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Formative research for hygiene promotion was used to gather data relating to hygiene practices in rural Kyrgyzstan. Some of the hand-washing and faeces disposal practices observed were sub-optimal from a public health perspective. In combination with the poverty, limited medical services and poor water supply infrastructure characteristic of the study area, it is likely that these factors increase the risk of diarrhoeal infections among Kyrgyz children. An association was found between increased rates of hand-washing following latrine use and ownership of a washstand. This offers some empirical support for the idea that promotion of hand-washing technologies can form a useful part of a hygiene promotion intervention. The process followed in conducting the formative research is outlined in some detail along with a discussion of some of its achievements and limitations.

Key words: formative research, hygiene promotion, Kyrgyzstan, sanitation

Introduction

Diarrhoeal disease ranks second among causes of child mortality globally (Black et al. 2003) and was responsible for an estimated 2.2 million deaths in 2000 alone (Kosek et al. 2003). Addressing this issue is a major public health challenge requiring not only the provision of adequate water and sanitation hardware, but also the effective promotion of hygiene behaviour on a large scale.

In 2000 the UK government's Department for International Development (DFID) commissioned a short study on hygiene practices in Kyrgyzstan. This was intended to contribute to the design of a hygiene promotion programme that would complement work to rehabilitate water supply systems in 250 settlements in rural areas of northern Kyrgyzstan. DFID was concerned that the planned hygiene promotion work should be based on and reflect the reality of daily life in rural Kyrgyzstan. The study undertaken was based on formative research methods for hygiene promotion developed in Burkina Faso (Curtis et al. 1997). These methods had provided the basis for an intervention that achieved change in two key hygiene behaviours among an urban population in that country (Curtis et al. 2001).

This paper reports the results of the study in Kyrgyzstan. The primary objective of the paper is to provide an insight into domestic hygiene and sanitation practices in rural Kyrgyzstan, highlighting the elements which, from a public health perspective, may be considered sub-optimal and considering some of the implications for intervention. In addition, the paper provides an example in which useful information was gained through formative research methods and describes the practicalities of applying these methods. Some limits to the methods used are also discussed.

Formative research

Formative research has its roots in marketing and communication. Graeff et al. (1993), citing Debus (1988), describe it as being 'research conducted for the purpose of developing communication strategies'. Formative research directs attention to a specific set of issues; namely what needs to be communicated to whom and by what channels in order to achieve change in key behaviours. It makes use of a combination of quantitative and qualitative methods. Some of these, such as interviews, structured observations and surveys are frequently used in sociology and/or anthropology and along with focus groups have formed part of rapid anthropological procedures (Scrimshaw and Hurtado 1988). Behaviour trials, another component of formative research, have found more extensive use among marketers but are increasingly used by those concerned with behaviour change in a health context (e.g. Monte et al. 1997; Yeager et al. 2002).

There are similarities between the formative research for hygiene promotion described in this paper and the Hygiene Evaluation Procedures (HEP) developed by Almedom et al. (1997), but there are also notable differences. Both use a variety of tools to build up a picture of existing hygiene practices and both generate data that could form a baseline for a subsequent evaluation. The formative research described uses a smaller number of tools, focuses on a smaller number of behaviours and addresses a smaller number of more specific questions than the HEP.

The HEP does not use questionnaire surveys or behaviour trials and uses observation of proxy indicators rather than direct observation of behaviours as they occur. Many of the tools used in the HEP are drawn from participatory

toolkits and could lend themselves to the active involvement of intended beneficiaries in project design and implementation. However, as Almedom et al. point out, it is not the tools that define participation but the way in which they are used. It would be equally possible, for example, to use the formative research behaviour trial as a basis for participatory planning if participation were a goal of the research.

Study site

Kyrgyzstan, a Central Asian republic, became a Soviet Socialist Republic in 1936. The state provided water supplies, electricity and basic health and education services to villages attached to collective farms. In 1991 Kyrgyzstan declared its independence and is now a member of the Commonwealth of Independent States (CIS). Economic growth has faltered and there has been a decline in living standards and services since the collapse of the Soviet Union (Green and Bauer 1998). Many villages now lack water supply systems and village health services struggle with minimal resources.

