

# Fewer Deaths, Fewer Births

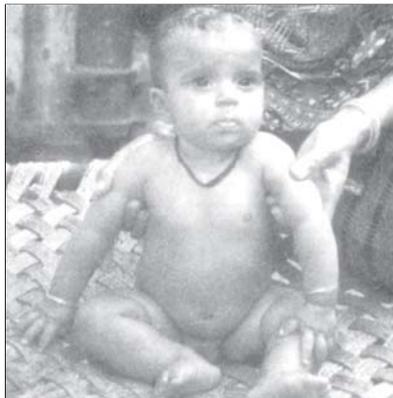
## Decline of Child Mortality in a U.P. Village

Pauline Kolenda

*Our government makes a lot of noise about the need for “population reduction” and harps on the need to control fertility of women. This important village study by Pauline Kolenda gives us valuable insight into the dynamics of population growth and forces us to ask the question: Is high birth rate the problem or a high death rate of children? This study’s value is enhanced by the fact that this village has been studied by different generations of scholars over a period of 50 years as also the same scholar revisiting the village after 30 and 43 years. Therefore, there is reliable data available for the fertility and mortality rates for three generations of people spread over 70 years. The study reveals that the birth rate is going down dramatically even in an area with a low literacy rate for women and without much help from the government’s family planning programmes. The ‘contraceptives’ that seem to be most effective in curbing birth rates are adequate food, cleaner water, access to inoculation and elementary medical care in crisis and better living conditions—all of which put together bring down the death rate of children and lead automatically to lowering of birth rate. Most important by the 1980s, Khalapur Villagers appear to have recognised that children’s chances of survival had greatly improved, so they were having far fewer children.*

— **Editor**

**I**N her classic anthropological work, *Birth in Four Cultures: A Cross-cultural Investigation of Child-birth in Yucatan, Holland, Sweden and the United States*, (Montreal, Canada: Eden Press Women’s Publications, 1978), Brigitte Jordan convinced readers that the Dutch obstetric system was the best of the four. There, at least in the 1970s, most births took place in the comfort of home, with a midwife who had attended the woman pre-natally and was well-trained to spot any emergency requiring medical intervention. With such a system, Holland had extremely low rates of infant mortality, close to the lowest in the world, low rates of Caesarian section, episiotomies, use of labour-inducing injections (pitocin) and women dying in



childbed. The overwhelming majority of Dutch births required no medical intervention. Following Jordan’s lead, Robbie Davis-Floyd (see her *Birth as an American Rite of Passage*, Berkeley: University of California Press, 1992) and others have critiqued the medicalisation of birth-

ing, showing that hospital births as they have been carried out in the U.S.A., involving widely used technological measures, and pharmacological and surgical interventions, are more for the convenience of the medical personnel than they are for the benefit of the birthing mother; much of the technology and medical intervention is unnecessary, these critics say; some of it is, indeed, harmful. There has been a considerable movement in the United States to return child-birthing to trained midwives, relaxed scheduling, and the home.

Jordan has tried to face up to the problems of birthing in third world countries, concluding:

Because of the efficacy of technological biomedicine in dealing with pathological cases, some

accommodation between cosmopolitan obstetrics and the traditional ethno-obstetric systems should be sought. [*Cosmopolitan Obstetrics: Insights on the Training of Traditional Midwives*, (Social Science and Medicine 28(9): 937-945. 1989).]

In Khalapur village in Saharanpur district, in western Uttar Pradesh, in 1997, almost all births took place at home attended by a midwife—a Harijan midwife. I regret that in a short paper I can only outline the Khalapur birthing situation, and must leave out a great deal of contextual data.

In 1984, in a thirty-years-later study of Khalapur, with a population at that time of about 9,700, I took a 5 per cent sample of all the patrilineal segments (*khandans*); that, I was able to do so because another social-cultural anthropologist, J. Michael Mahar, aided by a school master and some educated young men of the village, had just completed a census of Khalapur, taken in terms of *khandans*. The advantage of using *khandans* as the sampling unit was that in the initial interview with members of each, I could do a genealogy, going back to the apical head of the *khandan* (the oldest living male whose male descendants form the core of the *khandan*) and include all women, both living and dead, both wives and married daughters, as well as their husbands and children.

