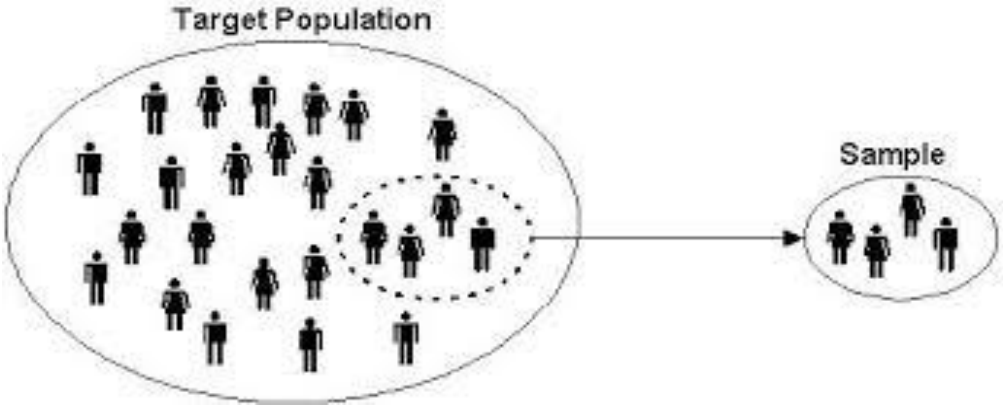
Physical administrative activities to plan before the focus group can be conducted:

- **Venue** to conduct focus group
- **Transport** of participants
- **Invitation:** Preamble & consent form
- Food
- Obtaining a **facilitator** to lead the focus group
- **Budget**
- Two (2) **voice recorders**

Phase 2: Group discussion

- Participant selection
- Development of questions
- Skills required by facilitator

Participant selection



- What type of people do you want to invite to participate?
- **Sampling:** *Random* vs *convenience* vs *purposive* vs *stratified*, etc.
- **Sample size:** Usually 6 – 12 participants

Development of questions

- Need to develop a **focus group protocol**
- **Protocol**:
  - Detailed plans written down to ensure order during focus groups
  - Consists of steps (introduction & conclusion) tasks, questions and/or prompts
- **Probes and clarifying questions**
  - Ensures that participants will give more than just one sentence answers
  - Assists in more detailed information on the topic

Do’s & don'ts of asking questions/prompts

- Keep participants talking
- Listen and do not finish participants’ thoughts
- See things from the participants’ perspectives
- Participants should be viewed as experts
- Do not make assumptions, ask simple questions
- Do not ask leading questions, e.g., “Don’t you think…”

Skills required by facilitator

- Ability to lead a group and be comfortable
- "*Think on their feet*"
- Make participants feel comfortable and at ease; open to talk
- Ability to "*draw information out of people*"
- Advisable to use psychologists/psychology postgraduate students

Phase 3: Analysing and reporting

- Analysis of discussion
- Reporting of data

Advantages and disadvantages of focus groups

Advantages

- Generates rich information quickly
- Information comes directly from people who have insight
- Provides diverse opinions & ideas
- Relatively low cost & efficient

Disadvantages

- Susceptible to facilitator bias
- Few vocal individuals can dominate discussion
- Limited generalisability to larger populations

EXAMPLE: FOCUS GROUP

APPENDIX A: FOCUS GROUP PREAMBLE

Department of Pharmacy
Nelson Mandela Metropolitan University
Tel: +27 (0)41 504-2128
Fax: +27 (0)41 504-2744
E-mail of researcher: bck-2001@hotmail.com

Date: _____

Ref: N 01/11/03/07 [H06Hp-032/Approval]

Contact person: Brent Claud Knoesen

Dear participant

You are invited to participate in a focus group as part of a research study which aims to identify how consumers perceive pharmaceutical advertisements. A focus group is a group interview method where participants are selected to discuss a broad range of ideas regarding a specific topic.

The researcher will provide you with the necessary information to assist you in your understanding of the study and will explain to you what you should expect as a participant. Although you will be required to provide written consent, participation in the focus group is voluntary and you are under no obligation to participate. You also have the right to withdraw at any given time. However, if you do withdraw, you should inform the principal investigator of such a decision. Furthermore, although this study has been approved by the Research Ethics Committee (Human) (RECH) of the Nelson Mandela Metropolitan University, the study may be terminated at any time by the principal investigator, University, or the RECH of the University that initially approved the study. It is also important for you to know that, although your identity will remain confidential at all times, these research results may be presented at scientific conferences or in specialist publications.

Furthermore, should you wish to continue receiving any further therapeutic intervention subsequent to your participation in the focus group, the University Psychology Clinic (UCLIN) can be contacted on (041) 504-2330 in this regard.

Yours sincerely,

Brent Claud Knoesen
(Principal Investigator)

FOCUS GROUP PROTOCOL

(Duration: 1 hour and 15 minutes to 1 hour and 30 minutes)

- **Introduction (*5 minutes*)**

Ice breaker is used to allow participants to become acquainted.

