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# Body mapping in health RRA/PRA

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- **Introduction**

Maps and models have been used in PRA/RRA to locate features of ecological and social environments, as a guide to people's perceptions of the spaces in which they live and work and as a shared source of reference for interviews and discussions. In this article I would like to share my experiences of working with women in a rural area of southern Zimbabwe where we used maps of the body to share our versions of anatomy and physiology (Cornwall 1990; see MacCormack 1985, for earlier use of this technique in Jamaica).

By using body maps - diagrams which represent part or all of the body, drawn by women on paper or on the ground - to examine women's knowledge about reproduction and their interpretations of non-indigenous contraception, we were able to work together towards explanations of contraception which were locally appropriate.

Body mapping has a range of potential uses not only as a research method but also in training health workers in RRA/PRA approaches. Issues raised for training and possible applications in other health fields will be examined briefly, in conclusion.

- **Mapping the body**

Medical anthropologists have drawn attention to the different ways in which people within any culture or community gain, hold and use knowledge about bodily processes. Understanding people's accounts of their bodies and their interpretations of western medical interventions is being recognised as important in making health care and education more responsive to expectations and needs among users.

Yet people's knowledge about their bodies is often difficult to access from verbal descriptions without prior knowledge of the terms of reference used. Particularly in the case of anatomical knowledge, assumptions of a shared meaning for terms such as 'womb' or 'heart' may mislead. Asking specific questions from a western medical frame of reference can bring the biases and assumptions of health researchers into the encounter. This, in addition to other factors, can undermine people's confidence in what they know.

Body maps can be used for gaining access to people's perceptions of their bodies and to the explanatory models which people bring into encounters with health care workers. Representing this information visually can help to clarify ambiguities and provides a rapid shared reference point. By using people's own representations of their bodies as a starting point from which to explore particular medical issues, body mapping can facilitate a less directive interviewing style than would otherwise be possible. People's own classifications and visual descriptions can be used as a basis for probing.

Body maps can be drawn by individuals or collectively by groups in focus group or workshop discussions. Ideas and issues can be explored which may be more difficult to access through verbal discussion alone.

- **Background**

The study which I would like to draw on was aimed at exploring local understandings of the body in order to find ways to bridge local knowledge and western medical explanations of non-indigenous contraception. My attempts to provide sex education at the school where I was teaching led me to interview female relatives of

the girls I taught and into discussions about contraception. Women confided their fears, reported the rumours about the pill and asked me for more information. I soon became aware that the kind of information I was able to provide was only by using a western medical model of the body and its processes, which did not seem adequate to answer their questions.

Women in rural Zimbabwe gain knowledge about their bodies from a wide variety of sources; dissection of household animals used for food, talking with peers, advice from older female relatives, experiences of pregnancies, the media, as well as from interactions with health care services. In order to examine how extension messages were being interpreted within this wider network of knowledge acquisition, I interviewed a sample of women in two areas on what they had been told and what they themselves thought about oral contraception. I found that certain similar versions were given independently of whether women had received information from hospitals, clinics or the local extension worker.

Some women had been given no explanation, only instructions, yet had clear ideas about how contraceptives worked. Several women told me what they had been told and then went on to discuss their own theories on the matter. Just giving instructions was clearly not enough. While women were clearly sharing knowledge among themselves about contraception, I also found that some women had been given explanations by health workers (nurses in clinics and the local community-based distribution agent (CBD)) which conformed more to aspects of local knowledge than the western medical model.

Interviewing a CBD, it emerged that she was all too aware of the lack of fit between the western medical version she had been taught and what women in the area knew. She told me: "I learnt

all about contraception on a course. But how do I talk about these things to the women in this area? They are not educated. They do not understand when I talk about ovaries..". Her recognition of the difficulties in finding an appropriate explanation and her efforts to bridge what she had been taught with what she knew inspired this research.

- **Using body mapping in research and extension**

Body maps were used in discussions with individual women and with focus groups of women in workshops, grouped according to age. Maps were usually drawn on the ground with a stick and then copied, or directly drawn onto paper. After an initial discussion, women were asked to draw where conception took place and describe the processes from fertilisation to birth, referring back to the structures they drew to discuss processes (see Figure 1.). The map was then interviewed in more detail and discussions on methods of preventing conception were prompted.