In 1984, I collected various information about the people in the 32 *khandans* that had fallen into the 5 per cent sample. In winter 1985, I went back to collect reproductive histories for all of the married women, both married daughters and wives. While there are some fascinating differences between wives and married daughters—Khalapur, like much of northern India, practises village exogamy, so all daughters of all castes, both Hindu

and Muslim, go to live with their husbands elsewhere—I cannot here go into those differences, nor can I go deeply into differences between castes, or between Hindus and Muslims.

The reproductive histories included caste and *khandan* membership, age and education of both wife and husband, husband's name and occupation, age of the woman at the time of her first wedding ceremony (*shadi*), her age at the second wedding ceremony (*chala*)—that used to take place as much as two or three years after the first ceremony—her age at her first birth, the names and ages of all her children, both living and dead, causes of death of children, where she had each child—whether in her moth-

er-in-law's house or at her parents' house in another village—who the midwife (*dai*) was, whether there had been any medical personnel involved, whether there were any injections, length and ease or difficulty of labour, use of birth control, illnesses of children, medical treatment of children, and so on. In April-May of 1997, I returned to Khalapur to take the reproductive histories of women married since 1984 and to re-interview other women, especially to record details about births since 1984.

Comparison of the figures in *Table I* indicates the change in crude birth rate, crude death rate and population growth in 1983 and 1996. (Crude birth rate is the number of births in a year per 1,000 population; crude death rate is the number of deaths in a year per 1,000 population. Here the "population" is the 477 persons in the 5 per cent sample in 1983 and 525 persons in the same sample in 1996.) The figures are presented in two ways: first, those based on people resident in the village, and second, those based on the village residents, plus those who, by rules of patrilineality and patrilocality, should be living in the village, but were living outside. (The 1983 population including those living outside numbered 540; in 1996, it numbered 668.) Either way, population growth in Khalapur was over 2 per cent a year in 1983, but it had come down to around 1.9 per cent by 1996 for the village population, and to 1.6 per cent, if villagers living outside are included. Both birth rate and death rate have gone down sharply, although with an overall decline in population growth is slight—from 2.1 per cent to 1.9 per cent—for the population living in the village.

The total number of living people in my 5 per cent sample resident in Khalapur rose from 487 in 1984 to 529 in 1997, almost 9 per cent (8.62 per cent) over 13 years, suggesting that

**Table I**

Crude Birth Rate, Crude Death Rate, and Population Growth of Village Khalapur 1983 and 1996: Based on a 5 per cent sample of the 1984 population collected by *Khandan* units [cbr = crude birth rate; cdr = crude death rate; pg = population growth\*]

