

DIARRHOEA AND HYGIENE IN LUCKNOW SLUMS



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DIARRHOEA AND HYGIENE IN LUCKNOW SLUMS

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EXECUTIVE SUMMARY

Diarrhoea and other intestinal infections are amongst the major killers of young children in the world today. In the city of Lucknow there may be a million episodes and 750 deaths each year from diarrhoea.

The Gomti River Pollution Control Project is planning to help improve environmental health in the city. Improving the sanitary infrastructure coupled with improvements in domestic conditions may be able to make a big impact on preventing these unnecessary losses due to illness.

Ankur Yuva Chetna Shivar and the London School of Hygiene and Tropical Medicine were asked to have a close look at conditions in slum households in Lucknow. With the idea that promoting better hygiene might have a big impact on health.

This report gives the findings of a three month study of belief and

practice concerning diarrhoea and hygiene in slums which aims to find practical ways of improving the situation. We hope to share our findings widely, and to discuss and adapt them. It will then be possible to work with partners to set up a programme to promote hygiene in Lucknow.

Some of our preliminary conclusions are that :

- The main risk factors for the spread of diarrhoeal disease are :
 - the unsafe disposal of child stools
 - the lack of adequate hand washing after contact with faecal material.
- To change this situation, it may be a good idea to promote the use of potties for children and of the use of soap kept especially for handwashing.
- It is also important to promote using latrines for the disposal of child stools for those that have them, and building latrines by those that do not.
- Mothers are keen and able to adopt these practices because cleanliness is very important to them.
- However, communicating with mothers is difficult because of their low level of contact with outside sources of information.
- We think that encouraging mothers to change their hygiene practices will require a concerted effort by many agencies working in Lucknow.

INTRODUCTION

The World Health Organization defines health as a state of complete physical and mental wellbeing. Improving the quality of the urban environment contributes to both mental and physical wellbeing. Reducing the pollution of land, air and water by finding safer ways of disposing of organic and inorganic wastes not only protects health but creates wellbeing, order and dignity for citizens.

The goal of the Gomti River Pollution Control Project at Lucknow is "to allow people living in Lucknow to experience improved health and well-being associated with a cleaner city and river environment."

To achieve this aim the project is developing strategies for sanitation, solid waste removal and drainage. Plans are being made for the whole city, for neighbourhoods and with communities. The work described in this report addresses another level, that of the household. The domestic

environment is the point from which citizens view their wider environment and is also the place where most illnesses are contracted. Promoting safer hygiene practices in the home, where possible, is likely to be a highly effective way of protecting the health of citizens.

Many studies have shown that the health benefits of improved infrastructure come from the way in which it is used (Cairncross 1990). The health impact of building latrines when children continue to defecate in the open is likely to be small, for example. The promotion of safer hygiene practices is therefore an integral part of any programme aimed at improving public health and the environment.

However, for us to realize this benefit to health we have to know what happens in households, and we have to build our strategies on what people know, believe and do; otherwise we will fail. For this we will have to answer several questions.

The questions are :

- What are the practices which put health at risk ?
- What are the reasons behind these practices ?
- Are these practices amenable to change ?
- What strategies could be used to promote behaviour change ?
- How do people communicate and how can we best communicate with people ?

This report is the result of three months of formative research in the slums of Lucknow carried out by **Ankur Yuya Chetna Shivir** in

association with the **London School of Hygiene and Tropical Medicine.**

The study aimed to seek the answers for the above questions. We hope that we have obtained at least partial answers and that these will help to show a way forward for the improvement of environmental health through hygiene promotion.

This document does not claim to be a status report on the problem of diarrhoeal diseases in Lucknow, nor on the hygiene behaviour practices of the slum dwellers in the city, but is just an attempt to provide some first hand information to the policy makers, project managers, and the frontline workers. It summarizes what we know about intestinal infection in Lucknow, what is known internationally about the role of hygiene in these diseases and the methods that we used to investigate the problem. The following chapters give our findings about what people do, think and believe about diarrhoea and hygiene. We report on what mothers thought after trying out using soap kept for handwashing and potties for their children. The report concludes with a summary of our findings about how mothers in slums communicate.

The basic purpose of this backgrounder is to equip our project partners and other concerned agency officials with essential information required for contributing towards the formulation of a detailed action plan aimed at the promotion of safer hygiene practices at the household level. The given information will also prove helpful in drafting a communication strategy for this purpose. We invite all your suggestions and comments.

DIARRHOEAL DISEASE IN LUCKNOW

Intestinal infections remain a serious problem for children throughout the world. About 3.3 million children die each year from diarrhoeal diseases and it is estimated that a third of the world's population is infected with parasitic worms.

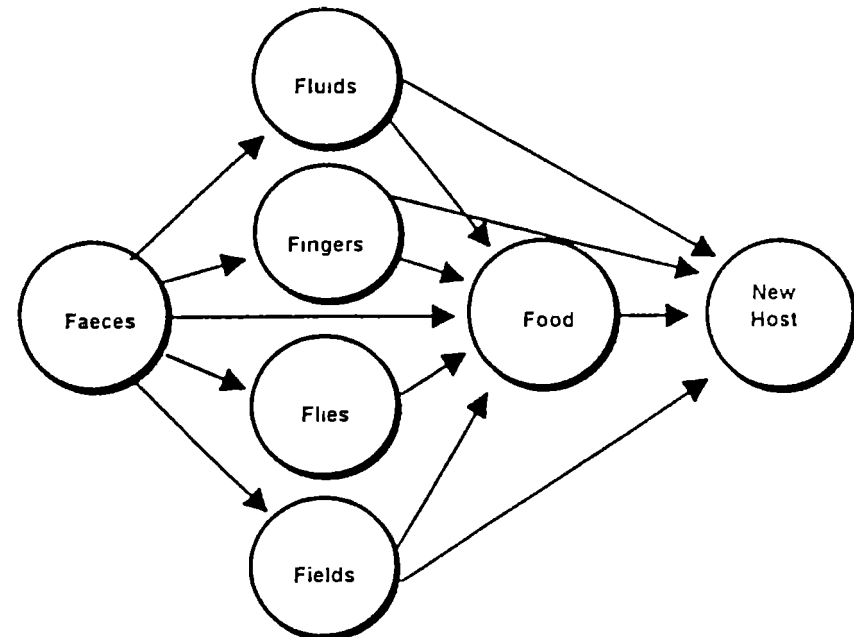
Diarrhoea is a major killer of young children. Of all of the deaths in UP, 50% are among children aged from 0-4 years and 20% of all these child deaths are caused by diarrhoea (Unicef, 1994). Lucknow city has a population of 1.8 million, out of which approximately 250,000 children are under the age of 4. These children suffer from about 1 million episodes of diarrhoea in one calendar year and an estimated 750 die in consequence (Caimcross, 1996). Children are estimated to suffer 4.3 episodes of diarrhoea per year on an average (UPVHA,1995).

The maximum number of diarrhoeal episodes take place in the summer season in Lucknow, the months of April, May and June being the hottest. This is also the cholera season.