- **Group task one (*10 minutes*)**

The following general question is asked:
What do you think of advertisements in print form (in other words advertisements found in, for example, magazines and newspapers)?

- **Group task two (*30 minutes*): General discussion**

Prompts for general discussion:

1. *Do you think pharmaceutical advertisements play on consumers' emotions?*
2. *Do you think that pharmaceutical advertisements mislead consumers?*
3. *Are pharmaceutical advertisements often difficult to understand?*
4. *Do colour and pictures attract your attention when looking at advertisements?*
5. *Have you ever asked your general practitioner or pharmacist about a pharmaceutical product advertised or even bought the product?*
6. *Do you feel that prescription medicines should be advertised to the general public?*

- **Group task three (*25 minutes*): Opinions about pre-selected advertisements**

Three pharmaceutical advertisements are shown to the group and their opinions are asked about them.

- **Conclusion/Debrief (*5 minutes*)**

The group is asked if there is anything else they want to add to the discussion or want to ask about the study. Participants are thanked for their participation.

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*At recommended doses.

[SO] PANADO® MedSip Ginger: Each 5 g sachet contains 800 mg paracetamol, 50 mg caffeine and 10 mg ascorbic acid. Contains sugar: 3,165 g sucrose and 500 mg lactose monohydrate. Reg. No. Y/5.8/10. [S1] PANADO® MedSip Honey Lemon: Each 5 g sachet contains 800 mg paracetamol, 50 mg caffeine and 10 mg ascorbic acid. Contains sugar: 3,365 g sucrose. Reg. No. 27/5.8/0508. Adcock Ingram Limited, Co. Reg. No. 1949/034385/06. Private Bag X69, Bryanston, 2021. Tel (011) 709-9300. (1) BMA New Guide to Medicines & Drugs, Fifth Edition 2001, pg 369.

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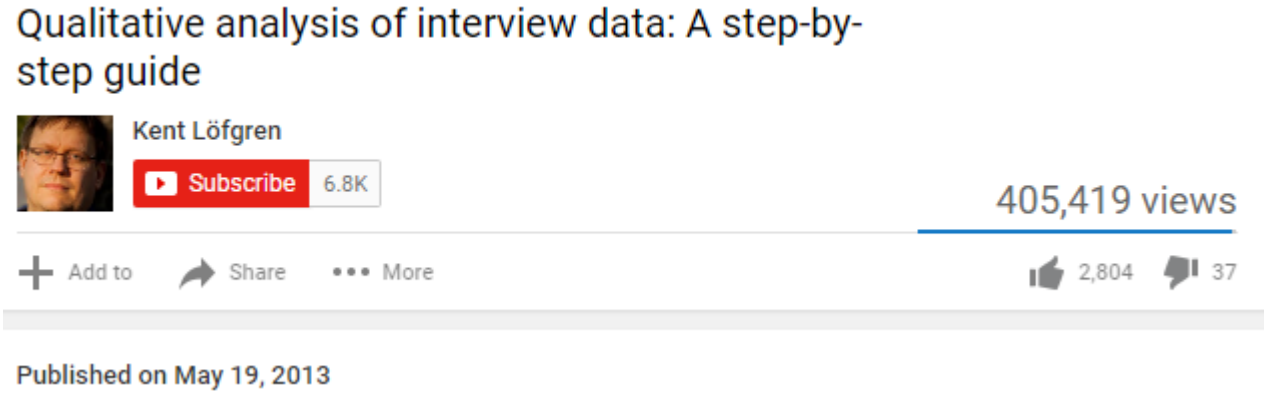
The Queen: https://www.youtube.com/watch?v=MlU22hTyIs4

https://www.youtube.com/watch?v=DRL4PF2u9XA



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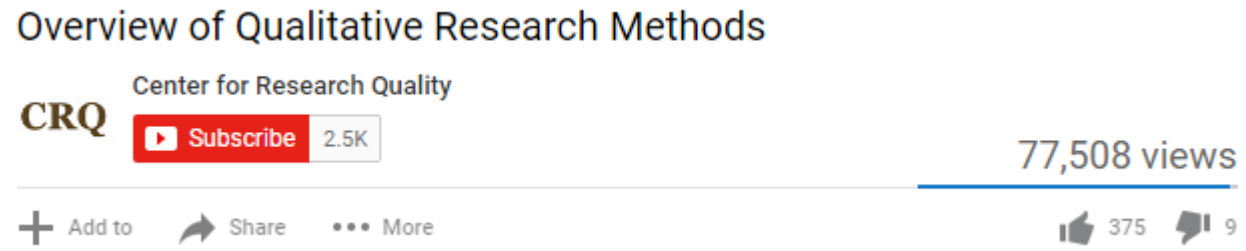

...***the understanding***...