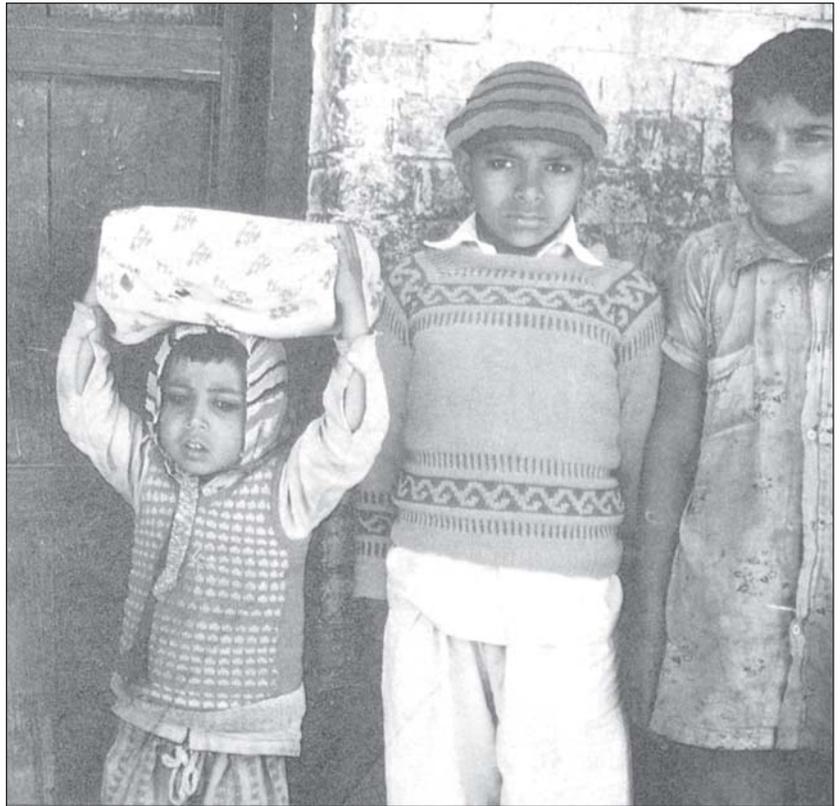
Village Resident Population		
	1983	1996
cbr	33.54	22.86
cdr	12.58	3.81
pg	2.096	1.905
Village Population (Including Outpopulation)		
	1983	1996
cbr	37.03	19.46
cdr	11.11	2.99
pg	2.592	1.647
*Population growth per annum		
1983 population :	477 (487 in 1984 - 10 children born in 1984)	
1996 population :	525 (529 in 1997 - 4 children born in 1997)	
1983 population :	477 (living in village + 63 living outside) = 540	
1996 population :	525 (living in village + 143 living outside) = 668	

the Khalapur population was now around 10,600 in 1997. If the villagers who would normally, by rules of patrilineality and patrilocality, be living in the village, but who are living outside are added to the village populations, then the change is from 550 to 672 persons, an increase of 22 per cent.

But let us look at the 170 Khalapur wives in the 32 *khandans* of my 1997 sample. This includes 136 wives, 12 widows and 20 dead wives, 1 wife whose husband deserted her, and 1 divorced (Muslim) wife. Almost half of them (80 or 47 per cent) belong to the dominant landed caste of Rajputs. Other high castes, Brahmans and Baniyas, make up 15 per cent; middle castes (Carpenters, Shepherds, Water-carriers, *Jogis*, Weavers, Potters, Goldsmiths) make up 18 per cent; Harijans, 11 per cent, and Muslims, 9 per cent. In the calculations for this paper, I omit two women for whom I lack adequate accounts. So the number of wives considered is 168.

The oldest woman in the sample, a dead wife, was born in 1907; she was a Rajput woman who bore 8 children, of whom three died. When we interviewed her in 1985, she said that her first child, a son, died of dysentery, at age 1; another son, her fourth child, died of TB, at age 20; and a third son, her last-born, died of diarrhoea, at age 10. She had two sons and three daughters living. Married at age 15, she did not have her first child until she was 19; she bore her eighth and last child at age 45. The youngest wife in the sample, also a Rajput, was born in 1978; married at 18, she had her first child, a son, at 19, born in early 1997.

Neither the oldest woman in the sample nor the youngest had had any schooling. It is only the most recent cohort, the youngest women in the sample, the 27 wives born in the 1970s, women in the early part of their reproductive careers, who have less than



**With improved incomes from cash-crops, Khalapur Rajputs dress their children in warm sweaters and head coverings. Photo: Pauline Kolenda**

half of their number—32 per cent in the totally unschooled category. Of those born in the 1960s, bearing children in the 1980s and 1990s, more than half (51 per cent) had had no schooling. For the sample as a whole, 70 per cent had never gone to school.