The extent of the intestinal parasite problem is hard to measure in Lucknow but is probably considerable. *Ascaris*, *Taenia*, Hookworm and Whipworm infection are likely to be partially responsible for the high rates of malnutrition in children (Bern et al 1992).

CARRIERS OF DIARRHOEAL PATHOGENS

The following figure depicts how pathogens which cause intestinal infection are transmitted. Excreta contains large amounts of bacteria, parasites and

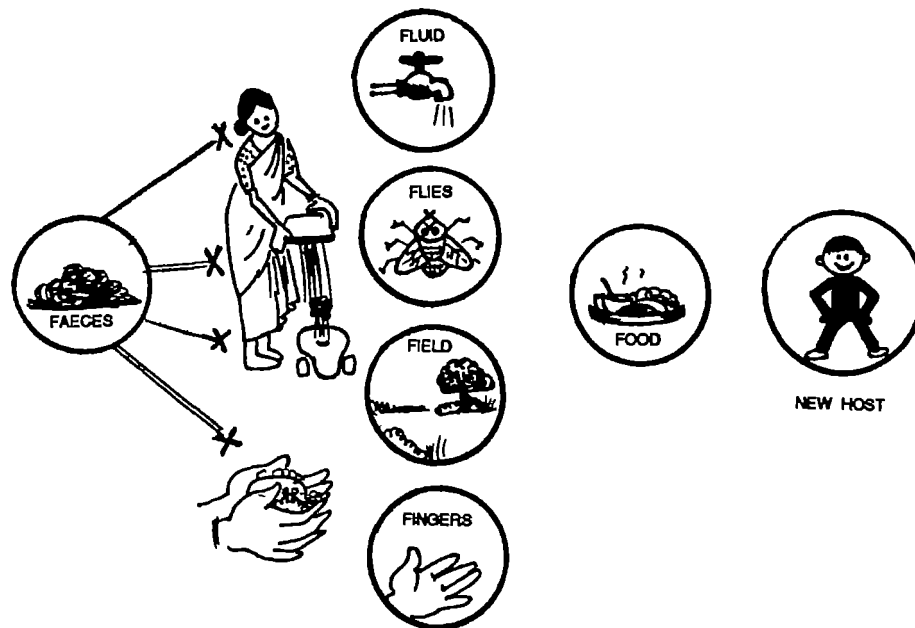


Faecal-oral transmission of diarrhoeal pathogens

viruses which get into the domestic environment. Children's excreta often carry a specially heavy load of pathogens. These then find their way to a new host via flies, fields, fingers and fluids, to foods (where they may multiply) and hence to a new host who falls ill.

BLOCKING TRANSMISSION ROUTES

There are many possible ways of blocking these transmission routes; hand washing before eating, or storing food safely, for example. However, if we can prevent stools getting into the environment in the first place, then we have a potent weapon against diarrhoeal pathogens. This is why having a latrine and then using it to dispose of all stools is so important.



The other way in which faecal material gets into the domestic environment is on hands which have been in contact with stools, either after defecation or after cleaning up young children. This is why a recent expert consultation at WHO, New Delhi, recommended that diarrhoeal prevention programmes concentrate on the **safe disposal of stools**, and **hand washing with soap after stool contact** (WHO, 1993).

PANEL 2.1

Human excreta is not the sole cause of diarrhoea. Animal excreta too contributes to the spread of diarrhoeal diseases. Faecal pathogens such as Salmonella, Campylobacter and Cryptosporidium in buffalo excreta are as infectious as human excreta. These can cause acute watery diarrhoea or even bloody diarrhoea. Studies in Europe and elsewhere have shown all three of these to cause diarrhoea more often among people in contact with live stock. In Rajajipuram, E-Block, for example, we were told that many of the children were suffering from blood dysentery or diarrhoea. In this slum the inhabitants were mostly dairy owners and in a cluster of about 40-45 houses there were 4-5 dairies. And the slum environment complete with cowdung and buffalo dung creating ideal situation for diarrhoea and dysentery.

LUCKNOW AND THE SLUM ENVIRONMENT

Lucknow, the capital of Uttar Pradesh, is a densely populated city. The current population of the city is estimated to be 1.8 million. About 40% of the population of Lucknow city live in slums (Tempest, 1995). The city's economic base is in the service industry, trade and the informal sector (Taru, 1996).

Estimates of the number of slums in Lucknow vary, probably because of the lack of a consistent definition of what constitutes a slum. Certainly, areas of poor housing are found on the fringes of the city, on the banks of river and nullahs or near railway tracks, as well as other areas where land can be found. Sometimes in large well defined settlements, but often in scattered clusters in the interstices between better housing zones.

Slum expansion has been rapid (half of slum dwellers arrived less than 8



years ago). Rural unemployment and the population explosion account for much of this expansion. Slums are often the first foothold in the city for the future urban entrepreneur.

Slums and slum dwellers are quite often criticised for being a spot on the whole development process and are also held responsible for marring the beauty of any upcoming city or metropolis. But the fact still remains that it is because of these slum dwellers only that cities are in a proper shape. We can not imagine the beauty of the cities and our day-to-day needs being fulfilled without the services being rendered by these slum dwellers only. The rickshaw wala, the mazdoor, the sabziwalla, the coolie, the jamadar, and many such characters coming from the lowest strata of the society have their share of contribution in the making of the

society and above that in the making of the nation. Considering their role in nation's development, they have all rights to claim for several basic amenities like water, sanitation, housing, education and health, and should not be denied so in the name of policy decisions or administrative limitations or political boundations.

Slums can be categorized into types, according to whether they are officially recognized or not.

- **Recognized**

These are the slums which have been existing for decades and have been given legal status by the various government departments. Here Lucknow Nagar Nigam is also providing the basic civic amenities. Some of these slums have development programmes such as UBSP. Many houses are made of brick with tiled roofs. A recognized slum has been picturised in panel 3.1.

- **Unrecognized**

These are the slums which tend to be more recent in origin and do not have legal land tenure. These slums can be seen anywhere, on the banks of the Gomti or the nullahs, open grounds, parks, or behind the markets. Housing tends to be temporary or 'kuccha' in nature. Panel 3.2 describes one such slum.

PANEL 3.1

RECOGNIZED SLUM

Barauliya is a recognized slum situated behind Mankameswar Mandir. Except for a few, all the houses here are pucca. But the general hygiene conditions were similar to the unrecognized slum. Blocked nallis, children defecating in them, garbage generously spread. Poor water and sanitation conditions and few electricity connections those who have that too illegal. There were a few tonga pullers who kept horses in their houses and consequently horses and children defecated on the road. Sulabh was widely used by men and women for defecation and taking water. This water was used from drinking to washing purposes.

PANEL 3.2

UNRECOGNIZED SLUM

Kabari Tola is an unrecognized slum in Vikas Nagar. This slum is inhabited by Bihari migrants who are ragpickers by profession. It is an unplanned slum with no lanes or roads. There are about 150 houses built unsystematically with plastic bags, bamboo, polythene. There are two India Mark II handpumps out of which only one is working, and one tap connection. Polythene and other rags lie on the path, which on decaying produces pungent smell. Right behind the slum there is an open field which is used by all the slum dwellers as defecation ground and water filled in the ditches there, is used for hand washing and anal cleansing.