Diarrhoeal disease is likely to be a major health problem in Kyrgyzstan. The country has a high infant death rate, estimated at 77.08 per 1000 live births in 2000 (CIA 2000). In the absence of widespread malaria and in view of the sanitary conditions observed, it is highly probable that diarrhoeal disease makes a substantial contribution to this death toll. The available data on the incidence and prevalence of diarrhoeal disease (United Nations 1999) are based on reported cases and are therefore likely to vastly underestimate actual disease figures. However, the collection of community-based epidemiological data was beyond the scope of the current study.

Methods

Fieldwork was carried out by a team of six individuals. One was a male from the UK; the others were female, five from the Kyrgyz capital Bishkek and one from YsykKul. A mixture of methods was used following Curtis et al. (1997) and providing both quantitative and qualitative data. These methods are outlined below and summarized in Table 1. A short pilot study was carried out in a rural area close to Bishkek. This allowed the methods to be tested and the field staff to become familiar with the techniques.

Data collection took place in six villages, two from each of three *oblasts*[1] (Naryn, YsykKul and Talas). The three *oblasts* in which work took place are mountainous and sparsely populated. Together their population constitutes 17.9% of the national population. In order to ensure that the data collected were as representative as possible, a map and population figures were used to select villages of varying size and location.

Potential participants received a verbal explanation of the study aims and methods. The study was described as investigating domestic work and water use, childcare practices and child health issues. It was explained that participation was voluntary and that anonymity would be ensured in the final report. Verbal consent was accepted because, after initial discussion with rural respondents, the project team felt that requesting a signed document could be intimidating to study participants. The study took place with the approval of the Kyrgyz Ministry of Health.

Structured observation

This method was used to generate quantitative data on the frequency of risk practices. Observation took place within volunteer households. All-occurrence recording (Martin and Bateson 1986) was used to record hand-washing and use of soap after potential faecal contact and before food preparation or eating, and the methods used for disposal of infant's and children's faeces. Observations were also recorded of the presence and use of a washstand,[2] presence of soap, use of a child's potty or *beshik*,[3] and use of covered containers for water storage.

Observation in each household took place during the first 3 hours following rising in the morning. Volunteer households were selected with the help of a local person with a good knowledge of the village community. Usually this was the village *felcher*.[4] As far as possible, all households included a child under 3 years old. Purposive sampling of households was used in order to cover a variety of sections of the community. Particular care was

Table 1. Summary of methods and sample sizes

Method	Sample size	Objective
Structured observation	65 households for 3 hours each	To generate quantitative data on the frequency of risk practices
Focus group discussion	15 focus groups including: 6 groups of women, 3 groups of men, 4 groups of teachers, and 2 groups of male elders	To increase understanding of existing hygiene practices and the reasons underlying them
Behaviour trial	10 women for 2 weeks	To gain insights into the constraints faced by women in carrying out safer practices and the advantages they perceived in these practices
Questionnaire survey	255 respondents including: 73 men, 112 women and 70 school-age children	To gain an insight into important channels of communication, particularly mass media

taken to include households that were thought to be among the poorest. Sixty-five households were observed for 3 hours each.

An initial day of observation in three households outside of the main study areas revealed a large number of behaviours that constituted potential transmission routes for gastro-intestinal disease. These included: children's defecation and the disposal of children's faeces at various sites around the house other than in a latrine, lack of hand-washing with soap before eating or preparing food, lack of hand-washing with soap after latrine use and after cleaning faeces from a child, contact with domestic animals, consumption of unwashed fruit, storage of water in open containers, consumption of un-boiled water, use of poorly cleaned kitchen implements and allowing flies access to food.

A behaviour change intervention can only address a limited number of behaviours at any time and it was therefore important to reduce this initial list to a small number of key practices. Based on the logic of transmission routes and a review of epidemiological findings, Curtis et al. (2000) suggest that hand-washing with soap after contact with faeces and safe disposal of faeces are likely to be the most important behaviours to address. If hands are washed with soap after contact with faeces and if all faeces are disposed of in latrines, faecal contamination of the home environment will be minimized, reducing the transmission of faecal pathogens by all routes. Faeces disposal and hand-washing with soap after likely faecal contact were therefore selected as key behaviours for the remainder of the study.