Virtually all Khalapur women's births take place in the home, over 85 per cent in the women's quarters of the mother-in-law's house, about 6 per cent in the mother's house—in another village, of course. Only 4 per cent of deliveries, 13 in all, in the 305 deliveries in

Birth Decade: 1900-39	1940s	1950s	1960s	1970s	Totals	
<b>Education</b>						
0	(45) 92%	(15) 75%	(21) 84%	(22) 54%	(9) 35%	(112) 70%
1-4	0	0		(4) 10%	(1) 4%	(5) 3%
5	(3) 6%	(5) 25%	(2) 8%	(8) 19%	(3) 11%	(21) 13%
6-9	(1) 2%	0		(3) 7%	(9) 35%	(13) 8%
10 or more	0	0	(2) 8%	(4) 10%	(4) 15%	(10) 6%
<b>Total</b>	<b>(50) 100%</b>	<b>(20) 100%</b>	<b>(26) 100%</b>	<b>(45) 100%</b>	<b>(27) 100%</b>	<b>(168) 100%</b>
<b>DK</b>	<b>(1)</b>		<b>(1)</b>	<b>(4)</b>	<b>(1)</b>	<b>(7)</b>
(DK = Don't know)						

a sub-sample of 73 women for whom we got information on place of birth, took place in hospitals; in addition, one delivery took place in a nursing home in a nearby town, and one wife having a miscarriage went to the hospital to try to prevent the miscarriage, but lost the premature baby. In the sub-sample of 73 wives, 8 women had hospital births. Most births at the hospital are motivated by unusual conditions—forceps delivery, twins, swelling of the pregnant woman's body (possibly eclampsia), the death of a previous baby. Two of the 8 women subsequently had home deliveries after having had a baby at the hospital.

In 1997, some of the women we interviewed mentioned the current occurrence of hospital births. One Bania (merchant caste) mother whose daughter had just had a hospital birth noted the comparative expenses. She said, "It is very expensive to have a baby at the hospital. At home, it costs Rs. 250-300, but at the hospital Rs. 6,000." An older Rajput (b.1939) commented, "We are very simple people. The (*dai*) massages and we wait for the delivery." Another Rajput widow (b. 1949) said, "We don't have to go to hospital. One will have pain wherever one is. One might as well be comfortable at home."

Khalapur women feel quite competent to handle birthing—with the aid of a Harijan midwife, of course, to absorb the pollution entailed. Already in 1984, at the time of my restudy, Harijan midwives had had some training and knew how to avoid tetanus in-



**Rajput mother with her child** Photo: *Pauline Kolenda*

fections by using a new razor blade or scissors rather than a rusty sickle, sometimes used in the past. Even earlier, in the mid-1950s, when I first worked in Khalapur, the government's newly introduced Community Development Project (CDP) employed a trained midwife. Since I worked closely with the Harijan sweepers, I find in my 1950s notes references to the CDP midwife working collaboratively with Harijan midwives then. The CDP midwife supervised while the Harijan midwife actually received the baby and did the cleaning up. While my notes do not mention the CDP midwife's instructions for cutting the umbilical cord, it is likely she did prescribe a sanitary instrument. In 1997, at least upper-caste people

were aware of the dangers of tetanus. So, a Rajput farmer who had cut his foot on a tiller was not only well banded, but had had an injection against tetanus, administered by one of the local private doctors. The most recent death of a new baby from tetanus among the ten reported by the women in our sample was in 1981.

Brigitte Jordan has suggested that one measure of the adequacy of an ethno-obstetric system is whether many mothers or babies die during birthing. Of the 170 wives in my sample, only one died during childbirth—about half of one per cent of the total number. This woman, Z, died in late 1984 at the age of 15 or 16. She was a Muslim Nilgar. Her mother-in-law told us that Z

was very sick during her pregnancy, swollen and with dysentery. She delivered the child in her eighth month. Both mother and child died. The midwife was the widely-used Harijan Sweeper, R. Z's husband's Muslim *khandan* is extremely poor, the men working as agricultural labourers. Their traditional caste work of dyeing cloth was long ago abandoned. This family feels they cannot afford to go to a doctor. Perhaps if Z. had had some treatment for her dysentery and swelling, she might not have had her baby prematurely. Then again she was unusually young, only 15 or 16. Among the wives over age 45 (born in 1952 or earlier), so past child-bearing years, the average age of first birth was almost 19 (18.88), and the average age

**Table III***Number of Children Lost to Death  
by Numbers of Mothers*

# Children who died	# Mothers who lost so many	%age mothers
0	80	49%
1	31	19%
2	19	12%
3	15	9.25%
4	3	2%
5	7	4.25%
6	3	2%
8	4	2.5%
Totals	162	100%

N = 168. 2 women were barren. 4 were young married women who had not yet had children. So 168-6=162

for bearing the last child, almost 34 (33.72).

