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Drugs use: methodological suggestions for field research in developing countries

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Literature on methodological aspects of field research on the use and distribution of drugs in Third World countries is scarce. In response to a growing interest in the issue among health professionals, this article gives an overview of methods and suggestions in this field. Research needs must be clearly identified to ensure a cost-effective research design. Various foci for research — the providers, the users, the illness and the drug — are put forward; each focus requires its own research methods. The authors argue for a participatory approach, involving consumers in the various research activities. The gathering and dissemination of information on local conditions of drugs use is considered a crucial step towards adequate policy decisions to improve the conditions of drug use in Third World countries.

Introduction

Over the past ten years much attention has been given to problems in supply, distribution and use of pharmaceuticals in Third World countries. Problems that were reported and described included the supply of expensive, sometimes ineffective and even harmful drugs; shortages of 'essential' drugs, deficiencies in distribution systems, and widespread self-medication with drugs supposed to be used only on a doctor's prescription.

The great majority of these studies are macro studies, with a top-down perspective, focusing on just a few aspects (mainly economic, medical-pharmacological) aspects of the problems. Very few studies have been made in the 'field' where medicines are actually consumed. This prevents us from understanding the problems perceived by the consumers themselves and hampers the development of adequate policies.[1]

The gathering and dissemination of information on local conditions of drugs use in the Third World is in our opinion a crucial step towards policy decisions by government bodies such as national Drug Regulatory Authorities, the World Health Organization, by non-governmental organizations such as Health Action International, and by local health programmes which try to improve conditions of drug use.

This article pleads for *field* research into the distribution and use of pharmaceuticals. Such research requires anthropological skills of interviewing and (participant) observation, that are little taught in medical schools. We summarize some field research methods, which can help health professionals who want to gain insights into problems faced by people in poor countries when they want to resort to Western pharmaceuticals.

Research design can be simple and cost-effective, if the choice of methods is based on a precise identification of the research needs and objectives of the health organization concerned.

The distribution and use of pharmaceuticals are fairly complex processes. It is therefore advisable to focus — at least initially — on one particular aspect. Broadly speaking, two kinds of focus are possible: the *people* who deal with the drugs (providers or consumers) or the *issues* that are at stake (the 'illness' or the 'drugs').

Focus on people

Provider-centred research

The most important retail providers of drugs in the Third World are pharmacists, drugs vendors, medical doctors, paramedics and village health workers. Medical doctors, paramedics and

village health workers are drug providers in the sense that they prescribe and sometimes also sell the drugs. Research focusing on all these actors can take the following forms:

Structured or questionnaire-based interviews can deal with numerous questions regarding the provision of medicines, for example:

- types of medicines being prescribed/sold.
- indications for which drugs are prescribed/purchased.
- prices of medicines.
- extent to which prescription drugs are being sold over the counter.

One type of structured interview which seems particularly apt is confronting the physician or drug vendor with hypothetical patients: what would you prescribe/advise for complaint *x*, complaint *y* etc.

The advantages of structured interviews are known. They provide clear data that can be easily quantified and compared with data from other research. The disadvantages are equally well known: the reliability and validity of the answers can hardly be assessed and are likely to be low, particularly when the interview topic is complex and/or sensitive. Selling drugs in the Third World is often a delicate — even illegal — and desultory affair. Considerable scepticism regarding the quality of questionnaire answers by pharmacists, drug vendors and health workers is called for. Moreover a merely quantitative analysis of drug selling is likely to oversimplify the situation. When a quantitative approach is accompanied by a more qualitative one (see below), however, this may provide complementary insights.

Unstructured, or informal, interviews allow the wider context of drug selling to be explored. Various aspects of the business can be brought up depending on the course of the conversation and the cooperation of the informant. The main advantage is that the information is provided in a more 'natural' way. The interviewer can continue asking questions until he[2] has fully understood the situation. He is also more able to check the information: Does he understand the question? Does the respondent tell the truth? Ordinary conversation makes it further easier to reassure the respondent and win his cooperation. However, a disadvantage is that in ordinary conversation the respondent may be influenced in his opinion by the researcher. On the other hand when the interviewer asks too many questions, without giving his own ideas on the interview topic, the respondents may become suspicious. They may wonder why you are asking so many questions, especially if the topic of the discussion is sensitive (like the illegal selling of drugs).