Focus group discussions

Focus group discussions were used to explore a variety of topics. These included: hand-washing practices, latrine use, faeces disposal and perceived disease problems. All focus groups consisted of between 6 and 12 participants. Participants were either schoolteachers or were individuals selected and invited with the help of the village *felcher*, the head of the village administration or some other locally well-known individual with a good local knowledge. Participants were intended to represent a cross section of village society. Fifteen focus group discussions were carried out, including six groups of women, three groups of men, four groups of teachers and two groups of male elders.

Focus groups were facilitated either by the first author through an interpreter or by a Kyrgyz team member and translated as they took place. At least one additional team member was present to act as an observer and note-taker during the discussions. Notes were made during and immediately after the focus groups by the team members present. Themes and quotations of interest were extracted from these notes by the first author in discussion with other team members.

Behaviour trial

Ten female volunteers took part in a 2-week trial of safe practices (hand-washing with soap after contact with faeces and disposal of all faeces in the latrine). Each volunteer had a child aged 3 years or less. Throughout the trial they were visited regularly by a member of the research team and encouraged to continue with the practices. At the end of the trial, the participants were interviewed about the difficulties encountered in carrying out the safe practices and about the advantages they saw in the practices.

Questionnaire survey

A questionnaire survey was used to gain an indication of the importance of mass media channels of communication as well as informal channels and membership of village organizations. A question about soap availability at home was also included. The questionnaire was administered verbally in the street in each village to a structured sample of passers by and to mothers in each of the households observed.

Results

Hand-washing

The frequency of hand-washing at critical times is shown in Table 2. Eighty-eight per cent of respondents in the questionnaire survey reported having soap at home,

Table 2. The frequency of hand-washing at critical times

Activity	Actors	No. of observations	No. (%) followed by hand-washing	No. (%) followed by hand-washing with soap
Hand-washing after possible faecal contact				
Latrine use	Women, men, children	231	113 (49)	41 (18)
Cleaning child after defecation	Mothers and older daughters and 1 father	17	0 (0)	0 (0)
Cleaning faeces from child's potty	Mothers and older daughters	15	1	0
Hand-washing before handling food				
Food preparation	Women	41	17 (42)	17 (7)
Eating	Women, men, children	297	141 (47)	45 (15)

and soap was actually seen in 37 (57%) households visited. With few exceptions, the soap seen at home was laundry soap.

A washstand was seen in 34 (52%) households. The proportion of latrine visits followed by hand-washing in households with a washstand (n = 34) was compared with that in households with no washstand (n = 30). Having a washstand was associated with significantly higher rates of hand-washing following latrine use (Mann-Whitney U = 339.5, p = 0.019 two-tailed). The median proportion of latrine visits followed by hand-washing was 67% and 20% for households with and without washstands, respectively.

Faeces disposal

All but two of the households visited had a latrine. There was considerable variation in the quality of construction of latrines. Typically they consisted of an unlined pit topped with two parallel logs supporting a floor of rough wooden planks with a central hole. The top of the pit was not sealed in any way, there being gaps between the floor and the pit and between the planks of the floor. Latrine superstructures were made of materials that included corrugated asbestos, wooden planks, logs, reeds and jute sacks. Some appeared weather-proof, others had many gaps in the walls and roof, and some consisted of just three walls, having neither roof nor door. Many latrines were structurally unstable, afforded little protection from the elements and appeared difficult to clean, their surfaces being rough and absorbent.

Faeces (thought to be human) were seen in the yards or gardens of 43% (28) of households. The appearance and position of these faeces (by the side of the house and often close to the door) suggests that they were children's (the more so since children were observed to defecate at this location); however, some may have originated from dogs.

The disposal of children's faeces (from a potty, soiled clothes or directly from the child) was observed on 39 occasions. The faeces were disposed of in a latrine on five (13%) of these. Other sites for disposal included the yard surrounding the house, the garden, the rubbish heap (in the garden or yard) and the street. Of these the yard or garden was most frequently used.