SOCIO-ECONOMIC STRUCTURE

Social groupings in slums can be homogeneous or very diverse. In some slums all castes, religions and occupations can be found whilst in others, distinct trade or caste groups can be found. For example, there are slums where residents bear common names or have the same traditional occupation. For Hindus, caste groups may include Pasi, Dhobi, Sehani, Chamar etc. For Muslims, the castes include Sheikh, Ansari, Guddi, Ghosi, Pathan etc. Of the slums households in our study 54% were Hindu and 46% Muslim.

We found that most of the people in these slums are daily wage earners, whereas a few of them are salaried on a monthly basis. The main occupation of the people in the slums was listed as rickshaw pulling, vegetable selling, flower selling, tempo driving and begging. Some of the slum dwellers were found to be peons, government drivers, washer men, cobblers, carpenters etc.

WATER & SANITATION

In a study of 120 households in 12 slums, it was found that only 19 houses had tap connections and 16 had shallow-well handpumps inside their yards. Each slum had one or more communal water sources such as standpipes or India Mark II and III handpumps. Of 120 household, 88 (73%) had no individual latrines. The other quarter had service latrines (11%) or pour flushes with pipes leading to pits, drains, ditches, or directly leading into a nala (16%). Some slums had communal latrines in the vicinity but these were generally not used by the slum dwellers.



METHODS

The work which was carried out between 22nd January 1996 and the end of May 1996 was completed in two stages. A number of methods were used to get answers to the five questions posed in the introduction. These methods have been summarized in table 4.1.

STAGE - I

- (a) For the initial assessment of possible risk behaviours a variety of different slums on nullahs across the city were selected. These were; Bapu Nagar, Dali Ganj, Jama Masjid, Park Road, Kukrail Nala, Kabari Tola, Hata Sitara Begum and Sadar. Visits were made in the early morning and sometimes in the evenings to try to draw up a list of which practices might be posing a danger to health.
- (b) Following this preliminary work, two field workers spent three days with each of ten families in five slums (Kabari Tola, Rajaji Puram-C

Block, Bapu Nagar, Sadar & Jama Masjid). The purpose of this participant observation was to get to know the families and their problems better, and to learn about how and why they went about keeping their environment clean.

- (c) In the same observation period, 10 primary schools within the slum catchment area were observed to know about the existing sanitation conditions prevailing in the school.

STAGE - II

- (d) Next, we wanted to get a quantified estimate of the prevalence of different risk practices, both to help decide which could best be targeted for hygiene promotion and to provide a baseline from which to measure changes in practices over the pilot programme. This was carried out using a technique known as structured observation.

First of all, the structured formats were developed and tested with 24 families in three slums. Then 10 families with a child under three were selected at random from each of 12 slums. The slums selected were :

Four UBSP slums (**Barauliya, Faizullaganjpurva, Bastauli & Samaudipur**);

Four NPA slums (**Naubat Khana, Sonia Gandhi Nagar, Hata Sitara Begum & Shivpuri**) ; and

Four Unrecognized slums (**Shivdham, Rajajipuram E Block, Vihar Nagar & Alambagh**).

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- (e) At the end of the visit, a questionnaire which was attached to structured observation schedule was filled up by the field workers. Several questions regarding socio-economic structure of the family and the popular communication channels were asked from the index mothers.
- (f) The women who had participated in the observations were invited to come to focus group discussion. A semi private area was chosen where it was possible to hold a detailed discussion using a pre prepared discussion guide. Subjects covered included the mothers explanations of why their children got sick, how they perceived diarrhoea and what they perceived as clean and dirty. Detailed notes were taken which were used to draw up a verbatim transcript of the meetings. Ten groups were held with women and one with men.
- (g) Following the initial analysis field workers went back to the families where they had made the observations, to give them the results. They discussed with families how they could cope with faecal pollution and offered each family a potty and some soap. Some of the families agreed to try teaching their child to use the potty and to keep the soap for use after defecation. The field workers then revisited them at intervals of several days to find out how the mothers had got on and the difficulties and advantages that they had encountered.

The behaviour trials were an attempt to explore the feasibility and acceptability of mothers adopting two new practices : ensuring the safe disposal of child stools by using a potty and ensuring adequate handwashing after coming into contact with stools by using a soap kept for this purpose.

● **Analysis** : Quantitative data was entered into a microcomputer and analyzed using EPIINFO Version 5.0. The transcripts of the focus group discussions were interpreted using manual content analysis. Our findings were discussed and interpreted in a number of informal workshops with the help of our partners.

THE INITIAL FINDINGS

At the end of stage - I, after the initial assessment, the participant observation and the indepth observation, we were able to come up with some findings through which it became easy to chalk down the identified candidate risk behaviour practices. These risk practices have been listed out in the table no. 5.1. The findings thus acquired, guided the next more detailed phase of the work.

During our observation, we found out a number of factors which led to unhygienic practices amongst the slum dwellers. These practices can be enumerated as follows :

1. Lack of sanitation infrastructure could lead to unsafe hygiene practices. Few of the slum households had access to individual latrines, and communal latrines were, generally not used by the inhabitants. There was one notable exception in the sweeper's colony at Bapu Nagar where the residents had built a shelter over a nalli for the women folk to

use. Slums who had to rely on night soil collection faced particular problems. Sweepers charged Rs.10/- for each adult member in a family, and were still irregular in night soil collection. Stools lying for days (as most of the dry latrines were found to be in the yards), stink and cause inconvenience and thus expose the family members to various diseases. Some people in order to get rid of such problem have either started to defecate in the open or have made an outlet to open ditches outside their houses. The stagnant water in these ditches, blocks the route, resulting in stools over flowing all over the road, path or passage. Therefore the issue of safe disposal of stools bears a question mark.

2. Non-availability of water or the problem of distant water sources.

The supply of the water posed a problem especially where the water source was distant from, or not on the way to the defecation areas. In this case people had to use stored water for hand washing. Water for drinking and cooking was generally kept apart from water for washing.

3. While observing in different slums at the end the field workers would ask certain questions from the index mothers, children or any other member of the family. On the question of soap it was observed that while washing face or bathing, soap was used, where as while washing hands after defecation field workers saw that plain water was used.

On questioning, many people said that soap is a beautifying agent, rather than a cleansing agent.

4. Too many children or frequent child defecation could lead to carelessness. In Rajajipuram 'C' block, mother at the end of the observation was asked as to why she did not wash her hands after cleaning up her child's stools. She replied, "when you have so many children to look after and have to earn for your living even, and if your child defecates 3 to 4 times a day, how many times would you bother to wash your hands with soap ?"

TABLE 5.1

CANDIDATE RISK BEHAVIOUR

WHO	WHAT	WHERE	WHEN
Mother/Elder sister	no hand washing / poor hand washing	home/near home.	after contact with child's stools.
Men / Women / Children	defecate on ground/bed/guddi	open/near house/in house	any time.
Mother	not cleaning child/poorly cleaning child	home	after child defecates
Mother	not disposing of child's faecal material safely	home	after child defecates
Sweeper	not collecting night soil regularly	dry latrine in home	
Mother	bottle feeds infant	home	top feed
Adults	not cleaning household container after using as dibba	home	after defecation
Men / Women / Children	do not wash hands/ do not wash hands effectively.	home	after defecation

5. Mothers in most of the slums did not consider child stools to be dirty. Mothers were of the view that as long as child is breast fed, his stools are not dirty.