An important disadvantage of this technique is also that its results are harder to generalize and to compare with data from other research. It is likely to yield a quite complex picture of drug selling and prescribing, and an information overload can occur. It may then be hard to translate the results into concrete conclusions and policy recommendations.

Some topics that can be covered in an informal conversation are the seller's own knowledge and ideas about the drugs, and the commercial aspects of his transactions.

Direct observation of the sale and prescription of medicines yields more reliable information than oral communication. The researcher can see which medicines are being sold or prescribed, what information on their use the seller or doctor provides, whether drugs are purchased on prescription etc. These observations can be combined with informal interviews of the doctors, patients or drug vendors.

This type of research can be quite difficult to do. Drug sellers may object to the presence of an onlooker during their work, because they feel it can disrupt their business (certainly if the transactions are unlawful), or even endanger it. If they nevertheless accept the researcher's presence they are likely to go about their business in a more 'correct' way than they would normally do. Others may feel that their professional competence is being tested.

Another drawback of this approach is that the 'harvest of information' may be rather slim when the drug seller does not have a lively business. One of us[3,4] found that some drug sellers in a rural Cameroonian town had only a few clients in one hour. Like most observational methods this approach can prove to be very time consuming. A positive side-effect of long intervals,

however, is that it allows extensive informal conversations with both seller and client.

Doctors will not always allow researchers to sit in during patient consultations to study their prescribing or dispensing of drugs. But a few examples of this type of research are known to the authors.[5]

Unobtrusive observation solves most of the methodological problems mentioned above. A researcher can pose as a client or have his assistant act as such. The advantage is obvious: it gives the most 'natural' picture of normal procedures.

Unobtrusive observation of drug prescribing by physicians has been practised by Greenhalgh[6,7] who in India introduced herself as a medical doctor (which she was) interested in diseases in the area (which was not her main interest). Her stated interest enabled her to observe drug prescribing by physicians. She followed 2400 patients through medical consultations in five Indian cities.

The advantage of taking the role of a doctor is that one can attend many consultations. Posing as a patient would clearly limit this number considerably, especially when one considers the underlying asymmetry of physician-patient relationships. Patients who ask too many questions may irritate the doctor ('who's the doctor here?'). But there are also a number of drawbacks to this approach. While observing selling practices a researcher cannot interview the seller without giving away his true identity; he can only make very limited observations.

There are however other ways to make up for this restriction, for example by combining unobtrusive observation with formal interviewing at a later stage without the seller being aware of the link. That approach has been used by Wolffers[8] who let assistants buy tetracycline at 28 pharmacies in Sri Lanka's capital, Colombo, and let other assistants interview the pharmacy personnel about tetracycline a few days later. Unobtrusive interviewing was also practised by Tomson and Sterky[9] who asked advice on the treatment of a fictitious child with diarrhoea in 75 pharmacies in three Asian countries.

Though this method has many advantages, it can be considered objectionable on ethical grounds. Some of these may however be outweighed by the grave malpractices in drug distribution that exist and the urgent need for correcting them.

Studying documents such as financial accounts, annual reports and doctors' prescriptions may be another way to explore the distribution of drugs. This will generally be possible only with the consent of the pharmacist or drug vendor. This approach will be most fruitful if it is combined with some kind of interviewing and/or observation.

One type of document that deserves special mentioning and has been studied with exceptional frequency and success is the 'package insert'. Collecting inserts with the drug manufacturers' information on correct use, indications and contra-indications is a simple method. It can be done in pharmacies and drug shops in various Third World countries and enables a researcher to investigate what information pharmaceutical firms provide in different countries and to compare these data. This method has been followed by Dunne et al,[10,11] Silverman et al[12] and many others.[13,14] These studies show with disconcerting precision how pharmaceutical firms adjust information on their drugs to sell more of them in countries with less control on their admission to the market. The examination of drug inserts in local pharmacies is one of the few approaches in which the root of the problem can be traced directly to the producer. This has made the method popular and it seems to have had some impact on marketing practices.[15]

Relevant documents in the doctor's office are prescriptions, financial accounts and promotional materials from pharmaceutical firms. However, few physicians are likely to permit researchers to make such a study within their practice unless the nature of the study is disguised.