Channels of communication

Of the mass media channels, television appeared to have the greatest reach. Seventy-five per cent of respondents reported having a working television at home and 25% a working radio. Thirty-seven per cent of men and 34% of women reported reading a newspaper at least once per week. Informal channels of communication between friends and neighbours also had an important role to play. Friends and family were second to television in the number of respondents who cited them as important sources of information and as the source of information concerning an important national event (the Osh 3000 celebration). For local events, friends and family were cited most frequently as the source of information. Participation in village organizations appeared infrequent, with 75% of men, 82% of women and 97% of children sampled reporting that they were not active in any organization.

Qualitative results

Illustrative quotes from respondents are presented in Table 3. The focus group discussions and interviews with women participating in the behaviour trial revealed the following picture. Respondents confirmed that laundry soap is the most widely used, and that laundry is regarded as the primary purpose for soap. The use of soap for washing hands is seen as being of secondary importance and soap is often only used if hands are visibly dirty, such as with dust or oil. This is because soap is considered expensive. Many families periodically have no soap because they cannot afford it. Therefore, people try to use soap sparingly. However, visible dirt is difficult to remove using water alone. One woman said, "*If there is not enough soap, I save it for my husband because he works with machinery*". The women who participated in the behaviour trial regarded their ability to afford soap as the biggest obstacle to their continuing with the recommended behaviours saying, for example, "*The biggest problem for me will be buying soap*", and "*Of course, if I had soap I would continue*".

Responsibility for household purchases such as soap lay with women. As one man commented, "*There is a woman at home to buy the soap*". However, both men and women reported that there is often '*negotiation*' between husband and wife over what should be bought. It is common practice in Kyrgyzstan for the youngest son to continue living with his parents after marriage. Women in these households often reported that their mothers-in-law were the final authority in deciding household expenditure.

The most important times for hand-washing are believed to be in the morning shortly after getting up and in the evening before bed, before bread-making and after dirty work, such as handling coal, dung or wheat, and after using the latrine. Of these, the early morning is widely recognized as the most important time for washing hands and is also an occasion on which soap use is reported to be common. Hand-washing after cleaning faeces from babies and children is not seen as important. However, one woman explained that if water is used to clean a child after defecation there is no need to wash hands as well. Before food preparation and before eating were also mentioned as times when hands are washed.

The reasons given for washing hands are to remove visible dirt and to protect against microbes. Children reported that washing their hands before school was important as the teachers expect them to arrive with clean hands. Hand-washing before bread-making is seen as part of the

Table 3. Illustrative quotes from interviews and focus groups

Quote	Respondent
Soap	
Soap is good because it is clean and it smells good and it is good against microbes.	Child, YsykKul
Women use soap when their hands look dirty, for example after cleaning wheat.	Woman, Naryn
Soap makes clothes and body smell good.	Woman, YsykKul
Soap is expensive so people try to save it for laundry.	Woman, YsykKul
Hand-washing	
In the morning it is most important to wash hands against microbes because people have scratched themselves in the night and have dirty hands.	Woman, Talas
Latrine use	
Usually children defecate in the garden because it is dangerous for them to use the latrine.	Man, Talas
Faeces	
Very important not to have faeces in the water, but children's faeces in the garden is not a problem at all.	Woman, Talas
Women don't like faeces near the house because it is dirty and children might play in it.	Woman, YsykKul
Children's faeces should be cleared away from the house because the area round the house should be clean and faeces smell very bad.	Woman, Talas
Latrine problems	
A good latrine would be easy to use in winter and in the dark. It would be clean and warm with a closed roof.	Man, Talas
Diarrhoea causes and cures	
Diarrhoea is caused by rain making the water dirty.	Man, Talas
Many children visit the traditional healer with the evil eye and diarrhoea.	Woman, Talas
Don't know what causes diarrhoea. It might be too much sun or fruit in the autumn.	Woman, Naryn
Health education	
There used to be lectures about hygiene and sanitation. They were useful and people enjoyed them. Many people followed the messages.	Man, Talas

respect for bread in Kyrgyz culture, but is also explained in terms of avoiding microbial contamination.