6. Soap was considered to be an expensive commodity. Soaps were mostly kept inside the huts instead of being kept in the wash area (because of the fear of being stolen) and were exclusively used for bathing. It was because of this reason that the soap was generally not available for handwashing after defecation. Many people also thought that

if they washed their hands with soap after defecation it would make the soap dirty.

7. At times, it was because of the lack of prioritization that hygiene was not considered as important. In slum area we found out that people's priorities differed. In Sadar we saw that a family could not buy a cake of soap with a plea that they had no money, but on the contrary they cooked mutton for their meals. Similarly in Bapu Nagar, the family claimed that they had no money for soap, where as the head of the household smoked *bidi*.

8. The working conditions of the parents was another factor which was responsible for unhygienic behaviour amongst the slum dwellers. It was seen in many slums; where both the parents went out to work leaving their children behind; if the younger child defecated the elder child would then manage on her/his own without paying attention to hand washing or safe disposal of stools.

9. Physical features in a slum contribute immensely to the slum dwellers' hygiene practices. For eg. in Kabari Tola, a ditch was very close to the defecation ground, while the handpump was far away, thus, most of the women used ditch water for anal cleansing and handwashing. In the end of the indepth observation, it was revealed that out of the four risk behaviour practices, namely;

- No hand washing after contact with stools;
- Poor/unsafe disposal of stools;
- Bottle feeding; &
- Adults using household utensils as dibba;

the first two were most prevalent and closest to the F-diagram. Bottle feeding was not very prevalent in the slums. Using household utensils as dibba might be a source of contamination, we do not think that this is as important a problem as the first two.

As far as the target audience were concerned, the focus was on the child under three and his/her mother, because out of all other people included in the target audience, these two were most vulnerable to diarrhoea and if reached could contribute a great deal in eradicating diarrhoea from not only their houses, but also from their environment.

Primary Schools

While studying the hygiene behaviour practice, we mainly focussed on the mother and children. Children who spent quite a lot of time in school are not aware of the fact that no hand washing, no or poor anal cleansing, unsafe disposal of stools after defecation can cause exgient diseases.

In ten primary schools with slum catchment areas we found that, despite all the schools having latrines, few were in a good state of upkeep. Only 1 out of 10 schools had a separate urinal for boys, while in 2 schools latrines were closed due to broken pot, tank etc. Out of total of 10 latrines, 9 were found to be in poor state of maintenance. Only 2 schools had running water in the vicinity of the latrine and 1 school provided soap for hand washing. Table 5.2 discusses at a glance the sanitary conditions prevailing in the primary schools.

TABLE 5.2

#	SANITARY CONDITIONS	NO. OF SCHOOLS
1.	Latrine Facility	10/10
2.	Seperate Urinal (Boys/Girls)	01/10
3.	Water Facility	09/10
4.	Broken/Closed Toilets	02/10
5.	Soap In Wash Area	01/10
6.	Poor Maintenance	09/10
7.	Running Water In Latrines (During Intervals)	02/10
8.	Hand Washing With Soap	01/10
9.	Hand Washing With Mud/Ash	01/10

PRACTICES WHICH PUT HEALTH AT RISK

We have already seen from the F-diagram in Chapter 2 that blocking the primary routes of diarrhoeal transmission, those that let pathogens get into the domestic environment, is likely to be effective in preventing diarrhoeal disease. During the study we therefore paid special attention to :

- the unsafe disposal of stools ; &
- no/poor hand washing after coming into contact with stools.

We investigated where infants and children defecate, how mothers and other adults cleaned their hands after contact with faecal material, and other possible risk practices such as bottle feeding and use of household utensils as dībbas (water container used for anal cleansing after defecation). Observations centred on an index child, aged under three and his/her mother whom we called the index mother. We also noted the

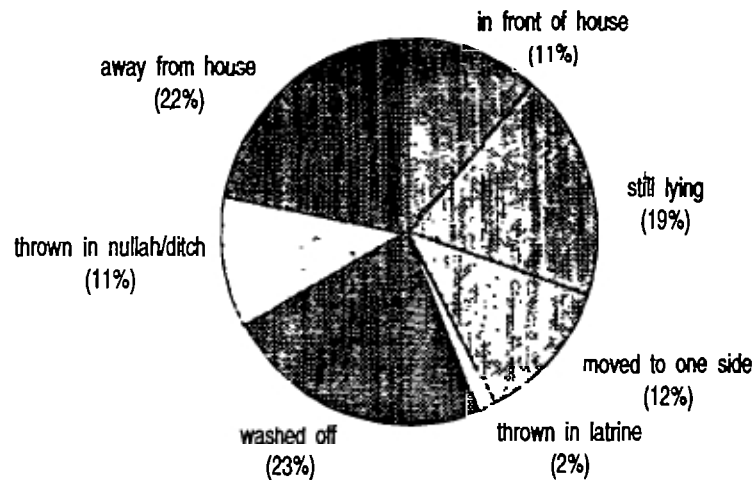
practices of other children aged from three to twelve years and other adults.

INFANT AND CHILD DEFECATION

During our observations, we saw, where 74 children under three defecated: 28 defecated into a guddi (child's blanket/mat), into clothes or in mother's lap, a sack, mat, mattress or cot; 24 defecated on the ground in the yard or veranda; 17 defecated in front of the yard and 5 defecated in open ground or into a nullah.

By the time the observer left, the child's stools had been: thrown in the latrine in 1 case; thrown on the ground away from the house in 16 cases, thrown into a nala or ditch in 8 cases; thrown on the ground in front of the house in 8 cases; washed away in 17 cases; left in mat, guddi or soiled clothes in 9 cases and were still lying on the ground where they fell in 14 cases.

INDEX CHILD'S STOOL DISPOSAL



Throwing stools into a latrine or a nala or ditch or washing them off takes them away from the household environment, thus it can be considered as safe disposal of stools. All other types of disposal can be regarded as unsafe. By this definition 64% of stools are disposed of unsafely. **Even the families owning latrines do not use them for the disposal of child stools.**

Of 51 children aged from three to twelve years who defecated, 12 used a latrine, 20 went on the ground away from the house, 7 into the nala, 7 on the ground in front of the house and 4 on the ground in the yard or house. However, half of the children living in houses with latrines did not use them but defecated elsewhere (ground, nala, etc).