Records of community health workers have been used in the Philippines to study their prescription practices.[16]

User-centred research

Research focusing on the user of pharmaceuticals is typically done in the home situation, but users can also be approached elsewhere,

for example in a hospital or health centre, in a pharmacy or at the market while buying drugs.

Structured household interviews yield quantitative data on the use of drugs over a particular period of time. The selection of households is usually done by sampling to guarantee representative data for the total population. One knowledgeable informant, for example the mother, can be interviewed on the entire household.

The longer the period over which the informant is questioned the less reliable the answers will be. Self-medication in particular is quickly forgotten as it is usually practised for minor ailments. Schulpen and Swinkels[17] who did research in Kenya found no less than 60% under-reporting of self-medication, when a recall period of two weeks was used instead of one day.

To circumvent the problem of people forgetting the instances of medication the researcher can ask hypothetical questions: what would you do in case of symptom *x*, symptom *y* etc. Logan[18] did this for five illness symptoms in her Mexican research. A further advantage of such an approach is that one does not need to wait until the illness occurs, but a disadvantage is that people do not always do what they say.

Another drawback is that a structured interview produces meagre results, as we have already seen above. Such 'unambiguous' results may be attractive for policy makers, but unfortunately they present an extremely simplified picture of drug use. A questionnaire approach to acquire insight on drug use, becomes more meaningful when it is complemented by qualitative interviewing and observation.

Non-structured home interviews yield more comprehensive descriptions of drug use and a wealth of contextual information. Non-structured interviews, as mentioned earlier, are like ordinary conversation to which both parties contribute more or less equally. The interviewer does not control its course, and can thus be confronted with remarks that shake up his or her initial views on drugs use. Non-structured interviews are particularly apt to gain access to peoples's own perception of drugs.

A 'natural' beginning of a conversation on drugs use in the home is asking people what medicine they keep at home and organizing the discussion around these particular drugs: where they bought them, what they know about them, how they use them etc.

Hardon[19] asked respondents to sort commonly used drugs into different heaps. They were then asked why they had sorted the drugs in this way. This technique gave an impression of people's criteria for the choice of drugs in self-medication.

Use of home records or diaries kept by people in the home is another technique to slightly 'structure' non-structured home interviews. The respondents are asked to enter problems of illness and subsequent medication on it. The entries ensure that cases of illness are not forgotten and provide an easy starting point for a conversation. Calendars have been used extensively as home records by Hardon.[19]

Group discussions. Instead of interviewing one person, one can invite several people to participate, for example members of the same household, or neighbours. The advantage is that a more diverse picture of drugs use will emerge and the input of the respondents is strengthened.

Informal discussions/interviews at the pharmacy/drug shop. Another occasion for talking with people about their use of drugs may be after they have bought them in a pharmacy or a drug shop. When they have just bought them they must have some idea why they bought them. One difficulty may be that people are in a hurry or that the shop is not a suitable place for an interview.

Important documents that can be found in the homes of users of medicines are old prescriptions that people re-use to obtain drugs. Hardon[19] found that village people in the Philippines kept the old prescriptions carefully and sometimes added their own notes onto them. These notes became guides for self-medication and were shared with relatives and friends.

Focus on the 'issue'

Illness-centred research

The illness-centred research approach has some advantages that should be mentioned explicitly.

Starting with the illness one can ask what people themselves undertake to get rid of their problem. Thus one is also informed about non-pharmaceutical therapy. The researcher can compare various alternative treatments and study to what extent consumers depend on pharmaceuticals. Both over-dependence on drugs and lack of essential drugs become visible.

The illness-centred research further allows for a smooth transition during the interview from local etiology and illness perception to drug choice. This applies to interviews with users as well as with pharmacists, paramedics and physicians.

A third advantage is that one can select the most frequent illness complaints in a particular region and study people's therapies for them. Such research is very useful for planning active intervention. It is being used in a current drug utilization survey to be applied for a community drug supply project in the Philippines. The use of so-called tracer conditions also ensures more accurate data gathering.