After latrine use it is not seen as particularly important to use soap, and hands may simply be rinsed with water. However, soap is thought pleasant to use because of its smell and because, as one woman stated, it "*makes you feel clean*". Participants in the behaviour trial who were provided with soap all reported that they liked having clean hands and liked the fact that their children's hands were clean. After several days, the women commented that they were starting to wash their hands with soap more frequently and were using soap at times when they had not used soap, or sometimes not even washed their hands, in the past. Some women also said that the behaviour of their children was changing and that they were adopting the habit of using soap. One woman explained how she had convinced her children to wash their hands with soap after defecation by pointing out that if they did not, "*when they next ate they would be eating the microbes from their bottoms*", this would be "*like eating faeces and would be disgusting*".

None of the households visited had a piped water supply. Water for domestic use must be collected from public sources and water availability within the household may be a factor affecting soap use. Less water is used to remove visible dirt from hands if soap is used, but more water is needed to wash hands with soap after using the latrine than if hands are only rinsed. The temperature during the winter also mitigates against washing hands. As one woman in the behaviour trial pointed out, "*It is very cold to wash hands, especially in the mornings*".

Latrines are constructed far from the house because of their smell. They are used by adults, but are difficult and potentially dangerous for children to use, and are difficult to use at night and in the winter. There was one report (unconfirmed) of a child having drowned in a latrine. For these reasons, young children are not expected to use the latrine. They are sometimes reported to use a potty, but at other times defecate in the yard or garden surrounding the house. They begin to use the latrine around the age they start school (around 6 years). Some adults (especially the elderly) are also reported to defecate in the grounds of their houses, particularly in the winter or at night. Latrines are universally disliked because of their smell and because they offer little protection from the elements. However, the privacy afforded by the latrines is valued by older children and adults, particularly women.

It is reported as important to keep the area in front of the house clean from human faeces. The presence of faeces here could be regarded as shameful. However, faeces were seen on the ground directly in front of some houses visited, and some respondents explained that it would only be shameful if the faeces were seen by important guests rather than friends or neighbours. One woman said, "*People are used to seeing faeces and it is not uncomfortable for them*". Faeces are sometimes left in the belief that they will be eaten by dogs or chickens, and this was observed on occasions. Faeces are also removed from in front of houses because of the unpleasant smell, and to

avoid children standing in them and bringing them into the house. "*I don't know if it is dangerous or not, but it smells bad and should not go into the house*", said one woman.

The presence of children's faeces in other areas around the house and garden is not regarded as a problem as long as the faeces are out of sight and somewhere that people will not stand in them. For this reason, faeces which are cleaned away from the front of a house are often not disposed of in a latrine. Lack of time, laziness and the distance to the latrine were cited as reasons for not using a latrine for the disposal of children's faeces. Latrines are also often considered inconvenient for emptying faeces from pots or basins. Instead, since children's faeces are not generally regarded as dangerous or as unpleasant as adult faeces, they are often disposed of in the garden or orchard, in the rubbish heap or by the side of the street. However, a participant in the behaviour trial commented, after 2 weeks of disposing of faeces in the latrine, "*The area around my house is cleaner now*".

Discussion

Hygiene practices in Kyrgyzstan

Hygiene behaviour often carries strong moral connotations. It should be recognized that for many of the risk practices around hand-washing, a similar prevalence to that found in Kyrgyzstan has been observed in many other countries, including the UK (Curtis et al. 2003), and that the Kyrgyz, like all people, value cleanliness as a cultural norm. Nevertheless, many Kyrgyz people are at present forced to live in conditions that combine poverty with poor water and sanitation infrastructure and poor access to medical services. Under these conditions, reducing the prevalence of the risk factors observed has the potential to reduce infection and lengthen the lives of Kyrgyz children.

In Kyrgyzstan, critical risk practices to be addressed are: not washing hands with a cleaning agent after likely faecal contact and not disposing of all faeces in a latrine. The pleasant sensation and smell of soap, and the unpleasant and socially unacceptable sight and smell of faeces, are possible motivations for adopting safer practices. It is interesting to reflect on the fact that up to 70 years of didactic hygiene education, provided periodically by the state authorities and remembered with some nostalgia by several respondents, has apparently failed to produce sustainable adoption of safer hygiene practices. Beliefs about microbes co-exist with other explanations for illness, but have not motivated widespread behaviour change. However, it also remains the case that despite the shift among some practitioners away from didactic teaching methods to participatory approaches (e.g. Musabayane 2000) or marketing approaches (e.g. Curtis 2002), there is as yet no alternative hygiene promotion intervention proven to work at scale.