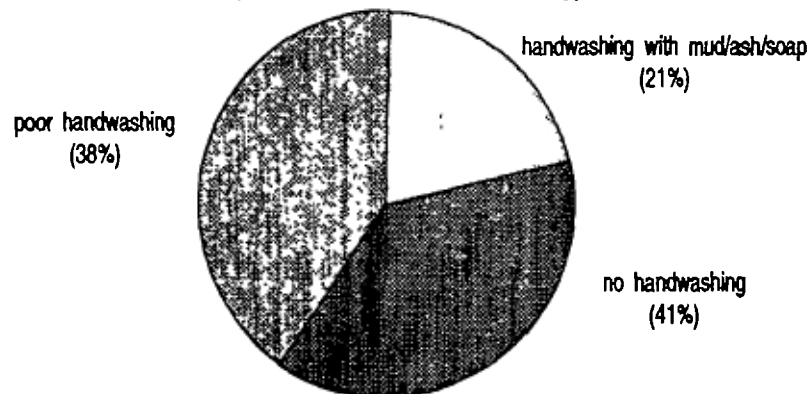
HAND WASHING

The 77 children under three who defecated, were generally cleaned up by mothers, with hands using plain water. Afterwards 13% of mothers used soap to clean their hands, 8% used mud or ash, 1% wiped their hands, 37% used water and 41% of mothers did not wash their hands.

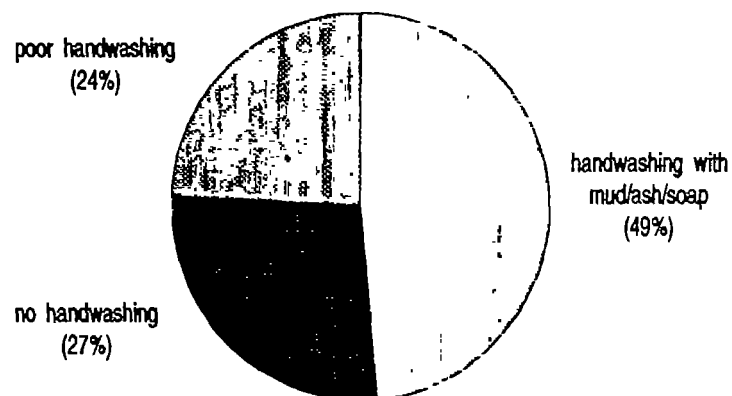
We were able to see how mothers washed their hands after coming back from defecation in 33 cases. A half used ash, mud or soap, a quarter used plain water and the other quarter did not wash their hands at all.

Of children aged 3-12 who went for defecation, 60% did not wash their hands and only 8% used soap on their return.

**HANDWASHING BY INDEX MOTHERS
(After Child's Anal Cleansing)**



**HANDWASHING BY INDEX MOTHERS
(After Defecation)**



Those mothers who had a tap or pump in their yard were only slightly more likely to wash their hands than those that did not. Soap usage was similar in houses with and without a water source in the yard.

Of 78 other adults such as husbands, aunts etc. who went for defecation 38% used mud, ash or soap, 33% used plain water and 29% did not wash their hands.

DIARRHOEA : **PEOPLES' PERCEPTIONS**

Mothers recognize when their children have loose motions by various symptoms, age or weather.

- When a child passes bloody stools, mothers call it *Peichis* or *Katakh*. Stale or open food and hot weather are said to be responsible for *peichis*. Women take their children to the doctor.
- *Aon* or mucoid stools are due to foods such as pulses, maize, potato, which are said to be hot food. Child is shown to the doctor.
- When frequent watery stools are coupled with severe vomiting it is known as *haja* or cholera, sudden loss of weight and appetite follows this disease. This is largely blamed on the stale food, hot weather and dirty environment. Medical treatment is preferred in this disease.

- Some of the mothers told that at times cholera becomes severe gastric trouble known as *band* or closed cholera or *sampat*. This is generally in the cold weather. Giving a mixture of *kala namak* (black salt), with *heeng* (astofoida) and *ajwain* (omum) or *jeera* (cumin seeds) and leaves of *dhudhiya ghans* (type of grass) with plain water gives necessary relief.
 - When children suffer from cold and pass green lumpy stools, mothers call it *dast*. Basil leaves and ginger drink is an effective remedy for this disease. Sometimes doctors are consulted.
 - *Tutti lagna* is a term used for children who suffer from diarrhoea while teething. Frothy stools, pale eyes, are symptoms of teething. No treatment is given, mothers believe that the frequency of the stools gradually decreases when the child has passed the teething age.
 - One notion which was unanimously believed by all mothers was the bad effect of the evil eye or *nazar lag jana* on their children. They recognize that their child is suffering from evil eyes when the stools are very smelly and the child's eyes are swollen. The treatments they suggested were :
 - (i) To take the child to the witch doctor who would blow some religious *ayat* (from *Quran*) on the child which would take off the evil eyes from the child.
 - (ii) Take onion, garlic peel with red whole chillies, touch the child's forehead with handful of this mixture and bum it.
- One mother explained, "My child is beautiful and is often appreciated by many people, and gets evil eye. I know he is suffering from evil eye because his eyes swell up and his stools smell badly."

● A lot of women said that consumption of open, contaminated or stale food, over eating, or eating soil, can cause diarrhoea which they term as *peit kharab hona*. Very frequent watery stools, and loss of appetite are it's symptoms. Home treatment like *Pudinbara* is given and sometimes doctor is consulted.

“ We are poor and cannot afford to throw away the food, whenever and whatever we get we eat. Such food causes Peit Kharab Hona.”

● *Sookha Rog* or *Mamarkha*, is also a serious disease where children pass frequent curdled stools and become malnourished. Mothers do not take their children to the doctor instead they go to the witch doctors who rub mulberry leaves with cow dung and several other herbs on the child's spinal cord and it is said typical red and white microscopic worms come out of the spinal column which cause *mamarkha*.

● Malaria, a disease caused by a mosquito bite is another disease where a child can have diarrhoea. High fever, shivering and watery stools are it's main symptoms. Patient is taken to the doctor.

The patient is taken to the doctor only when the home available treatments do not work. Mothers said that children often suffer from various illnesses, but they can not afford to take them to the doctor each time, as they do not have enough money to pay for the fees.

Only cholera and *Peichis / Katak* were ascribed to dirt or stale food. When 121 mothers were asked what had caused the child's last episode of diarrhoeal disease only 5 ascribed it to dirt or a dirty environment. Teething or climate were the most common explanations.

Findings are similar to those of Bentley in rural North India (1988). Mark Nichter in Sri Lanka (1988) and J.D Mull in Pakistan (1988). In all these findings evil eye, worms, hot and cold weather, hot food and over eating were common explanations for why the child had diarrhoea.

A discussion of the prevalent terms for diarrhoeal diseases, its symptoms, causes and treatments in the different slums is given in Table 7.1.



Ram Rati, age 23 years, living in Jama Masjid, bottle fed her one and half year old son. Due to living in unhygienic conditions and practicing candidate risk behaviour like not washing hands after contact with stools etc. her son suffered from acute diarrhoea. She used to cover the bottle with a piece of cloth and fed her child. She informed the worker that her child was suffering from 'nazar lagna' because whenever she fed the child neighbours had evil eyes. So she covers up the bottle, that nobody can see the amount of milk her child consumes.