The reason for early average cessation of having children is in part due to a custom known to me in the mid-1950s and still followed—that a woman who is a grandmother should not bear any more children. A strong positive valuation upon celibacy probably contributes to abstinence from sexual relations among Hindu grandparents. In subsequent writing, I plan to take up the issue of use of birth control to terminate child-bearing and space births by the Khalapur women in our sample.

So mothers very seldom die in these home deliveries. What about children? Out of the 799 births, these 168 Khalapur wives have had, 4.76 per woman, 211 children have died, or 1.26 per woman. Of course, some women have lost many children. At the extreme was one woman who had lost 8 of the 10 children she bore, the first 7 dying. The numbers and proportions of mothers in the entire sample by the numbers of children lost to death appear in Table III.

Almost half of all the wives in the 1997 sample had lost no children to



**In the 1950s most people believed diseases and epidemics were caused by goddesses. A Jogi waits by the Kali shrine to receive offerings.**

**Photo: Patricia Hitchcock**

death, 19 per cent had lost only one, but over 31 per cent had lost 2 or more.

At another extreme, there were only two wives who can be considered to be confirmed as barren, an elderly (b.1934) Harijan widow (widowed in 1984) of the Jatiya shoemaker caste, and a younger (b.1968) Rajput wife, married in 1988. The latter adopted her husband's brother's wife's sister's newborn daughter, when its mother died from a Caesarian-section operation. Among the other 4 women in the 1997 sample who had no children, two were pregnant at the time of our April-May 1997 interviews, one a *Kumhaar* (Potter) wife, born in 1969 and married in 1992, the other a Rajput wife born in 1973 and married in 1993. The other 2 women were both recently married.

That only two married women out of 168, slightly over one per cent, should be barren is a low rate, and, of course, we cannot be sure whether

their childlessness was due to deficiencies in the women or in their husbands. Even if one of the 2 recently married women turns out to be unable to conceive, 3 barren women out of 168 is not even 2 per cent. Stanley and Ruth Freed (See *Fertility, Sterilization, and Population Growth in Shanti Nagar, India: A Longitudinal Ethnographic Approach*, New York: American Museum of Natural History, 1985) in their 1978 study of a largely Jat village in Delhi state also found about 2 per cent of the ever-married women to be barren. They point out that this proportion agrees with the proportion found by Wyon and Gordon in their 1960s study of Khanna villages in Ludhiana district, Punjab.

Mothers stated causes, and ages of death for 137 of the 207 children who died; of the 82 women who had lost children, 73 gave causes of death. There are various observations to be

made about the mothers' reports. First, there were only two reports that deaths had been due to shadow-spirits (*opri*). This represents a considerable change from the 1950s when an elaborate indigenous theory of diseases held sway, complete with disease goddesses (Shitala, Ujali, Kali, etc.), malignant ghosts, sorcery, evil eye, and curses—fascinating to a graduate student who had just taken a course in Anthropology of Religion—but I prefer the current theories of disease in Khalapur. The villagers now name diseases or ailments—pneumonia, measles, tetanus, TB, diarrhoea, dysentery, jaundice, rickets, boils—fully used to the idea that there is an “English medicine” to cure each, an expectation already well-established in 1984. Some of the mothers' diagnoses were vague, of course—“sick” or “fever”.

An elderly Rajput widow, S, (b. 1932) told us in spring 1997 that she is now a disciple of Radha Saomi Byas. The women of her *khandan* still give offerings to Shitala and Ujali [pox goddesses, called ‘Mata’], but S believes only in Byas. Concerning the *Mata*, she said, “I fold my hands and tell her not to come. I only show my children to doctors. God is the keeper. I don't believe in going to *bhagats* [those who cure through communicating with spirits].”