A knotty problem in research dealing with illness complaints is the question of diagnosis, and illness classification. Local concepts of illness often do not concur with Western disease categories. The researcher has the choice of following the local concepts or trying to 'translate' them into Western ones. In case he or she decides to stick to the local categories the researcher will meet considerable problems when presenting data in the international discussion on drug use. Comparison with research in other societies and consultation with medical and pharmacological scientists become extremely difficult. It is the problem of any local research that is to be used outside its direct context; rephrasing and reconceptualizing it towards an international discourse will inevitably violate ethnographic uniqueness. Examples of anthropological studies in which this problem of different illness categories is mentioned in connection with medication are Janzen[20] and Kleinman.[21]

Drug-centred research

Research that takes drugs as a starting point for interviewing, observation and studying documents, can have different shades and emphases. Briefly summarized, an interview on drugs can be strongly structured, as in a questionnaire, but also very open. A particular medicine may prove an invitation for a long free-floating conversation on many aspects of medication (by users), of prescription (by doctors) and of drug selling (by vendor or pharmacist).

The drug-centred approach has a special advantage in that it allows the researcher to focus on specific drugs, for example, drugs that have been reported as problematic or dangerous. Certain organizations may like to have first hand information about the actual use of particular drugs in a Third World situation. Examples are dipyrone (an analgesic), diethyl stilbestrol (DES, an oestrogen) and anabolic steroids, which may be restricted for use or banned in the country where they are produced, but they are available over the counter in Third World countries. One can also focus on so-called essential drugs, and check to what extent they are available and being used in a particular community or region. Finally the drug-centred approach can take up questions about economic aspects of drugs use or distribution.

Drugs are the most tangible and visible part of medical care, so they lend themselves quite easily to observation. Checking the drugs that are prescribed, sold and kept discloses a great deal about people's ideas and practices concerning health and health care. Watching the drugs being provided and used can be done openly as well as unobtrusively.

One technique to focus directly on drugs has been presented before when we discussed home-based interviews on drugs that are kept in the home. Concrete drugs seem a good starting point for both structured interviewing and more informal conversation. A somewhat different approach has been reported by Bledsoe and Goubaud,[22] who bought particular medicines along and asked all kinds of questions about them, for example, about their colour and shape and their preferred use.

Practical use of the research

Two important points to be considered are the participation in the research by those who are the original research 'objects' and the degree to which the outcome of the research lends itself to concrete action. In our views two issues are closely interlinked.

Local research can reduce consumers of medicines to passive, research objects, who will be reported on, but it can also involve people in the discovery of their own conditions.

Advocates of participatory research[23-25] have pointed out that data obtained without the active involvement of the informants is more likely to reach others than the informants themselves. 'Others' may be scientists who may be interested in reading about complex problems without having the urge to do something about it. 'Others' may be high level policy makers who may have little interest in improving health conditions in marginal communities, which do not pose a threat to their political position. 'Others' may be representatives of pharmaceutical firms, who can use the local research data for their own marketing purposes.

A persistent contradiction in much social research is that it is carried out allegedly as a service to the underprivileged, while its results are made available only to the privileged. The contradiction becomes even more ironic if we realize that social researchers often point out the oppressive character of commercial enterprises, bureaucratic systems and political bodies and then offer their recommendations to ... businessmen, bureaucrats, and politicians.

Research in which the respondents themselves actively participate avoids this problem. Such research raises consciousness, which is a primary condition for change. Participatory research brings outside researchers and local participants together in a process of enquiry, education and action on problems of mutual interest. Ideally, all parties become learners, they share control over the research process; they commit themselves to constructive action rather than detachment; and their participation becomes empowerment as well as understanding.[24]

From a methodological point of view a participatory approach is preferable to the more rigid traditional research designs. A structured survey for example, is known to provide data of low validity and reliability. The more active the informants are, the more likely their answers are to be 'true' and well understood. Active participation of the informants therefore provides 'the best data.'

For organizations that claim to defend the interests of drug consumers in the Third World the active participation of these consumers in local research is particularly important. By clearly presenting *their* view of their situation they also prevent the international consumers unions and health organizations from projecting their own perception of the problem onto Third World consumers.

Concluding remarks

The main reason for writing this article lies in the scarcity of literature on methodological aspects of field research on drugs use in Third World communities. The need for a stock-taking of methods and suggestions for future research is particularly urgent because of the growing interest of health professionals in the issue.

This article gives an overview of the methods that to date have been used in field research on the use of drugs. The methods discussed may be replicated in new research. Comparative analysis of results can lead to a better understanding of the problems of drug misuse.