Table 7.1
DIARRHOEAL DISEASES

DISEASES	SYMPTOMS	CAUSES	TREATMENT
Peichis/Katak	Bloody/mucous stool, loss of weight	Stale food, open food & hot weather	Doctor
Aon	Mucous stools, loss of weight	Hot food	Doctor
Cholera/Haija	Vomiting, thin watery stools, loss of weight & appetite	Stale food, hot weather, dirty environment	Doctor
Sampat/Band Cholera	Severe gastric problem and constipation	Cold weather	Home Remedy
Dast	Frequent green lumpy stools	Cold	Doctor/Home Treatment (basil leaves & ginger drink).
Tutti Lagna	White frothy stools, pale eyes. Teething age	Teething	No Treatment
Nazar Lagna	Smelling stools, Bad/evil eye	Bad/evil eye	Witch Doctor. Burn onion and garlic peels with red chillies.
Sookha Rog/ Mamarkha	Frequent curdled stools, loss of weight & appetite	Red and White worms in the spinal column	Witch Doctor. (rubs a special kind of leaves on the child's cord and the worms come out of it).
Malaria	Fever, shivering, fatigue, thin watery stools	Mosquito bite	Doctor
Peit Kharab	Liquid stools, loss of appetite	Overeating, irregular eating, too much sugar. mud eating.	Doctor/Home Treatment. (Pudinbara)

These findings suggest that mothers do not often think of hygiene as an explanation for diarrhoeal illness in children. Talking about protecting health may therefore not provide a strong motivation to change stool related practices. Hygiene might better be promoted by trying to reinforce existing concepts of cleanliness. This is the subject of the next chapter.

CLEAN AND DIRTY : WHAT PEOPLE THINK

Mothers have strong ideas of what is clean and what is dirty. Mothers in these slums defined cleanliness as :

“ The house and the yard of a clean woman should be well swept. Garbage thrown away from the house, chulha in the kitchen besmeared, utensils washed properly. Children given bath, family wearing clean clothes, and the household articles arranged properly.”

RELIGIOUS BELIEFS & PRACTICES

Mothers make strenuous efforts with limited resources to keep themselves, their children and their environment clean. Mothers told us that cleanliness is close to godliness. Religious notions of purity and pollution are very closely associated with what is regarded as clean by mothers. In the

Muslim community what is pure is termed *Paq* and what is impure *Napaq*. Amongst Hindus the equivalent concepts are *Pavitra* and *Apavitra*.

In the focus group discussions we asked mothers to explain what was clean/dirty, *paq/napaq* or *pavitra/apvitra*. From this we were able to draw up diagrams of where certain objects and events fit into this classification.

In common with all cultures throughout the world stools are seen as unclean and polluting. However, the stools of breast fed children are not regarded in this way. And even the stools of young children are not seen to be as polluting as those of adults. This is because children are sacred to both Hindu and Muslim.

“ As far as possible, I try to remove my child's stools, but while performing *puja* if my child defecates, I do not remove it immediately and continue with my *puja*, because an infant's stools are *Pavitra*.

WHY MOTHERS BEHAVE THIS WAY :

The findings present some difficulties for the promotion of handwashing with soap. Hindu mothers regard water as a purifying agent so soap may not be needed. Mothers had ambiguous feelings towards soap. Whilst all agreed that it was a good cleansing agent, Muslims suspected it to contain animal fats which are *haram* and thus polluting, whilst Hindus thought there was caustic in the soap which could burn hands.

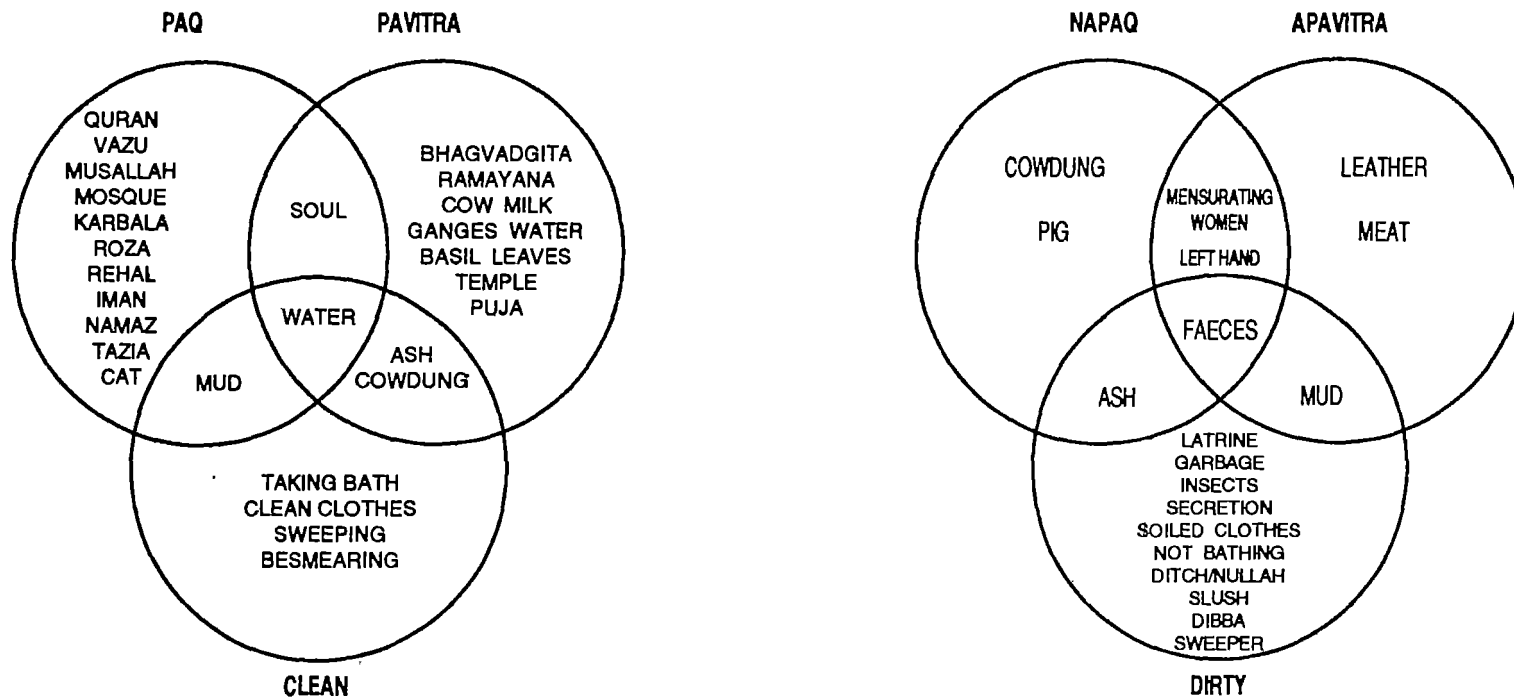
Separate soap is required for handwashing after contact with stools because faecal matter would render the soap polluted. It could then not be used for bathing.

Alternatives to soap such as ash and mud present other problems

because ash is a pure cleansing agent to Hindus which is seen as dirty by Muslims, whilst the opposite is true for mud.

However, the promotion of hand washing after defecation is facilitated because this practice is already regarded as strongly desirable. The same is true for safe stool disposal, though the problem of infant stools will require some effort.