Even in 1984, in our eliciting of accounts about treatment of children's illnesses, only one elderly Harijan woman (b. 1917) spoke of consultations with a *jogi* who did *jhars* (ritual sweeping with a broom to rid a sick person of bad spirits) and a *siana* (wise man) who used *pan* leaf emulsions for cures. Belief in “English medicine” and medical doctors is well-established even in the minds of elderly women.

The second feature of the mothers' reports about their children's deaths had to do with the time of death.



**A thing of past : In the 1950s Khalapur villagers put pots of water on their roofs, in hopes that *mata*, the smallpox goddess would cool herself by bathing in the pot of water, and then move on. Photo: Patricia Hitchcock**

The distribution of times of death appear in *Table IV*.

What were the causes of deaths at birth? Eleven were still-born, seven were premature. Nine died at birth or immediately after. One baby had an intestinal obstruction; another had no anus; and one was breech birth.

Among those who died in the first month, there were ten reports of tetanus, one measles, eight “fever”, one pneumonia, three could not suckle, two “sick”, and one ghost (*opri*).

So a first point on babies who died at birth—less than half of children's deaths are reported to have been connected with birth (56 out of 137 reports), if we count all the deaths at birth or within the first month.

A second point is that deaths of children have gone down dramatically. *Table V* shows the wives divided by decades of their births, noting the decades during which they gave birth

<i>Time of Children's Deaths from Wives in 5% Sample of Khalapur Khandans:</i>		
<i>At birth</i>	30 cases	22%
After birth, but in first month	26 cases	19%
After first month, but up to 1 year	21 cases	15%
Between ages 1 and 5	48 cases	35%
Between ages 6 and 10	4 cases	3%
Over 10 years of age	8 cases	6%
<b>Total</b>	<b>137 cases</b>	<b>100%</b>

to their children, by the average number of children borne, the average number who died, and the average number who survived.

What this table, developed from the reproductive histories of the 168

**Table V**

*Khalapur Wives from a 5% Sample of Khandans Subdivided by Decade of Birth and Decades of Child-bearing: Children Borne, Lost to Death*

Born:	Pre-1920	1920s	1930s	1940s	1950s	1960s	1970s
Bearing in:	1920-40s	40-50s	50-60s	60-70s	70-80s	80-90s	90s-
No. Women	13	15	22	20	26	45	27
Avg # born	6.92	6.33	6.82	6.6	5.5	3.29	1.52
Avg # died	3.75	3.27	1.64	1.2	1.38	.47	0
Avg # survived	3.17	3.06	5.18	4.4	4.12	2.82	1.52
% mo loss*	85%	80%	73%	60%	65%	31%	0%

\* This is the percentage of mothers who lost one or more children to death.

Khalapur wives, shows is that the number of children dying for the average wife has gone down sharply, from the situation before Independence when the average mother lost more children to death than she had survive. After Independence, in the 1950s and 1960s, the death rate was halved. It went down a further one-third in the 1960s and 1970s, went down by more than half again in the 1980s, down to no children lost to death so far for wives born in the 1970s who are now in the midst of their reproductive careers.

By the 1980s, it would appear that villagers had recognised that children's chances of survival had greatly improved. Women born in the 1960s, most of whom had completed their families by 1997 had borne about 3 children on average, half the number

their mothers-in-law and grandmothers-in-law had borne.

Another way to look at the change in the numbers of children dying is to compare the percentages of women in each age cohort who lost one or more children to death. In the oldest group born before 1920, 85 per cent of the mothers lost one or more children. Among the mothers born in the 1960s, bearing their children in the 1980s and 1990s, only 31 per cent lost one or more children. In the youngest cohort, born in the 1970s, no Khalapur wife has yet lost a child to death.