Later, in workshops, women were placed in small groups of similar age and asked to draw a map together. The discussions which arose in this exercise were animated. While the group member deemed 'most educated' often ended up holding the pen, as all women had already drawn their versions earlier in interviews they were somewhat more confident about revealing their ideas. Maps drawn by a group often reflect the ideas that dominant members have about what should be shown. In this case, individual maps had already shown what individuals wished to represent to me. The group mapping exercise enabled me to observe interactions between women and the influences on what they collectively produced - what they chose to represent to each other. Some examples of group maps are shown in Figure 2.

Using body maps in this way, it became clear that women's descriptions of their bodies often differed significantly from the western scientific version. For example: in several accounts, the womb (*chibereko*) acted as a

'gateway' through which semen and eventually the mature foetus passed; its major function being the regulation of blood in the body. The foetus was frequently conceptualised as growing in a structure termed the *butiro*,

glossed as amniotic sac, outside the *chibereko*. Many women stated that the *mafundo* (sing. *fundo*), glossed as ova and often described as small child-like structures, were limited in number. Often the *mafundo* were located inside the *chibereko*, or alternatively in various arrangements outside this structure (Figure 1). These accounts had implications for the ways in which women interpreted the information given to them about non-indigenous contraception, as well as for acceptance and use.

To illustrate this, some examples of how the pill was interpreted may be useful. The most prevalent explanation was that it 'chased away the semen', either mechanically or by working in the blood. This could and did lead to irregular use of the pill by some of the women with migrant husbands. It seemed fairly common knowledge that taking a handful of pills after sex could prevent pregnancy - the 'morning-after' effect. It was unclear to what extent this was actually practised, although I understood it was common among schoolgirls.

Some women suggested that the pill killed the *mafundo*, which those who were anti-contraception took up as an argument and those who did not want any more children saw as positive. This explanation gave rise to rumours and anxieties among other women and their husbands. Others suggested that the pill made the womb weak'. This connected with the noted frequency of women seeking 'strengthening' treatments from local herbalists when they wanted to get pregnant and was a source of anxiety. Lastly, some women contended that the pill 'protected the *mafundo* from being fertilised'. One of the most significant findings was the frequency of concerns voiced about effects on menstruation, something which is rarely given attention in information provision.

There were often considerable differences between versions, as can be seen from Figure 1. Sufficient commonalities emerged, however, for explanations of contraception to be developed making reference to women's knowledge while accommodating the western medical model. Body maps were used both to elicit relevant information and as a source of reference for experimenting with solutions with a range of women. Through this it was possible to assess rapidly the appropriateness of messages as well as to explore the range of

concerns women had about non-indigenous contraception.

## • Sharing ideas

For several women this was the first time they had drawn anything and for most the first time they had thought about their internal anatomy in such a way. Similarly, although I had studied physiology and worked as a science teacher, it was the first time I had reflected on the representation I had been educated to produce. Before I started using mapping, I had made a number of assumptions about the function of particular organs, such as the womb, and had been puzzled by what women told me. It became clear that I had carried a lot of biases into research. The emphasis which I placed on locating processes within structures the women themselves provide was an important part of the exercise. This helped to avert biases about shared referents. The discussions we had came to have a wider scope than I had originally imagined.

Most women readily drew the maps, although some needed encouragement to reveal what they regarded as their 'ignorance'. It was important to stress that this was not a test of whether they could do it 'correctly' but a way of exploring perceptions. This raises questions about the situation in which women drew the maps; what they expected me to want from the exercise and the dynamics of the encounter itself. As a European and a teacher, assumptions were made at first about my supposedly 'superior' knowledge. Women expressed their fears that I would judge their diagrams according to my book-learned knowledge and find them silly or ignorant.

One way of making mapping less intimidating was to share my ignorance with them. As a childless woman, I had much to learn. Drawing and discussing my version after women had produced theirs led to stimulating discussions on the differences. Women 'interviewed' my version, which was drawn in as close an approximation as possible to the pictures used in family planning education. This proved to be a good way of noting responses to this type of representation. I was able to offer my own specific cultural experiences in discussion, which generated further insights. Women became participants rather than mere

informants in what came to be referred to as 'sharing ideas'.