- Qualitative methods (in depth interviews, focus group discussions, observations, etc.)
- Purposive sampling and triangulation
- Approaches to the generation and analysis of qualitative data (phenomenology, grounded theory, qualitative content analysis and narrative analysis, etc.)
- Consensus methods (Delphi and nominal group techniques, consensus development conferences)

KAP Studies

RESEARCH ARTICLE | OPEN ACCESS | OPEN PEER REVIEW

Impacts of counseling on knowledge, attitude and practice of medication use during pregnancy

Ramesh Devkota ✉, G. M. Khan, Kadir Alam, Binaya Sapkota and Deepa Devkota

BMC Pregnancy and Childbirth BMC series – open, inclusive and trusted 2017 **17**:131 | **DOI:** 10.1186/s12884-017-1316-6
© The Author(s). 2017
Received: 23 December 2016 | **Accepted:** 24 April 2017 | **Published:** 27 April 2017

Open Peer Review reports

Abstract

Background

Counseling has a significant role in improving knowledge, attitude and practice outcomes of pregnant women towards medication use. Proper counseling thus could be beneficial to prevent any medication related misadventure during pregnancy. The present study was aimed to assess the knowledge, attitude and practice (KAP) of pregnant women towards their medications, to provide counseling regarding their understanding of medication use during pregnancy and evaluate the impacts of such counseling.

(Source: https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-017-1316-6)

KNOWLEDGE QUESTIONS

Please tick on what your appropriate response is regarding the following:

S.N.	Question	Yes	No	Uncertain
1.	Do you know about your present complication?			
2.	Do you know the name of the medicine that has been prescribed to you?			
3.	Do you know the use of all the medicines that you are currently taking?			
4.	Do you know that medicines can also show adverse effects?			
5.	Do you know that drugs that we take might not be safe in pregnancy?			
6.	Do you know that unnecessary drugs taken by the pregnant mother can show adverse effects on the health of the mother and fetus?			
7.	Do you know that exposure to unnecessary drugs during pregnancy can affect fetal organogenesis and development?			

ATTITUDE QUESTIONS

Please select the number according to your opinion.

1= strongly agree, 2= agree, 3= uncertain, 4= disagree, 5= strongly disagree

S.N.	Questions	1	2	3	4	5
1.	I should ask about my complication and safety of medication during pregnancy with my physician or pharmacist					
2.	I should immediately notify my physician, pharmacist or nurse if any adverse drug reaction is seen					
3.	I should stop taking unnecessary OTC medicines during pregnancy					
4.	Asking about safety of medicines can help prevent unwanted risks					

PRACTICE QUESTIONS

Please select the number according to your opinion.

1= strongly agree, 2= agree, 3= uncertain, 4= disagree, 5= strongly disagree

S.N.	Questions	1	2	3	4	5
1.	I take OTC medications quite frequently without consultation with physician or pharmacist.					
2.	My medicine taking way and habit has changed after knowing that I am pregnant					
3.	For any medicine I am taking (OTC or prescribed), I try to find out whether it is safe during pregnancy or not.					
4.	I am following the instructions provided regarding proper medicine use					

Utilisation of malarial drugs at a household level: results from a KAP study in Choma, southern province and Mporokoso, northern province of Zambia.

(PMID:11682934)

Abstract | Citations | BioEntities | Related Articles | External Links

Kaona F, Siajunza MT, Manyando C, Khondowe S, Ngoma GK

The Central African Journal of Medicine [01 Oct 2000, 46(10):268-270]

Type: Research Support, Non-U.S. Gov't, Journal Article

Abstract

OBJECTIVES: To describe and document knowledge and use of anti-malarial drugs at household level in rural Zambia. DESIGN: Cross sectional study. SETTING: Community based. SUBJECTS: Data was collected from 392 male and 415 female respondents. MAIN OUTCOME MEASURES: Percentage of respondents knowing the cause of malaria and using modern health facilities. RESULTS: The median age of respondents in Choma was 37(Q1 = 27, Q3 = 52) while that for Mporokoso respondents was 34(Q1 = 26, Q3 = 47), ($p < 0.001$). There was no association between educational level and knowledge of causes of malaria ($p = 0.674$). Fever was significantly ($p < 0.001$) associated with malaria (20.4% in Choma, 80.6% in Mporokoso). However, only 1% in both areas mentioned the mosquito as a vector for malaria. The majority of residents (59.5%) went to the hospital when they suffered from malaria. Only 7% mentioned the use of traditional medicine. There was an association between the level of education and taking preventive measures against malaria in all the communities ($p < 0.001$). Respondents did not mention the use of treated mosquito nets. CONCLUSION: Residents in both Choma and Mporokoso did not know the cause of malaria. The use of treated mosquito nets is rare. Production of information, education, communication (IEC) health materials and recruitment of a village health educator is recommended.

(Source: http://europepmc.org/abstract/med/11682934)