HINDU-MUSLIM CONCEPTS OF CLEAN-DIRTY



Mehrunnisa, age 32 years, staying in the Rajajipuram-C block slum, was a very clean women. Her house spick and span, she broomed her room and the yard, went for defecation came back washed her hands with soap, washed utensils and took bath. She wore clean clothes and combed her hair. She prepared food with utmost care and cleanliness. In the mean while her five month old child defecated, she cleaned the child thoroughly, picked up the stools and threw them away but did not wash her hands with soap. Later on asking her for the reason she said that child's stools are not dirty, till he is breast fed.

MOTIVATING BEHAVIOUR CHANGE

Field Workers went back to the families, they had observed and discussed safe hygiene practices with the index mothers of these families. They offered potties and soaps to these index mothers and requested them to be volunteers to try to use potty for their child and use soap after contact with stools. Three follow-ups were made, with each visit to one slum being made every third day. These follow-up visits were made to perceive the advantages, disadvantages and difficulties, the mothers had encountered.

The main objectives behind these behaviour trials were :

- **Safe disposal of child's stools**

It is quite clear from the F- diagram that the three primary routes of transmission of pathogens to a host, which cause grave danger to the life

are, flies, field and fluid . The human excreta, which is thrown in the open fields, cause the transmission of pathogens through flies, fluid, and even directly to a child. This was the reason for the promotion of potty, so that, the child defecates only in the potty and the stools are henceforth disposed of safely, away from the household environment. Whilst throwing stools into nullahs, ditches or drains is not ideal, this is still safer than leaving them on the ground or around the house.

- **Handwashing with soap after contact with stools**

Three main primary routes of transmission of pathogens through flies, field and fluid can cause lot of harm if the stools are not disposed of safely. By looking at the F- diagram it is evident that another primary route of transmission of pathogens is from faeces to fingers. If the hands are not washed properly with mud/ ash/ soap after contact with the stool and pathogens from the fingers are not removed after anal cleansing, pathogens enter the host through the unwashed hands, leading to diarrhoea. So, promotion of handwashing with soap after contact with stools was another objective of the behaviour trial, in order to block this last but most important primary route of transmission, as well as to inculcate the habit of handwashing with soap in the index mothers.

THE TRIALS

54 mothers were asked to try out safe hygiene practices, such as, keeping a special soap for use after stool contact. After 10 days of follow-up in the houses, all 54 mothers claimed to have succeeded in washing their hands with soap after contact with stools. Same 54 mothers were asked to try out getting their child under 3 to use a potty. After 10 days of the follow-up visits, the field workers found that 41 mothers claimed to have succeeded in trying to get their child to use a potty.

Those that failed gave following reasons :

- (i) My child plays with the potty.
- (ii) My child is scared of the potty.
- (iii) My child starts crying and screaming.
- (iv) My child is too small for potty.

Teaching child to use a potty

There were also some advantages, disadvantages and difficulties, that the mothers came across, while teaching their child to use a potty for defecation.

ADVANTAGES

- 1. I do not have to touch the stools.
- 2. The ground of my house stays clean.
- 3. My child does not defecate in the nalli anymore.
- 4. My child stays clean.
- 5. I do not have to put in extra time and energy to clean my child's stools.
- 6. My child does not have to go far away for defecation.
- 7. The environment of my house is clean, there are lesser flies.
- 8. My children are happy, because they do not have to go outside for defecation and their feet do not burn now.



9. Due to water scarcity, I had problem in cleaning my child's stools, now I do not have such problem.
10. Now I don't have to wait for my child to defecate, as I have to leave for work. I don't want my elder daughter to touch the child's stools, so now my daughter just has to throw the stools from the potty.
11. Now, I don't have to stand with my child and wait on the road and shoo away the animals, till he has defecated.
12. It is convenient, as I do not have to take my child out in the night to defecate. he can defecate at home in the potty.

DISADVANTAGES/DIFFICULTIES

1. I have to hold my child, till he has defecated.
2. My child is scared.
3. The index mother was pregnant and thus could not make the child sit on the potty.
4. I have to force my child to defecate in the potty.

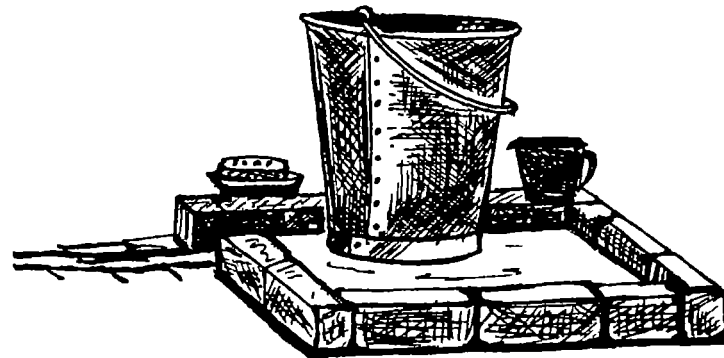
Soap use after cleaning up a child

Those mothers who were successful in adopting the practices also told us, what advantages, disadvantages and difficulties they experienced during the trials.

ADVANTAGES

1. My hands have become soft.
2. My hands smell good now.
3. Your soap saved my soap expenses.

4. My hands have become germ free.
5. It cleans my hands and body.
6. My hands are ash free now.
7. There is no dirt in my hands.



DISADVANTAGES/ DIFFICULTIES

1. Your soap gives bad smell.
2. Scarcity of water.

There were also some encouraging comments from the mothers.

- (i) *Meri doosri ladki bhi usi potty mein tatti karti hai.*
- (ii) *Jis din aap woh potty de gayin, usi samay mere ladke ne usmein tatti kari.*
- (iii) *Mera doosra baccha bhi usmein tatti kama chahata hai.*
- (iv) *Agar mai ghar mein nahi hoti hoon to bhi mera ladka usmein araam se tatti karta hai.*
- (v) *Mujhe apne aap ko bar-bar yaad dilana parta hai, sabun ke estemaal ke liye.*
- (vi) *Mere bacche bhi sabun se haath dhona seekh rahe hain.*
- (vii) *Mein us sabun se nahati bhi hoon.*
- (viii) *Woh sabun jo aapne diya bahut accha hai. Apne woh sabun kahan se kharida.*
- (ix) *Aapka sabun to khatam ho gaya, to meine aur sabun kharid liya hai.*

We drew our conclusion, after getting such interesting comments and the encouraging advantages perceived by the mothers. We felt that we could promote the use of potty and soap, as 100% mothers have adopted the habit of handwashing. As once this habit is acquired, mothers felt clean after washing their hands after contact with stools. We found that before the trial behaviour, some mothers were washing their hands with soap and some have adopted the practice during the trial behaviour. We will continue to follow up mothers to see how they get on in the long term, and whether they will replace the soap, once it is finished.

mobilizing the population when there is a common interest at stake. Women are often particularly excluded from communications channels given the restrictions on their movements and their low level of literacy.