A third way to look at the change in child mortality is to divide the children by the decades of their births and to calculate the proportions of children who survived to the age of 10. In *Table V*, above all children who died were in-

cluded, whatever the age of their deaths. In *Table VI* below, the fates of the children of 150 women in the 5 per cent sample is given according to their survival to the age of 10. 90 per cent of the 205 children's deaths occurred before the age of 10. Indeed, among the 99 females who died, 86 per cent died by the age of 3; among the 106 males who died, 81 per cent died before the age of 3. Out of the 99 deaths of females, only 4 occurred over the age of 20; among 106 deaths of males, 7 occurred over the age of 20.

The decline in child mortality in Khalapur is again shown dramatically by a perusal of the proportions in *Table VI*. Note the rise in the proportions surviving to age 10 who were born in the 1950s as compared to those born in the 1940s, an increase from 50 per cent survival to 62 per cent survival. There is another 16 per cent increase between the 1950s children and the 1960s children, from 62 per cent to 78 per cent, and a further 9 per cent increase between the 1960s children and the 1970s children, from 78 per cent to 87 per cent. Almost all the children born in the 1990s, none of whom have had ten years in which to survive, were alive in 1997; their proportion of survivors is over 85 per cent. Notice also that over the decades, the survival rate of male children is not consistently higher than that of female children.

This enormously impressive decline in child deaths has come about with hardly any hospitalisation for birthing. I should add that although there are a dozen private doctors in the village, as well as one government doctor, none of these doctors includes obstetrics as part of his practice, although 3 have been reported by some women in our sample to have given labour-inducing injections. All dozen doctors are male. The strict *parda* in Khalapur has meant that girls have been slow to be permitted to attend school. This continues to prohibit them from going to a male doctor. The

**Table VI**

Proportions of Children who Survived to the Age of Ten According to the Decade of Birth among the 746 Children Born to 150 Women in the 5% sample from Khalapur Village.

Children Born	% Females to 10	% Males to 10	All to 10
1920s	- (0)	40% (5)	40% (5)
1930s	38% (13)	54% (26)	49% (39)
1940s	57% (35)	44% (45)	50% (80)
1950s	61% (61)	64% (42)	62% (103)
1960s	83% (58)	74% (65)	78% (123)
1970s	88% (89)	87% (70)	87% (159)
1980s*	74% (65)	86% (80)	81% (145)
1990s*	87% (46)	98% (46)	92% (92)

\* Of course, children born since 1987 have not had time enough to survive 10 years, but they are included here for completeness.

few women, who have gone to a hospital in a birth emergency, have been treated in hospitals in nearby towns by *female* doctors or midwives.

We may explain the changes in child death as the arrival of treatment for childhood ailments. So after Independence came the Community Development Project with a Village Level Worker who reported that he had performed 1,388 vaccinations in 1954 (see S.C Dube *India's Changing Villages*, Routledge Kegan Paul 1958: 69); of the 10 children's deaths that mothers reported to have been from smallpox, the most recent was in 1972; three were in the 1930s, three in the 1940s, and three in the 1950s. The CDP also encouraged cleaning of wells, paving of muddy village paths, and the adoption of high-yielding seeds. The sugar cane cash-crop revolution that took off after Independence in western U.P. meant that landed households in Khalapur installed hand-pumps in their women's quarters' courtyards in the 1950s and 1960s, putting out of work the women of the Watercarrier caste who had lugged pots of water from the village wells to women in *parda*, but probably drinking water was much cleaner thereby, since buffaloes, cows and bullocks are rarely tied in women's courtyards; cleaner water should have lowered rates of dysentery and diarrhoea. The sugar cane earnings and higher wheat harvests also meant better food, resulting in reduction in rickets and hunger, we would expect, and, especially important with respect to pneumonia and colds, warm clothing in the winter and for some footwear all year round.

While in the mid-1950s, there was only one doctor, a Unani, in Khalapur, in the late 1970s and early 1980s, village sons set up offices to be village doctors. Not a one of them had an MBBS degree; even the government



**In mid-1954, the Village Health Worker of the Community Development Project inoculated over a thousand children in Khalapur**  
**Photo: Patricia Hitchcock**

doctor in 1997 lacked an MBBS degree. The latter and most of the private doctors have a Bachelor in Ayurvedic Medical Science (BAMS). Two Muslim doctors have Bachelor in Unani Medical Science (BUMS) degrees. Whatever their training or lack of training, all prescribe almost entirely "English medicine" — vitamins, pills, ointments, injections (antibiotics, glucose), eye washes, clean bandages.