However the article should not be treated as a blueprint on how to do research. Methods will always have to be adjusted to local conditions. Specific problems may generate new methods, not yet thought of by other researchers.

Simple research should ideally be an integral part of health programmes. Results can be used to improve the provision of drugs, and to plan appropriate consumer education.[26] We hope that this article will stimulate health professionals working in or close to Third World communities to do more field research.

References

[1] van der Geest S and Whyte SR. 'Medicines in context: an introduction'. In: van der Geest S, Whyte SR (eds). *The context of medicines in developing countries.* Studies in pharmaceutical anthropology. Dordrecht: Reidel (in press).

[2] In this article 'he' refers to persons, either male or female.

[3] van der Geest S. 'De informele medicijnhandel'. In Gelder van P, Th Crump (eds). *De informele sector in de landen van de derde wereld.* Essays over Nicaragua, Suriname, Mexico, Kameroen en Indonesie. Amsterdam: AWIC/ CANSA, 1985: 115-64.

[4] van der Geest S. Self-care and the informal sale of drugs in South Cameroon. *Soc Sci Med* 1987; **25:** 293-306.

[5] Sachs L and Tomson G. *The double perspective: an anthropologist and a physician look at the use of drugs in Sri Lanka.* Stockholm: IHCAR, Karolinski Institute. 1987.
[6] Greenhalgh T. Drug marketing in the Third World. Beneath the cosmetic reforms. *Lancet* 1986; **1:** 1318-320.
[7] Greenhalgh T. Drug prescription and self-medication in India: an exploratory survey. *Soc Sci Med* 1987; **25:** 307-19.
[8] Wolffers I. Drug information and sale practices in some pharmacies of Colombo, Sri Lanka. *Soc Sci Med* 1987; **25:** 319-23.
[9] Tomson G and Sterky G. Self prescribing by way of pharmacies in three Asian developing countries. *Lancet* 1986; **2:** 620-22.
[10] Dunne M, Newman M, Ridley H and Herxheimer A. Indications and warnings about chloramphenicol. *Lancet* 1973; **2:** 781.
[11] Dunne M, Flood M and Herxheimer A. Clioquinol: availability and instructions for use. *J Antimicrob Chemother* 1976; **2:** 21-9.
[12] Silverman M, Lee PR and Lydecher M. *Prescriptions for death: the drugging of the third world.* Berkeley: University of California Press. 1982.
[13] Medawar C and Freese B. *Drug diplomacy.* London: Social Audit. 1982.
[14] Osito NG. Overpromotion of drugs in international product package inserts. *Trop Doct* 1983; **13:** 5-8.
[15] Silverman M. *The drugging of the Americas.* Berkeley: University of California Press. 1976.
[16] Personal communication with Michael L. Tan of AKAP, Philippines.
[17] Schulpen TWJ and Swinkels WJAM. The utilization of health services in a rural area of Kenya. *Trop Geogr Med* 1980; **32:** 340-9.
[18] Logan K. The role of pharmacists and over-the-counter medications in the health care system of a Mexican city. *Med Anthropol* 1983; **7**(3): 68-89.
[19] Hardon A. *Field research on pharmaceuticals in third world countries.* A case study in the Philippines. Unpublished report. Amsterdam: Pharmaceuticals research project ASC/CANSA. 1987.
[20] Janzen J. *The quest for therapy in lower Zaire.* Berkeley: University of California Press. 1978.
[21] Kleinman A. *Patients and healers in the context of culture.* Berkeley: University of California Press. 1978.
[22] Bledsoe CH and Goubaud MF. The reinterpretation of western pharmaceuticals among the Mende of Sierra Leone. *Soc Sci Med* 1986; **21:** 275-82.
[23] Abad H. Research for whom. Lambatlaya. Quezon City: University of the Philippines 1984; **2:** 1-2.
[24] Hall BL. Participatory research, popular knowledge and power. *Convergence* 1981; **14:** 6-17.
[25] Brown DL. 'Participatory research and community planning'. In: Checkoway B (ed). *Strategic perspectives on planning practice.* Lexington MA: DC Health & Co. 1986: 123-37.
[26] Tan ML. Role of research in community based health programmes. In: background document on research and documentation, Cebu City, Philippines. 20-25 April. Quezon City: HAIN. 1987.

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