TRADITIONAL MEANS OF COMMUNICATION

RAMLILA

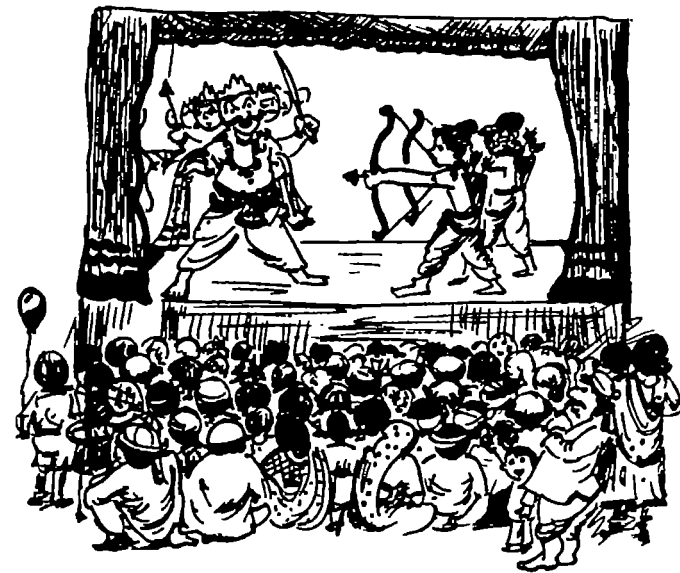
A long dance drama, based on the mythological epic Ramayana, this was once a popular means of entertainment. People gathered and saw it together overnight. It is not much preferred now a days. For 121 women interviewed only 15 (12%) women watched Ramlila last year.

HOW DO PEOPLE COMMUNICATE ?

A successful health promotion programme relies on being able to make contact with communities, groups, households and individuals. To do this we need to know something of the social structure in the slums and also to know what channels of communication exist and what reach they have.

SOCIAL STRUCTURE

Urban societies are very different from rural ones where neighbours share common interests and thus can be said to be 'a community'. Most slums contain a mixture of people who arrived at different times who have developed little in the way of a cohesive social structure. As a result, there are few effective community based channels of communication. However, in better established slums, some outreach workers may serve the neighborhood and some slum leaders may have effective means of



CASTE PANCHAYATS

These types of caste meetings were organized to either solve disputes or to make announcements. Caste panchayats were basically a strong medium of communication amongst the people.



But in 120 households only three women attended the caste panchayats last year while 118 did not attend any such panchayats. Most pointed out that women did not attend such events.

RELIGIOUS GATHERINGS

Any festival or ceremony was an occasion for religious gatherings, where people from different strata met each other at one venue and together prayed to God. Of 121 women, 39 (32%) had attended religious meetings in the last month.

WEEKLY MARKETS

A weekly market in the true sense is a small fair. Women come out to both purchase and to meet their friends and relatives. In the past, announcements were made and messages were conveyed during these fairs. People from far and wide came here to sell their goods and went back with their purchases as well as the information gathered, and disseminated it further in their respective villages. Out of 121 women questioned, 78 women did not go to the weekly market in the last month, only 12 women went once, 20 went twice and 5 women went four times.

COMMUNITY MEETINGS

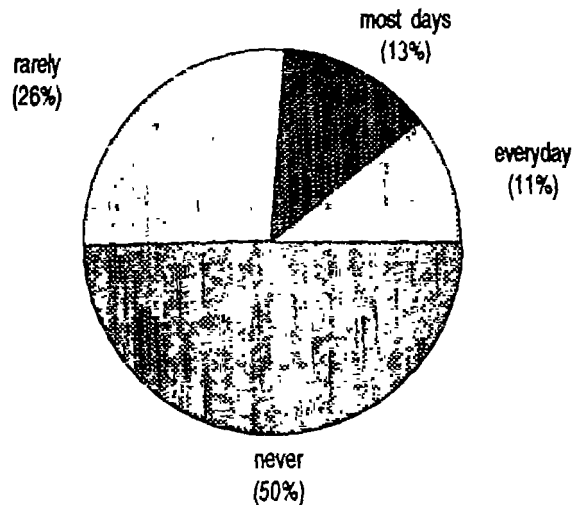
These meetings have proved to be a very effective method of communication, where the audience have a chance of proximity with person who is conveying the message. However, in 120 households, only 13 women had attended a meeting in the basti, 6 attended elsewhere, while 102 women did not attend any meeting last year.

MODERN MEANS OF COMMUNICATION

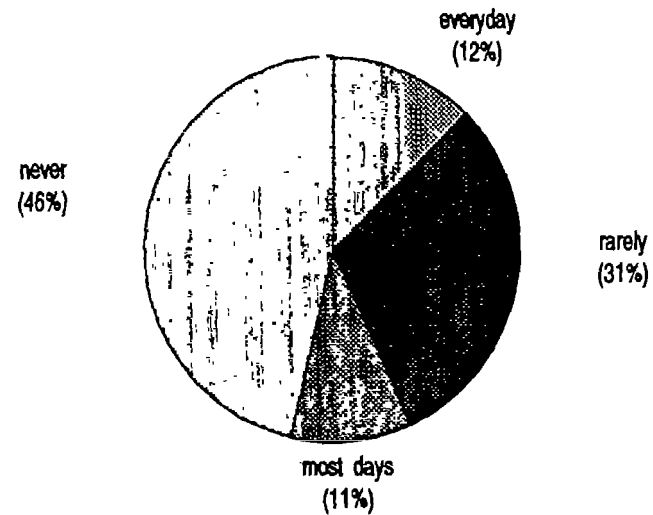
TELEVISION

In Lucknow two channels are relayed. Doordarshan-I, which also relays the local programmes till seven in the evenings and then broadcasts the National Network programmes from Delhi Doordarshan. Doordarshan Metro (DD-II), is another favourite channel. Films, songs and serials like Alif Laila, Hatim Tai and Chandrakanta are very popular amongst the people. TV does not have a strong grip over the people living in the slums. In 120 households, 26 had a working TV and only 29 women watched regularly.

T.V. VIEWING



RADIO LISTENING



RADIO

Lucknow has a local station known as Akashvani-Lucknow, along with several national channels like Vividh Bharti and other stations of Akashvani. Despite being cheaper than TV, radios were rare. It was found that only 23 houses out of 120 households had a working radio. Women preferred film songs most, followed by news and in many cases they just listened to whatever came up.

MOVIES

Lucknow has as many as 22 cinema halls. But after finding out from 121 women it was seen that 108 women had not been to watch a movie in the last month. 11 had watched just 1 movie, 1 woman had seen three films and one more watched 4 films in 1 month.

OTHER SOURCES

Print media are unlikely to be very effective for communicating with slum mothers since only 13% could read a short slogan in Hindi and 6% a slogan in Urdu script.

In comparison to the other way of communication, it was seen that the ANM/Anganwari workers, Balwari workers, social workers, doctors, etc. were effective channels of communication. About a half of women knew of an extension worker such as the ANM, Balwari or Anganwari who came to their neighborhood. Only 27% of mothers had a child in primary school.

We asked mothers if they had taken their child for vaccination during the pulse polio campaign in February, and if so, how had they heard about it. The campaign had obviously communicated successfully in the 12 slums because 82% had been vaccinated.

It was seen that through media 31 people came to know about the programme, 27 people knew about the programme from health staff, 10 from the teachers and 29 from the other sources.

These figures suggest that communicating with slum mothers about hygiene is going to require building special channels of communication as well as utilizing as many as possible of the existing routes.

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