Both the old and the new government Primary Health Care Centre buildings remain empty. The new one, erected in 1996, is supposed to have a ward for 6 or 8 beds, an operating theatre and sterile wash-up room, but it was unfurnished in May 1997 except for the desks of the doctor and the pharmacist. It would remain unfurnished until the arrival of an MBBS female doctor, we were told.

The government health workers who staff the Primary Health Care Centre (PHC) keep, at best, very short daily hours, since except for the sweeper, they all live outside the village, mostly in the nearby town. The villagers make no complaint since

they shun almost all of them as strangers anyway. The most effective of the staff is a high caste woman who lives in a town thirty miles away, with a tenth class education (Intermediate), trained as a Basic Health Worker and an Auxiliary Nurse-Midwife (ANM), who has been stationed in Khalapur since 1984. In spring 1997, she ran a Wednesday inoculation clinic where small numbers of children received inoculations.

In the households of only four of the thirty-two *khandans* in the sample was it mentioned that members had been contacted by women workers from the Primary Health Centre — three Rajput and one Watercarrier household. Three of these are located near the edge of the village closest to the PHC. One young Rajput mother (b. 1967) from the fourth *khandan*, whose aunt had had a PHC nurse attend her birthing, commented, "When labour is at night, the centre is not open, and many births are at night."

In fairness, I should say that the shortage in attention from the health centre staff is not just because the doctor and health workers live outside Khalapur and are often late or absent,

but the doctor, at least, must serve other villages on alternate days of the week, and Khalapur is supposed to be served by a second doctor—that MBBS woman doctor who has not yet arrived. And Khalapur is a very large village.

However, Khalapur is also a very prosperous village. Nineteen of the 32 khandans in my sample have land. In the 19 khandans were 385 persons, 73 per cent of the 487 in the 1997 sample. And the landed, at least, avail themselves of doctors and medical facilities in the nearby towns. Some report even going as far as Meerut, Delhi, and Simla for special medical care. Better off families already had their children immunised from various childhood diseases in 1984. The worst off are the declining numbers of Muslims of Khalapur, most of whom are too poor to afford medical care. I did see some Muslims getting their children inoculated and visiting the free government doctor while we were in Khalapur in spring 1997, however.

All this far less than ideal health care has worked, in so far as children's deaths have just about ceased. So there seems no need to hospitalise child birth in Khalapur. The worst aspect, the tetanus from rusty sickles, seems to have been taken care of as Harijan midwives have learned to use new razor blades or scissors to cut the umbilical cord. Childhood diseases seem to have declined through vaccinations, inoculations, better nutrition, warmer clothing and shoes, cleaner drinking water, and "English medicine" dispensed by Ayurvedic or Unani doctors.

There continues to be in Khalapur almost no prenatal, natal or post-natal care. Almost all births are in a room in the women's quarters where a birthing mother sits on a pair of parallel bricks and pulls on the cot posts, or lies on a cot with a sister-in-law pushing on her swollen womb from



**The old Primary Health Center, dedicated in 1962, unused in 1997**

**Photo : Pauline Kolenda**

behind and the Harijan midwife at her foot, ready to massage the would-be mother and catch or pull out the presenting babe, and then clean it, the mother, and the birth room that have become polluted. All three—mother, midwife and baby—are in the company of the new mother's mother-in-law and sisters-in-law and maybe some neighbours.

The major finding of this longitudinal study is that child mortality has declined to almost zero in Khalapur over the past 50 years, while births have declined substantially but still take place in much the same way—at home with the help of a Harijan midwife and without the involvement of MDs or other modern medical practitioners. Several changes in standard of living and health environment, as well as in the child bearing beliefs and

practices of these mothers are likely to be the reasons for the lower child mortality rate.

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