Hand-washing with soap in the study population appears to be the exception rather than the rule, though hand-washing with water was more common. Observations took place in the early morning. This is a time of day when many Kyrgyz wash their hands and face, and when reported soap use is frequent. It is therefore likely that our observations of hand-washing are more associated with habitual morning ablutions than with hand-washing habits after latrine use and before food preparation and eating. The findings may therefore overestimate hand-washing and overestimate the extent of soap use. It is also likely that the presence of the observer served to increase the frequency of hand-washing and soap use (Cousens et al. 1996).

Sanitation coverage in the study population appears almost universal and the latrines are apparently well used by adults. Contamination of the domestic environment with children's faeces, however, presents a disease risk. This results from the combination of two factors. One is that children's faeces tend to be regarded as mildly unpleasant and not dangerous, and therefore it is quite acceptable to dispose of them in the yard or garden beside the house. The other is that the physical structure and condition of many latrines makes them difficult and potentially dangerous for children to use, and difficult to clean if they are fouled by children. Furthermore, the smell and fly nuisance associated with the latrines results in their being constructed some distance (tens of metres) from the house. This makes it difficult to supervise their use by children and makes them less convenient as places for busy carers to dispose of children's faeces.

Interestingly, many of the findings of the formative research in Kyrgyzstan are similar to the findings from Burkina Faso. In both countries, the faeces of small children are not considered dangerous or particularly unpleasant, and therefore are frequently not disposed of in latrines. In both countries, soap is used primarily to remove visible dirt from hands and the pleasant smell of soap was offered as a motivation for using it.

The implications for intervention

To encourage safer hand-washing practices, it may be necessary to address constraining factors, including the availability of a convenient water source and the availability of soap. At present, soap is available in many households but tends to be reserved for laundry and the removal of visible dirt from hands. It is not clear from this small study whether the infrequent use of soap for washing hands is constrained by the absolute availability of money to spend on soap, or whether there is scope for adjusting priorities in household expenditure.

The association between owning a washstand and increased rates of hand-washing following latrine use is of interest. The results of the present study do not necessarily imply that having a washstand encourages hand-washing, since it may equally be the case that those families that value hand-washing have equipped themselves with

washstands. However, the possibility that washstand ownership could promote hand-washing merits investigation. Poverty may be a factor constraining washstand ownership in Kyrgyzstan. As one male respondent in Talas observed, "*Most people here use a jug or kettle. They would use a washstand if they could. There are washstands for sale in Talas City but the poor cannot afford them*". Hygiene promotion interventions elsewhere have advocated the use of simple technologies such as the tippy-tap to encourage hand-washing (Watt 1988). The impact of these technologies on behaviour has yet to be rigorously evaluated.

Sanitation use might be increased through a two-pronged strategy that combines promoting the safe disposal of children's faeces for social and aesthetic reasons (a more pleasant, faeces-free domestic environment) with promoting affordable, incremental improvements to latrine structure to make them safer, easier and more pleasant to use and maintain. This might be achieved by stimulating the local production and marketing of cheap latrine components, such as squatting slabs and pour flush fittings (Cairncross and Feachem 1993). A more focused period of market research would be desirable to assess the likely success of such an intervention. The sale and use of potties might also be investigated as a means of encouraging more hygienic disposal of infant's faeces. In either case, the availability of income to invest in these sanitation improvements is likely to be a crucial factor.

The relative importance of environmental modification (such as the provision of improved latrines or hand-washing technologies) to make safer practices easier, and the communication of ideas to make safer practices more desirable, is not clear. Ultimately, however, these two activities are intimately related, since a certain level of water supply and sanitation hardware is needed to allow safer practices, while the provision or construction of this hardware also communicates a message about the desirability of the behaviours it enables.