- **Using body maps: issues to consider**

Three points are worth making here as regards the drawings. The first is the possibility of women producing ad hoc drawings so as to satisfy me - something I discounted when regular similarities arose from the drawings. Secondly, the issue of interpreting the exercise requires attention. Body maps, and statements about bodily processes in interviews, are products not only of a particular cultural context but also of the interaction that leads to them being made. It is vital that this is given consideration and that such interviews are sensitively handled; sharing 'ignorance' as well as 'knowledge'. Thirdly, and I would wish to place great emphasis on this, interpretations of the diagrams themselves must be set within the discussions which body mapping facilitates; 'interviewing the map' plays a vital part in this exercise, whereby the map acts merely to generate themes for further commentary.

- **Lessons learned**

Body maps, in this context, provided a guide to women's perceptions of their bodies and a way of locating explanations. Using the maps to work from and using women's own terminologies, aspects of accounts which appeared to be contradictory could be situated with regard to wider social processes, such as relationships with men and expectations within the community. Rumours about harmful effects of contraception as well as explanations of contraceptive function 'made sense' within these broader frames of reference. The maps acted to free interviews from being unduly intrusive yet generated themes for discussion which went beyond the biological.

If interviews had proceeded using only verbal descriptions, however, few of the complexities of women's models would have become apparent. It would have been all too easy to regard explanations as confused, rather than as alternative versions. Key differences between women's and western scientific versions would have been obscured by assumptions of common reference. Moreover, discussions could have

been confined to considering physical aspects without exploring social issues and connections. A number of important social issues arose that may have otherwise been overlooked.

- **Building bridges: local knowledge and western science**

Asking health care professionals to take people's models of their bodies seriously, when they are clearly erroneous from a western medical point of view, obviously requires a fairly major attitude change. Western scientific models of the body are often regarded as if they were somehow culturally neutral, abstracted from both experience and social relations. There are significant parallels here with attitudes towards agricultural knowledge and extension. Anatomy, like agronomy, is assumed to be an 'objective', factual subject which provides one correct version to which others may be matched and found lacking. Regarding the knowledge of rural, often illiterate, people as legitimate bases for research and development involves moving from seeing the body as something which can be known 'objectively', what is there, to looking at the kinds of representations people make of their knowledge and the many different ways of knowing (including what is done).

Moreover, the issues of power involved in the use of explicitly western scientific approaches in extension need to be considered. Taking rural people's knowledge seriously can be read in terms of relinquishing an important source of status for local extension workers. Changes in perspective are, perhaps, less difficult to achieve than changes in behaviour; the two do not necessarily go together. The history of an asymmetrical power relation between western science and local knowledge as played out by local actors needs to be taken into consideration. This is so pervasive that well-intentioned attempts on the part of the powerful to 'understand' are always necessarily located within relations of inequality. The important issues involved cannot be considered in more detail here, yet have considerable bearing on approaches to 'indigenous technical knowledge' (ITK).

There are many situations in which understandings are radically divergent from the

western medical model and we need look no further than the UK for examples. The point I would like to make here is a practical one. An approach to knowing which considers only abstract technical facts is patently not enough. Strategies are required both to explore divergences in terms of how people interpret and act on information they are given and to attempt to bring about the changes in behaviour required (such as boiling water for babies, wearing condoms etc). Where interventions involve the use of western scientific approaches or technologies, problems which have arisen in practice through the lack of fit of different ways of knowing need to be addressed.

It makes little sense to 're-educate' people if their ideas are not harmful; equally, it makes little sense to reject using local metaphor and concepts if they are means of providing the kind of information required, even if they are based on quite different premises. This is not to argue that no attempt is to be made to inform people or to bring to their attention the fact that some of the ideas they have are potentially harmful to their or others' health. What is being suggested here is not a replacement of western medical ideas with local ideas but a bridging process, where possible; using local knowledge and idiom as building blocks from which to construct versions which 'make sense' in local terms.

Body maps, as I have suggested, provide one strategy among others in facilitating communication. As such, body mapping is a device which is used as part of an approach which aims to find ways of improving access to appropriate information. Yet, given the issues raised here, it is clear that in order to use this approach, some of the basic assumptions on the part of those who employ this technique may need to be challenged. I would like to conclude by considering issues for training PRA/RRA practitioners.