The observational data suggest that the primary target group for the intervention should be mothers of young children, and children. It is the behaviour of these groups with regards to faeces disposal and hand-washing that could play the most important direct role in keeping the domestic environment free of faecal contamination. In addition, focus groups and interviews suggested that although mothers-in-law and fathers are less frequently active in the relevant elements of childcare, their beliefs and opinions can be important in defining acceptable practice in the home and can influence expenditure on household items such as soap. It is therefore important that an intervention should have the support and approval of mothers-in-law and fathers.

Using the formative research methods

The methods proved sufficiently robust to work in a setting very different from that in which they were developed. Using them it was possible to generate some potentially useful information in a short period of time with limited resources. This was despite the difficulty of observing hygiene behaviour in a setting in which most domestic activity takes place indoors, in houses with several rooms, and despite the reticence of some focus group participants, who were understandably uncertain how to react to a group of strangers asking about details of some very private behaviours. Given more time to build rapport with the respondents and to develop more effective and appropriate forms of questioning, the conduct of the focus groups could have been improved and may have resulted in richer data. However, the extent to which such data could be used was limited by the lack of resources for transcription and analysis. The questionnaire survey gave an indication of the potential reach of existing mass media channels, but it was not a sophisticated tool and revealed few details about other channels of communication or about the suitability of existing channels for hygiene promotion messages.

Limits to the information obtained by formative research at household level

The formative research methods followed do not consider the wider institutional environment. Greater attention to this wider environment is necessary. Existing national institutions have the potential to play an important role in hygiene promotion, both in helping to achieve sustainability and in facilitating a move to scale. In Kyrgyzstan, for example, the recently established Republican Centre for Health Promotion is a highly pertinent feature of the national context and could make an effective contribution to hygiene promotion.

The education and health services could also play an important part in supporting and sustaining an intervention. These services are potential channels for communicating with key target audiences on a national scale. Seeking appropriate, effective ways of working with them on hygiene promotion should be a priority. Education is clearly an important function of schools. However, interventions that rely solely on education as the key to motivating behaviour change may not fully appreciate the many routes through which the school experience might impact on children's behaviour. A dedicated formative research toolkit for use in schools might help increase our understanding of the range of behaviours, motivations and communication channels, and so open the door to more effective work in this setting (Sidibe, unpublished).

Conclusion

The formative research on which this paper is based constitutes a rapid anthropological procedure. The pros and cons of using rapid anthropological methods have been debated in the literature (e.g. Manderson and Aaby 1992). The current paper supports the claim that these methods can provide useful, useable data in a short space

of time, but recognizes that more prolonged work could provide deeper insights and that larger and more representative samples could increase confidence in the results. Recent developments in hygiene promotion have seen the introduction of industrial marketing expertise to promote hand-washing with soap on a national scale in a number of countries (Saadé et al. 2001; Curtis 2002), although it is still too early to judge the success of these initiatives. These marketing campaigns have used formative research methods similar to those described in the present paper. However, these national campaigns were able to devote considerably more time and resources to gathering and analyzing data, and were thus able to develop a more in-depth picture of consumer motivations and appropriate channels of communication than was possible in the Kyrgyzstan study. A top quality marketing campaign demands top quality formative research that cannot be provided in a matter of weeks. The rapid research presented here is best suited to the smaller-scale interventions with severe resource constraints for which it was intended.

Formative research is straightforward and effective and need not consume large amounts of resources. That is not to suggest that the information provided is equivalent to that of anthropological studies, nor that sophisticated consumer insights can be generated in a matter of weeks. Nevertheless, a sound quantitative picture of key behaviours and some understanding of the reasons underlying them should be considered a desirable foundation no matter what type of intervention is planned.

The findings reported in this paper arise from a rapid study in a small, non-random sample of households in rural Kyrgyzstan. The extent to which these findings typify conditions across rural areas of the former Soviet Union is not known. However, the findings point to the possibility that the economic decline of the USSR and subsequently of the new republics has left many, perhaps millions of people, lacking adequate public health infrastructure. If this is the case, an appropriate response is urgently needed.

Endnotes

[1] Administrative districts.

[2] Washstands vary in construction but are essentially a small tank with a tap, positioned over a basin that drains into a bucket below.

[3] The *beshik* is a widely used infant's cradle that incorporates a pot for the collection of urine and faeces.

[4] A *felcher* is a village-level health worker.

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