- **Changing attitudes: issues for training**

PRA/RRA exercises have gone some of the way towards considering what have been termed 'intriguing beliefs and practices'. Western scientific biases have often led to considering the aspects of such practices which conform either in approach or content to

practices informed by that perspective. This has often involved side-stepping the issues which surround knowledge as part of social processes, as well as failing to challenge a view of western science as a single, universally 'correct' version of events.

The drawing out of such 'beliefs' in training emerges from accounts of PRA/RRA as an almost cathartic process. While such an exercise could be developed into a means of promoting a sensitivity to the variety of ways of knowing that people from all walks of life use, it appears not to have been taken this far. The rather abstract lists which are produced separate knowledge not only from its context, but also from its carriers. While this arguably fails to address the biases that 'professionals' have about other ways of knowing, the relationships trainees have with the statements they contribute to discussions are also not explored. Such 'beliefs' are located within social processes of which trainees are also a part.

PRA/RRA training can involve a wide range of people, each of whom have experiences of the acquisition of different kinds of knowledge: technical, cultural or experiential. Exploring the diversity of participants' own knowledge is the first step in sensitising them to the ways in which that of others can be used as a foundation for development work. Where those who have received formal training in western scientific knowledge often hold themselves to be superior not only to rural people, but also to 'less educated' extension agents, a range of strategies is required to facilitate sharing.

Asking a mixed group of people to draw body maps may be intimidating at first, if the issues raised about ways of knowing are not raised beforehand. A simple example such as colds could lead to discussion of sources of knowledge about the body. This would be aimed at bringing out the multiple ways in which people acquire and hold information. Rather than approaching particular versions as right or wrong, or indeed as a series of related and unitary 'facts', the - often contradictory and interrelated - knowledge people can hold simultaneously can be explored. Using network or pathway mapping, trainees can explore ways of representing the sources and contexts for different ways of knowing and practices.

Following this exercise, body maps could be used to explore some of these issues in more depth. Here are a couple of brief suggestions: Maps can be drawn not only by trainees, but also by their trainers, to reveal the variety of versions that even so-called 'professionals' produce. Alternatively, trainees could be asked to draw maps as if they were a member of the community in which they work. This would produce versions which reflected the perceptions trainees have of people they are working with, as well as, no doubt, their own ideas. It is also less potentially threatening for a mixed group.

Such maps can then be used to reflect on several points, which go beyond considering the content of the maps themselves:

- the context in which maps are produced and the anxieties people feel about exposing their versions;
- what they felt was expected and how they produced their drawings to conform to this;
- the relationship of book-learned knowledge to their own experience of their bodies;
- ways they communicate their ideas to others in different situations (e.g. to partners, relatives, doctors as well as the people they work with) - different ways of bridging;
- how the map which is drawn relates to what people actually do; what kinds of contradictions there are between what people say they know to particular others, what they think they know and what they do? and,
- other issues which arise.

Through considering the complexity of knowing and doing, trainees may be able to draw on their experiences and those of their peers in a less threatening and more constructive way. Such an exercise would prepare them for fieldwork as well as provide a basis for examining potential bridging issues. Bringing this process into the workshop would allow more careful consideration of the communication issues involved. In addition, the multiple versions which can be found in any 'community' can be highlighted as an important training point for fieldwork; leading into an exploration of difference. Most of all, body mapping can provide a way of affirming

trainees' own knowledge as a resource in itself in a more directed and personalised way than the suggestion of random 'intriguing beliefs and

## • Other applications

There are many potential applications of this method in the health field. Examples include: Mapping stages of foetal growth, generating themes for discussion from ante-natal care to sources of nutrition during pregnancy; clarification of what patients anticipate when undergoing surgery or expectations of voluntary surgical procedures such as vasectomy and tubal ligation; and perceptions of cancers, heart disease, intestinal and stomach disorders and so on.

Body mapping enables people to provide their versions of processes and structures, and to reflect on and articulate their concerns. Their own knowledge can form the basis for active engagement in securing the information that both users of services and health workers, as providers, require for effective health care extension.

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